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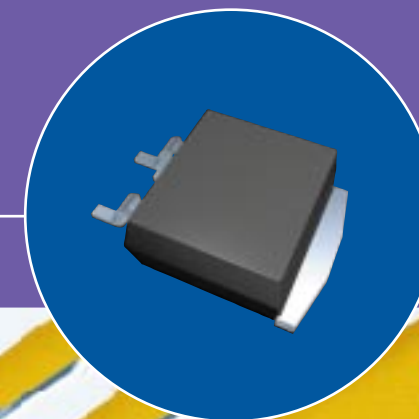
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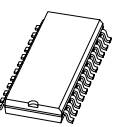




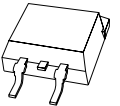
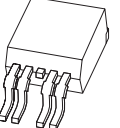
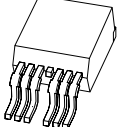


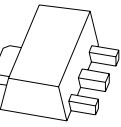
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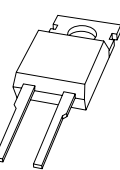
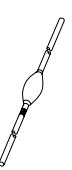


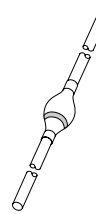
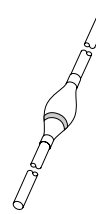
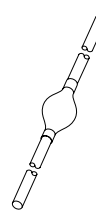
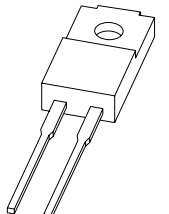

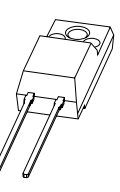
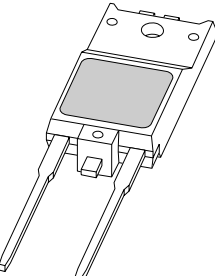

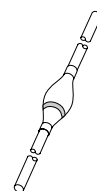
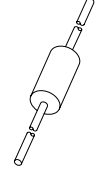
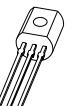
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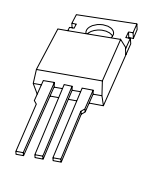
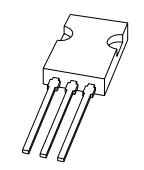
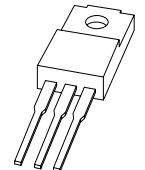
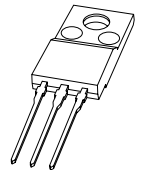
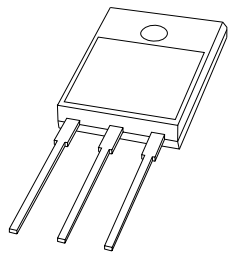
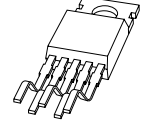
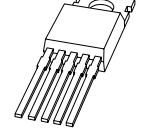
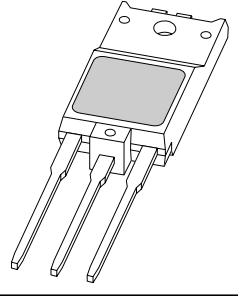
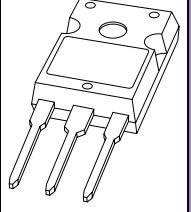
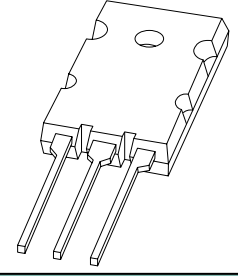
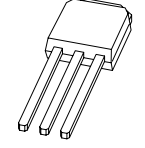
Surface Mount Packages

					
SOD87	SMA (SOD124)	SOD106	SOT23	SO8 (SOT96)	SO24 (SOT137)
					
SOT223	SOT323 (SC70)	SSOP24 (SOT340)	SOT363 (SC88)	D-PAK (SOT404)	SOT426 (5-PIN D-PAK)
					
SOT427 (7-PIN D-PAK)	DPAK (SOT428)	TSOP6 (SOT457)	SOT89		

Through-hole leaded Packages

					
SOD27	SOD57	TO220AC (SOD59)	SOD61A	SOD64	SOD81
					
SOD83A	SOD88A	SOD89	SOD100 (2-PIN SOT186)	SOD107A	SOD113 (2-PIN SOT186A)
					
SOD117 (2-PIN SOT399)	SOD118A	SOD119AB	SOD125	TO92 (SOT54)	

Through-hole leaded Packages

				
TO220AB (SOT78)	SOT82	SOT186	SOT186A (isolated TO220AB)	SOT199
				
SOT263-01	SOT263	SOT399 (TOP3D)	TO247 (SOT429)	
				
SOT430 (TOP3L)	IPAK (SOT533)			



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Benefits of Philips Semiconductors' Triacs & Thyristors

- 1) Wide range of triacs & thyristors meets the needs of the general industrial and home appliance O.E.M.
- 2) The most comprehensive, first choice range of three-quadrant triacs offers enhanced immunity to loss of control and satisfies the needs of the vast majority of triac applications.
- 3) Wide range of four-quadrant triacs suits applications that source gate current.
- 4) Comprehensive thyristor selection suits DC, ignition and half wave AC control applications in the home, on the move and in industry.
- 5) Glass Mesa and patented Planar passivation technologies have been optimised for stable voltage blocking at elevated temperature, yielding longterm reliability in the application.

- 6) All devices are rated for the abnormal false trigger condition (max safe dIT/dt specified).
- 7) Logic Level and Sensitibe Gate triacs can be driven directly by logic ICs and microcontrollers.
- 8) Wide variety of leadforms available.
- 9) Three surface mount packages help in streamlining PCB assembly and reducing costs.

BTH151S has a high repetitive surge specification which makes it suitable for applications where high inrush currents or stall currents are likely to occur on a repetitive basis.

Additional Notes

* 'D' version Triacs are only available in 600 V

IGT(max) for BT131 = 3,3,3,7 mA
 IGT(max) for MAC97A = 5,5,5,7 mA
 BT149 has reverse pinning to BT169

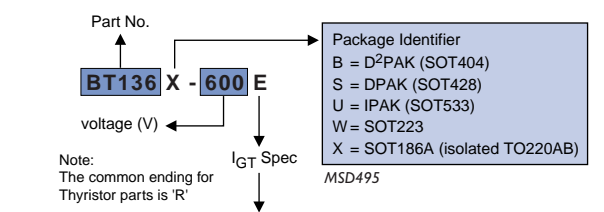
THREE-QUADRANT TRIACS (Hi-Com) - *NEW!* products are marked in red

IT (R _{MS}) (A)	VOLTAGE GRADES (V)	IGT (MAX) (µA)	SURFACE MOUNT			LEADED PACKAGES		TYPICAL APPLICATIONS General Industrial
			SOT223	DPAK (SOT428)	D ² PAK (SOT404)	SOT186A (isolated TO220AB)	TO220AB (SOT78)	
1	600	B/C/D/E/F	BTA204W					✓
4	600	B/C/D/E/F		BTA204S		BTA204X	BTA204	✓
4	800	E					BTA204	✓
8	600 / 800	B		BTA208S		BTA208X	BTA208	✓
8	600	D/E/F		BTA208S		BTA208X	BTA208	✓
8	800	E				BTA208X		✓
12	600 / 800	B			BTA212B	BTA212X	BTA212	✓
12	600	D/E/F			BTA212B	BTA212X	BTA212	✓
12	800	E				BTA212X		✓
16	600 / 800	B			BTA216B	BTA216X	BTA216	✓
16	600	D/E/F			BTA216B	BTA216X	BTA216	✓
16	800	E				BTA216X		✓
25	600 / 800	B			BTA225B		BTA225	✓
25	600 / 800	C			BTA225B		BTA225	✓

FOUR-QUADRANT TRIACS - *NEW!* products are marked in red

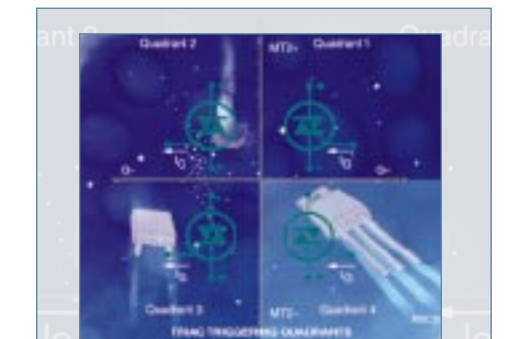
IT (R _{MS}) (A)	VOLTAGE GRADES (V)	IGT (MAX) (µA)	SURFACE MOUNT			LEADED PACKAGES					TYPICAL APPLICATIONS General Industrial	
			SOT223	DPAK (SOT428)	D ² PAK (SOT404)	TO92 (SOT54)	SOT82	SOT186A (isolated TO220AB)	SOT186	TO220AB (SOT78)		
0.6	600	See Notes				MAC97						✓
1	600 / 800	See Notes				BT131						✓
1	500 / 600	-	BT131W									✓
1	600	D				BT132						✓
1	600 / 800	-	BT134W									✓
1	600	D/E	BT134W									✓
1	600	D/G										✓
4	600 / 800	E							BT134			✓
4	600	D/F							BT134			✓
4	600 / 800	E								BT136X		✓
4	600	D								BT136X		✓
4	600 / 800	E		BT136S	BT136B					BT136		✓
4	600	D		BT136S	BT136B					BT136		✓
4	600 / 800	F		BT136S								✓
8	600 / 800	E									BT137	✓
8	600	D/F/G									BT137	✓
8	600 / 800	E/F/G										✓
8	600	D										✓
8	600 / 800	E								BT137X		✓
8	600	D/F/G								BT137X		✓
8	600 / 800	D*/E/F/G		BT137S								✓
12	600 / 800	E/F/G									BT138	✓
12	600	F/G										✓
12	600 / 800	E									BT138B	✓
12	600										BT138B	✓
12	600											✓
12	600 / 800	E/F								BT138X		✓
16	600 / 800	E/F									BT139	✓
16	800	G									BT139	✓
16	600 / 800	G										✓
16	600 / 800	-										✓
16	600	E/F								BT139F		✓
16	600	E/F								BT139F		✓
16	600	E/F/G										✓
16	800	-										✓
16	600 / 800	-										✓
25	600 / 800	-									BT140	✓

TRIAC PART NUMBERING



IGT (MAX) TABLE (mA)

	TRIGGERING QUADRANT			
	1	2	3	4
-	35	35	35	70
H	50 (10 min)	50 (10 min)	50 (10 min)	100 (10 min)
G	50	50	50	100
F	25	25	25	70
E	10	10	10	25
D	5	5	5	10
C	35	35	35	-
B	50	50	50	-











Why choose Philips Semiconductors'...?

...3-Quadrant triacs


- * No RC snubber networks required, making power-control circuitry more compact, cheaper to assemble and reducing the overall bill of materials
- * dIcom/dt-limiting inductors are no longer required
- * Improved circuit reliability - 3-Quadrant triacs are less prone to false triggering from mains transients
- * Broad type range in surface mount and leaded packages, covering many inductive/capacitive load applications

continued on next page

THYRISTORS

IT (R _{MS}) (A)	VOLTAGE GRADES (V)	IGT (MAX) (μA)	SURFACE MOUNT			LEADED PACKAGES					TYPICAL APPLICATIONS	
			SOT223 	DPAK (SOT428) 	D ² PAK (SOT404) 	TO92 (SOT54) 	IPAK (SOT533) 	SOT82 (SOT404) 	SOT186A (isolated TO220AB) 	TO220AB (SOT78) 	General Industrial	
0.8	200 / 400 / 500 / 600	200μA				BT169						✓
0.8	200 / 400 / 500 / 600	200μA				BT149						✓
0.8	200 / 400 / 500 / 600	200μA (min 20μA)	BT168W			BT168						✓
1	400 / 600	200μA	BT148W									✓
1	400 / 500 / 600	200μA						BT148				✓
4	600	200μA		BT148SZ								✓
4	500 / 600	200μA		BT150S								✓
4	500	200μA								BT150		✓
8	500 / 600 / 800	200μA							BT258X	BT258		✓
8	800	200μA		BT258S								✓
8	600	200μA					BT258U					✓
8	500 / 600 / 800	15mA		BT300S						BT300		✓
12	500 / 650 / 800	15mA		BT151S	BT151B				BT151X	BT151		✓
12	650	15mA		BTH151S								✓
12	650	4mA						BTA151				✓
20	400 / 600 / 800	32mA			BT152B				BT152X	BT152		✓
25	800	35mA								BT145		✓

DIAC

I _{FRM} (A)	V _{BO} (V)	I _{BO} (μA)	LEADED PACKAGE SOD27 	TYPICAL APPLICATIONS General Industrial
2	28 - 36	50	BR100/03	✓

Related Literature

Title	Order code
Product Selection 2000 - Discrete Semiconductors (CD-ROM)	9397 750 05988
Power in Home Appliances (brochure)	9397 750 05986
Three quadrant triacs (leaflet)	9397 750 06551
Three Quadrant Triacs bring major benefits to OEMs (application note)	9397 750 06518
'Hi-Com' - a three quadrant triac (factsheet)	9397 750 06504
FS065, Triacs & Thyristors in isolated TO220 packages (factsheet)	9397 750 00404
FS067, Logic level and sensitive gate triacs (factsheet)	9397 750 00759
FS077, Sensitive gate 1 A Triacs in TO92 (factsheet)	9397 750 03424
Surface Mounted Triacs and Thyristors (application note)	9397 750 02622
Thyristors & triacs - Ten Golden Rules for Success in your Application (application note)	9397 750 00812

Benefits of Philips Semiconductors' Deflection Transistors

- 1) Fast switching, high performance 1500 V & 1700 V deflection transistors for TV & Monitor applications.
- 2) Low losses in all applications.
- 3) Enhanced quality and reliability thanks to state-of-the-art production equipment.
- 4) BU45** range produced using planar-implant process which ensures finer features in the active area and improved switching performance.
- 5) Integrated damper diode option (indicated by "D" in type number).
- 6) Full range of isolated and industry standard packages.

HORIZONTAL DEFLECTION TRANSISTORS

V _{CESM} (V)	I _{C(DC)} (A)	I _{C(SAT)} (A)	t _{f(max)} (µs)	LEADED PACKAGES						TYPICAL APPLICATIONS		
				TO220AB (SOT78)	SOT186A (isolated TO220AB)	SOT199	SOT399 (TOP3D)	TO247 (SOT429)	SOT430 (TOP3L)	TV	Monitor	
1000	6	3	0.3		BUT11APX						1 / 2	
1200	6	2	0.3		BUT11APX-1200						1 / 2	
1500	2.5	2	0.9	BU505							1 / 2	
1500	5	3	0.4		BU4506DZ	BU4506DF	BU4506DX				2	
1500	5	3	0.45		BU4506AZ	BU4506AF	BU4506AX				2	1
1500	5	3	0.5			BU2506DF	BU2506DX				2	
1500	8	4	0.4				BU4507DX				2	
1500	8	4	0.45				BU4507AX				2	1
1500	8	4	0.5		BU1507AX		BU2507AX				2	
1500	8	4	0.5				BU2507DX				2	
1500	8	4.5	0.6		BU1508AX	BU2508AF	BU2508AX				2	1
1500	8	4.5	0.6		BU1508DX	BU2508DF	BU2508DX				2	1
1500	8	4.5	1			BU508AF		BU508AW			2	
1500	8	4.5	1			BU508DF		BU508DW			2	
1500	8	5	0.4		BU4508DZ	BU4508DF	BU4508DX				2	
1500	8	5	0.48			BU4508AF	BU4508AX				2	1
1500	9	4.5	0.4				BU2515AX				2	4
1500	9	4.5	0.4				BU2515DX				2	4
1500	9	6	0.5			BU4515AF	BU4515AX				2	2
1500	10	6	0.25			BU2522AF	BU2522AX				2	5
1500	10	6	0.5			BU2520AF	BU2520AX				2	4
1500	10	6	0.5			BU2520DF	BU2520DX	BU2520DW			2	4
1500	10	7	0.4			BU4522AF	BU4522AX				2	4
1500	11	5.5	0.3			BU2523AF	BU2523AX				2	6
1500	11	8	0.4				BU4523AX				2	6
1500	12	8	0.35			BU2525AF	BU2525AX	BU2525AW			2	6
1500	12	6	0.2			BU2527AF	BU2527AX					7
1500	12	6	0.2				BU2527DX					7
1500	12	9	0.55				BU4525AX				2	6
1500	16	7	0.1					BU2532AW			3	7
1500	16	9	0.25					BU2530AW			3	7
1500	16	10	0.4					BU4530AW	BU4530AL		3	7
1700	8	4	0.52			BU2708AF					2	
1700	10	5.5	0.9				BU2720DX				2	
1700	12	7	0.8				BU2725DX				2	

APPLICATIONS KEY

TV

- 1 = Monochrome TV
- 2 = Colour TV
- 3 = Improved Definition TV (IDTV)
- 4 = High Definition TV (HDTV)

Monitor

- 1 = 14" Monitor
- 2 = 14"-15" Monitor
- 3 = 14"-17" Monitor
- 4 = 15" Monitor
- 5 = 15"-17" Monitor
- 6 = 17" Monitor
- 7 = 17"-19" Monitor
- 8 = 19"-21" Monitor

Related Literature

Title

- Product Selection 2000 - Discrete Semiconductors (CD-ROM)
- BU45 Transistor Family - Deflection at its best (folder)
- Horizontal Deflection Transistors for TVs and Monitors - BU45 range (leaflet)
- FS034, BU2508A, AF Drive Circuit (factsheet)
- FS035, BU2508D, DF Drive Circuit (factsheet)
- FS040, BU2508A, AF Critical Parameters (38 kHz) (factsheet)
- FS047, BU2520A, AF Drive Circuit (32 kHz) (factsheet)
- FS048, BU2520D, DF Drive Circuit (32 kHz) (factsheet)
- FS049, BU2525A, AF Drive Circuit (factsheet)
- FS050, BU2708A, AF Drive Circuit (factsheet)
- FS051, BU2708D, DF Drive Circuit (factsheet)
- FS052, BU2720AF, Drive Circuit (factsheet)
- FS053, BU2720DF, Drive Circuit (factsheet)
- FS061, TV & Monitor Designer's Notes - 4 Power-up to picture, TJMAX (factsheet)
- FS062, Horizontal Deflection for 14", 56 kHz Monitors - BU2515AF/AX (factsheet)
- FS063, Horizontal Deflection for 15", 64 kHz Monitors - BU2523AF/AX (factsheet)
- FS070, Horizontal Deflection for 17", 82 kHz Monitors - BU2532AL (factsheet)
- FS072, Horizontal Deflection for 17" 64 kHz Monitors - BU4522AF/AX (factsheet)
- FS078, Horizontal deflection transistors for 17", 70 kHz monitors - BU4525AX (factsheet)

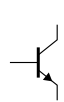
Order code

- 9397 750 05988
- 9397 750 03775
- 9397 750 03586
- 9398 510 51011
- 9398 510 52011
- 9398 510 60011
- 9398 510 81011
- 9398 510 82011
- 9398 510 84011
- 9397 750 00227
- 9397 750 00228
- 9397 750 00229
- 9397 750 00231
- 9397 750 00251
- 9397 750 01387
- 9397 750 01388
- 9397 750 01389
- 9397 750 03796
- 9397 750 06231

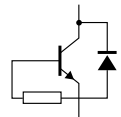
DYNAMIC FOCUS TRANSISTORS

New product, for electronic focusing of CRT spot as it moves about screen.

V _{CESM} (V)	BV _{ceo} (V)	I _{C(DC)} (A)	H _{feo} (50m A/5V)	LEADED PACKAGE TO220AB (SOT78)	TYPICAL APPLICATIONS	
					TV	Monitor
1100	700	0.5	26 - 125	BUX87 - 1100	All	All



BU****A*
no integrated
damper diode
MSD517



BU****D*
with integrated
damper diode
MSD518

Benefits of Philips Semiconductors' BUJ range of Bipolar Transistors

- 1) Wide choice of current ratings and packages meets all self-oscillating ballast requirements.
- 2) Planar passivation technology offers stable voltage blocking at elevated temperature for longterm reliability and long life.
- 3) Transistor design optimised for the lowest power dissipation in lighting ballasts.
- 4) Very fast, smooth turn-off performance yields the lowest switching dissipation.
- 5) Very low $V_{CE(sat)}$ yields low ON-state losses.
- 6) Very fast turn-off is maintained, even when base is driven hard to minimise ON-state losses.
- 7) BUJ100 in TO92 is suitable for all Compact Fluorescent Lamps and ballasts up to at least 26 W @ 230 V AC.
- 8) Tightly-controlled gain makes selection and gain banding unnecessary.
- 9) Flat gain characteristic over a wide range of IC guarantees correct operation under all conditions.

LIGHTING TRANSISTORS - *NEW!* products are marked in red

V_{CESM} (V)	I_C (DC) (A)	I_C (SAT) (A)	t_f (max) (μ s)	LEADED PACKAGES						SMD		TYPICAL APPLICATIONS Lighting
				SOT82	TO220AB (SOT78)	SOT186	SOT186A (isolated TO220AB)	TO92 (SOT54)	IPAK (SOT533)	PAK (SOT428)	D-PAK (SOT404)	
700	1	0.5	0.05					BUJ100				2
700	1.5	0.75	0.05						BUJ101AU			1 / 2
700	4	3	0.033		BUJ103A		BUJ103AX					1 / 2
700	4	2	0.16		PHE13005							1
700	8	4	0.045		BUJ105A		BUJ105AX					1
700	8	5	0.04		PHE13007							1
700	10	6	0.05		BUJ106A							1
700	12	6	0.15		PHE13009							1
800	0.5	--	0.28	BUX86P								1
800	2	1.0	0.4						BUX84S			1
850	5	3	0.8		BUT11							1
850	6	4	0.088		BUJ204A							1
850	6	4	0.088				BUJ204BX					1
850	8	6	0.8			BUT12F						1
1000	0.5	-	0.28	BUX87P								1
1000	2	1	0.4		BUX85							1
1000	5	2.5	0.8		BUT11A	BUT11AF	BUT11AX					1
1000	5	2.5	0.8		BUT11AI							1
1000	5	3	0.145		BUJ303A		BUJ303AX					1
1000	6	4	0.03		BUJ304A		BUJ304AX					1
1000	6	4	0.8		BUT18A	BUT18AF						1
1000	8	5	0.8		BUT12A	BUT12AF						1
1000	8	5	0.8		BUT12AI							1
1200	6	2	0.17		BUJ403A							1
1200	6	2	0.17		BUJ403B		BUJ403BX					1
1750	5	1.5	0.6								BU1706AB	1

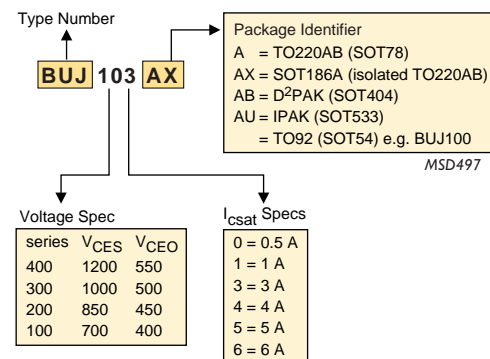
Related Literature

Title	Order code
Product Selection 2000 - Discrete Semiconductors (CD-ROM)	9397 750 05988
Power in Lighting (brochure)	9397 750 05312
FS045, Philips Bipolar Transistors for Electronic Lighting (factsheet)	9397 750 03628
FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)	9397 750 03653
Philips BUJ100 transistor in TO92 suits all Compact Fluorescent Lamp powers (application note)	9397 750 07909

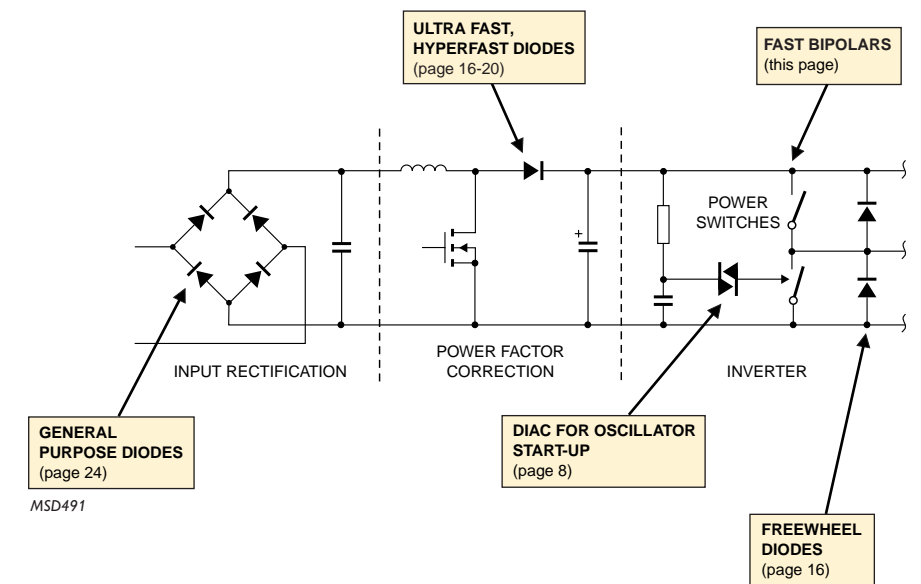
APPLICATIONS KEY

- Lighting**
- 1 = HF electronic ballast
 - 2 = Compact fluorescent lamp (CFL)

BUJ PART NUMBERING



ELECTRONIC LIGHTING BALLAST



Benefits of Philips Semiconductors' Damper & Modulator Diodes

- 1) Low loss, low V_f , fast switching range of high voltage damper diodes.
- 2) Fully compatible with the Philips Semiconductors' range of deflection transistors.
- 3) Range of packages and voltages to suit all applications.

DAMPER & MODULATOR DIODES - *NEW!* products are marked in red

V_{RRM} (V)	I_{FRM} (A)	$I_{O(AV)}$ (A)	LEADED PACKAGES						TYPICAL APPLICATIONS	
			SOD57 	SOD64 	SOD113 (2-pin SOT186A) 	SOD59 (TO220AC) 	SOD100 (2-pin SOT186) 	SOD117 (2-pin SOT399) 	TV	Monitor
500	18	9			BYV29X-500	BYV29-500	BYV29F-500			5
600	18	9			BYV29X-600	BYV29-600				5
200	16	8			BY229X-200			2 / 3		
600	16	8			BY229X-600	BY229-600	BY229F-600	2 / 3		
800	16	8			BY229X-800		BY229F-800	2 / 3		
1500	10	2		BY328/ BY428				2		
1000	16	8				BY329-1000		3	2	
1200	16	8			BY329X-1200	BY329-1200		3	2	
1500	16	10			BY329X-1500			3	2	
1500	16	10			BY329X-1500S	BY329-1500S		3	2	
1500	60	10			BY359X-1500	BY359-1500	BY359F-1500	3	6	
1500	60	10			BY359X-1500S		BY359DX-1500S	3	6	
1500	60	10			BY429X-1500	BY429-1500		3	7	
1500	60	10			BY429X-1500S	BY429-1500S		3	7	
1500	100	10			BY459X-1500	BY459-1500	BY459F-1500	4	6	
1500	100	10			BY459X-1500S			4	7	
1500	100	10					BY459DX-1500S	4	7	
1500	150	10			BY559X-1500U	BY559-1500U		4	8	
1650	8	1	BY448					2	1	
1650	10	2		BY228				2		
1700	16	10						2		

APPLICATIONS KEY

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- 3 = 14"-17" Monitor
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- 5 = 15"-17" Monitor
- 6 = 17" Monitor
- 7 = 17"-19" Monitor
- 8 = 19"-21" Monitor

Related Literature



Title

Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 FS041, TV & Monitor damper Diodes - 1 (factsheet)
 FS042, TV & Monitor damper Diodes - 2 (factsheet)

Order code

9397 750 05988
 9398 510 64011
 9398 510 65011

DUAL DIODE - DAMPER / MODULATOR - *NEW!* products are marked in red

V_{RRM} (V)	I_{FSM} (A)	QS ($\mu C/nC$)	LEADED PACKAGES		TYPICAL APPLICATIONS	
			SOT186A 	SOT399 (TOP3D) 	TV	Monitor
1500 / 600	60 / 70	1.2 / 70	BYM357X	BYM357DX	2 / 3	2
1500 / 600	60 / 70	0.9 / 70	BYM358X	BYM358DX	2 / 3	2
1500 / 600	60 / 70	2 / 700	BYM359X		2	2
1500 / 600	60 / 70	2 / 700		BYM359DX	2	2
1500 / 600	70 / 88	0.95 / 70	BYM365X	BYM365DX	2 / 3	2

Why choose Philips Semiconductors'...?

...Damper / modulator diodes

- * Different device combinations simplify the design process.
- * Single package option reduces component count and cost.
- * Reduces overall power dissipation.
- * Facilitates on-screen performance improvements helping OEM to more easily differentiate their products.

Benefits of Philips Semiconductors' Fast Soft-recovery Diodes

- 1) Soft recovery design to minimise circuit switching oscillations and EMI.
- 2) Glass passivation and sealing for excellent stability under all conditions.
- 3) Very high maximum reverse voltages.

Use **SOD81** as an alternative to SuperRectifier

FAST SOFT-RECOVERY RECTIFIERS

V _{RRM} (V)	I _{O(AV)} / I _{F(AV)} (A)	t _{rr} (ns)	SURFACE MOUNT			LEADED PACKAGES						TYPICAL APPLICATIONS	
			SOD87	SOD106	SMA (SOD124)	SOD81	SOD57	SOD64	SOD59	SOD100	SOD113	General purpose	Lighting
50	1	250			RS1A							✓	
100	1	250			RS1B							✓	
200	1	250			RS1D							✓	
200	1.6	250	BYD37D			BYD33D						✓	
200	1.9	250		BYG60D								✓	
200	2	250					BYV95A					✓	
200	3.7	250						BYW95A				✓	
200	8	135								BY229X-200		✓	
400	1	250			RS1G							✓	
400	1.6	250	BYD37G			BYD33G						✓	
400	1.9	250		BYG60G								✓	
400	2	250					BYV95B					✓	
400	3.7	250						BYW95B				✓	
600	1	250			RS1J							✓	1 / 2
600	1.6	250	BYD37J			BYD33J						✓	1 / 2
600	1.8	100					BYV36C					✓	1
600	1.9	250		BYG60J								✓	1 / 2
600	2	250					BYV95C					✓	1 / 2
600	3.5	100						BYM36C				✓	1
600	3.7	250						BYW95C				✓	1
600	8	135						BY229-600	BY229F-600	BY229X-600		✓	
800	1	300			RS1K							✓	1 / 2
800	1.9	300		BYG60K								✓	1 / 2
800	8	135							BY229F-800	BY229X-800		✓	
1000	1	300			RS1M							✓	1 / 2
1000	1.6	300	BYD37M			BYD33M						✓	1 / 2
1000	1.8	150					BYV36E					✓	1
1000	1.9	300		BYG60M								✓	1 / 2
1000	2	300					BYV96E					✓	1 / 2
1000	3.5	150						BYM36E				✓	1
1000	3.7	300						BYW96E				✓	1
1000	8	135							BY329-1000			✓	
1200	8	135							BY329-1200		BY329X-1200	✓	
1400	1.5	250				BYD43V						✓	1 / 2
1400	1.5	500				BYD33V						✓	1 / 2
1400	1.8	250					BYV36G					✓	1
1400	2	500					BYV97G					✓	1
1400	3.5	250						BYM36G				✓	1
1400	3.7	500						BYW97G				✓	1
2000	0.8	300	BYD47-20			BYD43-20						✓	1 / 2
2000	1.2	300					BYV98					✓	

Industry-standard type numbers mean easier selection!

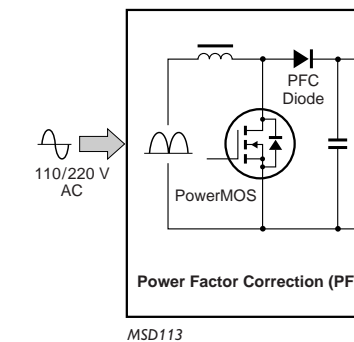
Related Literature

Title	Order code
Product Selection 2000 - Discrete Semiconductors (CD-ROM)	9397 750 05988
Power in Lighting (folder)	9397 750 05312
Power & Battery Management Semiconductors (folder)	9397 750 06394
FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)	9397 750 03653
SMA - rectifiers and zeners in industry-standard packaging (leaflet)	9397 750 06731
Ultrafast epitaxial diodes for Power Factor Correction (application note)	9397 750 03097
SKN003, BYV2100 - The Ultrafast Alternative (factsheet)	9397 750 00344

APPLICATIONS KEY

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecoms supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode



Lighting

- 1 = HF electronic ballast
- 2 = Compact fluorescent lamp (CFL)

PFC & HYPERFAST RECOVERY DIODES

Watch this space for even faster-switching devices in the future!

* Power Factor Correction Diodes

V _{RRM} (V)	I _{O(AV)} / I _{F(AV)} (A)	t _{rr} (ns)	SURFACE MOUNT			LEADED PACKAGES					TYPICAL APPLICATIONS		
			SOD87	SOD106	D*PAK (SOT404)	SOD81	SOD57	SOD64	TO220AC (SOD59)	TO220AB (SOT78)	Power Supply	Lighting	
100	1.7	10	BYD1100			BYV1100						4 / 9	
100	2.3	12.5		BYG85B			BYV2100					9	
100	4.2	15						BYV4100				3	
600	0.9	15					BYV99					1 / 2 / 3	1
600	1.7	15						BYM99				1 / 2 / 3	1
600	5	19										3	1
600	8	19										3	
600	10	19										3	
600	2 x 5	19										3	1

Benefits of Philips Semiconductors' Hyperfast Recovery Diodes

- 1) 600 V Hyperfast diodes are optimised for power factor correction (PFC) circuits. They feature:
 - fast reverse recovery (trr) of typically 19 ns.
 - max forward Vf.
- 2) 100 V Hyperfast diodes are optimised for low power battery chargers.

Why choose Philips Semiconductors'...?

...SMA diodes

- * Ideal for a broad range of applications in the general, industrial and automotive areas
- * Industry-standard packaging allows easy pick-and-place
- * High maximum operating temperature
- * Low leakage current
- * Excellent capability
- * Guaranteed avalanche energy absorption capability

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

...SOD87

- * even smaller package than SMA
- * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

Benefits of Philips Semiconductors' Ultrafast Recovery Diodes

- 1) Optimised for power supply applications - low Vf and short recovery time.
- 2) IRRM repetitive ruggedness guaranteed.
- 3) Full range of leaded and surface mount packages.
- 4) Best Vf / I_k / T_j combination available, giving low losses.
- 5) Excellent reverse recovery behaviour gives reduced switching losses:
 150 V/ 200 V types offer $t_{rr} < 25$ ns
 300 V/ 400 V/ 500 V types offer $t_{rr} < 60$ ns
 All feature low stored charge, giving a soft recovery characteristic

Power Factor Correction diodes

ULTRAFAST RECOVERY DIODES

Industry-standard type numbers mean easier selection!

Use **SOD81** as an alternative to SuperRectifier

V _{RRM} (V)	I _{D(AV)} / I _{F(AV)} (A)	V _F (V)	@ I _F (A)	t _{rr} (ns)	Single/ Dual	SURFACE MOUNT PACKAGES						LEADED PACKAGES								TYPICAL APPLICATIONS									
						SOD106	SMA (SOD124)	SOT223	SOD87	DPAK (SOT428)	D ² PAK (SOT404)	SOD57	SOD81	SOD64	SOD100	SOD113 (2-pin SOT186A)	SOD59 (TO220AC)	SOT186A (isolated TO220 AB)	SOT186	TO220AB (SOT78)	TO247 (SOT429)	Power Supply	Lighting						
50	1	1.1	1	25	SINGLE		ES1A																			4			
50	1	1.1	1	50	SINGLE		US1A																				4		
50	1.9	0.98	1	25	SINGLE				BYD77A																		4		
50	2.4	0.93	1	25	SINGLE	BYG80A																					4		
50	2.4	0.98	2	25	SINGLE						BYV27-050																4		
50	4.5	1.02	3.5	25	SINGLE								BYV28-050														4		
100	1	1.1	1	25	SINGLE		ES1B																				4		
100	1	1.1	1	50	SINGLE		US1B																				4		
100	1.9	0.98	1	25	SINGLE				BYD77B																			4	
100	2.4	0.98	1	25	SINGLE	BYG80B						BYD73B															4		
100	2.4	0.98	2	25	SINGLE						BYV27-100																4		
100	4.5	1.02	3.5	25	SINGLE							BYV28-100															4		
100	8	0.895	8	25	SINGLE									BYW29E-100													5		
100	20	0.95	8	25	DUAL (2 x 10 A)																						5		
150	1	1.1	1	25	SINGLE		ES1C		BYV40E-150																		4		
150	1.5	0.7	0.5	25	DUAL (2 x 0.75 A)																						4	1	
150	1.9	0.98	1	25	SINGLE				BYD77C																		4		
150	2.4	0.93	1	25	SINGLE	BYG80C						BYD73C															4		
150	2.4	0.98	2	25	SINGLE						BYV27-150																4		
150	4.5	1.02	3.5	25	SINGLE							BYV28-150															4		
150	8	0.895	8	25	SINGLE								BYW29F-150														5		
150	14	0.9	14	30	SINGLE										BYW29E-150												5		
150	20	0.85	8	25	DUAL (2 x 10 A)																						5		
150	30	0.85	15	28	DUAL (2 x 15 A)																						6		
150	40	0.85	20	30	DUAL (2 x 20 A)																						6		
200	1	1.1	1	25	SINGLE		ES1D																				4		
200	1	1.1	1	50	SINGLE		US1D																				4		
200	1	3.6	1	30	SINGLE		BYG26D																				4		
200	1.5	2.5	1	30	SINGLE						BYV26A																2		
200	1.5	3.6	1	30	SINGLE	BYG70D																					2		
200	1.9	0.93	1	25	SINGLE				BYD127				BYD123														4		
200	1.9	0.98	1	25	SINGLE				BYD77D				BYD73D														4		
200	2.4	0.93	1	25	SINGLE	BYG80D																					4		
200	2.4	0.98	2	25	SINGLE						BYV27-200																4		
200	2.8	2.65	2	30	SINGLE								BYM26A														4		
200	4.5	1.02	3.5	25	SINGLE								BYV28-200														4		
200	8	0.895	8	25	SINGLE									BYW29F-200													5		
200	10	0.895	5	25	DUAL (2 x 5 A)										BYW29E-200												5		
200	12	0.85	6	25	DUAL (2 x 6 A)								BYQ28X-200		BYW29E-200												5		
200	14	0.9	14	30	SINGLE										BYW29E-200												5		
200	16	0.95	8	25	DUAL (2 x 8 A)											BYW29EX-200											5		
200	20	0.85	8	25	DUAL (2 x 10 A)											BYQ28EX-200											5		
200	30	0.82	15	28	DUAL (2 x 15 A)											BYV32EX-200											5		
200	30	0.85	15	28	DUAL (2 x 15 A)												BYQ28F-200										6		
200	40	0.85	20	30	DUAL (2 x 20 A)												BYQ28E-200										6		
200	60	0.85	30	35	DUAL (2 x 30 A)												BYV32E-200										6		
300	9	1.03	8	60	SINGLE																						5		
300	10	1.05	5	60	DUAL (2 x 5 A)																						5		
300	30	1.12	15	60	DUAL (2 x 15 A)																						6		
400	1	1.1	1	50	SINGLE		US1G																				1 / 2		
400	1	3.6	1	30	SINGLE		BYG26G		BYD57G																		1 / 2	1 / 2	
400	1.5	2.5	1	30	SINGLE																						1 / 2		
400	1.5	3.6	1	30	SINGLE	BYG70G																					1 / 2		

continued on next page

ULTRAFAST RECOVERY DIODES

Use SOD81 as an alternative to SuperRectifier

V_{RRM} (V)	$I_{O(AV)}/I_{F(AV)}$ (A)	V_F (V)	@ I_F (A)	t_{rr} (ns)	Single/ Dual	SURFACE MOUNT PACKAGES						LEADED PACKAGES							TYPICAL APPLICATIONS							
						SOD106	SMA (SOD124)	SOT223	SOD87	DKPAK (SOT428)	D ² PAK (SOT404)	SOD57	SOD81	SOD64	SOD100	SOD113 (2-pin SOT186A)	SOD59 (TO220AC)	SOT186A (isolated TO220 AB)	SOT186	TO220AB (SOT78)	TO247 (SOT429)	Power Supply	Lighting			
400	1.7	1.15	1	50	SINGLE																				4	1
400	1.9	1.05	1	50	SINGLE																					1 / 4
400	2.4	0.98	1	50	SINGLE	BYG80G																				1
400	2.4	1.05	2	50	SINGLE																					1 / 4
400	2.8	2.65	2	30	SINGLE																					4
400	4.5	1.05	3.5	50	SINGLE																					1 / 2
400	9	1.03	8	60	SINGLE																					5
400	10	1.05	5	60	DUAL (2 x 5 A)																					5
400	20	1.05	10	60	DUAL (2 x 10 A)																					5
400	30	1.12	15	60	DUAL (2 x 15 A)																					5
400	30	1.12	15	60	DUAL (2 x 15 A)																					6
500	9	1.03	8	60	SINGLE																					5
500	10	1.05	5	60	DUAL (2 x 5 A)																					5
500	14	1.05	15	60	SINGLE																					5
500	20	1.05	10	60	DUAL (2 x 10 A)																					5
500	30	1.12	15	60	DUAL (2 x 15 A)																					5
500	30	1.12	15	60	DUAL (2 x 15 A)																					6
600	1	1.4	1	50	SINGLE		US1J																			1 / 2
600	1	3.6	1	30	SINGLE		BYG26J																			1 / 2
600	1.5	2.5	1	30	SINGLE				BYD57J																	1 / 2
600	1.5	3.6	1	30	SINGLE	BYG70J																				1
600	1.6	1.25	1	50	SINGLE				BYD167																	1 / 2
600	1.6	1.25	1	50	SINGLE	BYG80J																				1
600	2.4	1.2	1	50	SINGLE																					1 / 4
600	2.4	1.2	2	50	SINGLE																					1 / 2
600	2.4	1.25	2	50	SINGLE																					2
600	2.8	2.65	2	30	SINGLE																					1 / 2
600	4.5	1.25	3.5	50	SINGLE																					2
600	8	1.50	8	75	SINGLE																					5
600	9	1.0	5	55	SINGLE																					5
700	8	1.50	8	75	SINGLE																					5
800	1	3.6	1	75	SINGLE				BYD57K																	1 / 2
800	1.5	2.5	1	75	SINGLE																					1
800	2.8	2.65	2	75	SINGLE																					1 / 2
800	8	1.50	8	75	SINGLE																					5
800	8	1.50	8	75	SINGLE																					5
1000	1	3.6	1	75	SINGLE				BYD57M																	1 / 2
1000	1.5	2.5	1	75	SINGLE																					1
1000	2.8	2.65	2	75	SINGLE																					1 / 2
1400	1	3.6	1	150	SINGLE				BYD57V																	1 / 2
1400	1.5	2.5	1	150	SINGLE																					1
1400	2.8	2.3	2	150	SINGLE																					1 / 2

Industry-standard
type numbers
mean easier
selection!

Related Literature

- Title**
 Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 Power in Lighting (folder)
 FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)
 SMA - rectifiers and zeners in industry-standard packaging (leaflet)
 FS080, High-quality, glass-passivated diodes (glass bead) - BYV27-200 (factsheet)

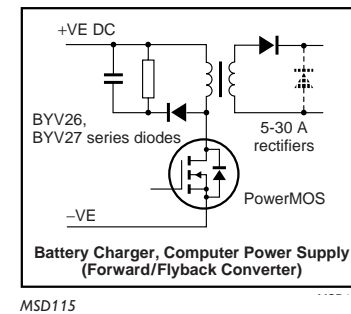
- Order code**
 9397 750 05988
 9397 750 05312
 9397 750 03653
 9397 750 06731
 9397 750 06323

APPLICATIONS KEY

- Power Supply**
 1 = Primary side voltage clamp for isolated power supply units
 2 = Low power, power factor correction
 3 = Medium/ high power, power factor correction
 4 = Output rectifiers for low wattage power supplies
 5 = Output rectifiers for medium power telecoms supplies
 6 = Output rectifiers for high power telecoms supplies
 7 = High power workstation telecoms, and server power supply units
 8 = Medium power desktop PC power supply units
 9 = Low power chargers and laptop power supply units
 10 = Medium power chargers and general lower voltage power supply units
 11 = Auxiliary voltage
 12 = Snubber diode

- Lighting**
 1 = HF electronic ballast
 2 = Compact fluorescent lamp (CFL)

Technical Applications for Ultrafast Diodes
 100 V/ 200 V range typically used for 12 V, 24 V & 28 V outputs
 300 V - 800 V - high voltage output rectifiers
 - TV & computer monitors
 - freewheeling diodes in switch mode power supply



Why choose Philips Semiconductors' ...?

...SMA diodes
 * Ideal for a broad range of applications in the general, industrial and automotive areas
 * Industry-standard packaging allows easy pick-and-place
 * High maximum operating temperature
 * Low leakage current
 * Excellent capability
 * Guaranteed avalanche energy absorption capability

...SOD106 diodes
 Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

...SOD87
 * even smaller package than SMA
 * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

Benefits of Philips Semiconductors' Schottky Diodes

- 1) Special 25 V technology for low voltage supplies.
- 2) Lowest forward drop of any rectifier gives lower losses.
- 3) Full range of leaded and surface mount packages.
- 4) Guaranteed repetitive ruggedness, typically 1 A repetition reverse surge capability.

Use **SOD81** as an alternative to SuperRectifier

SCHOTTKY DIODES

V _{RRM} (V)	I _{O(AV)} / I _{F(AV)} (A)	V _F (mV)	@ I _F (A)	Single/ Dual	SURFACE MOUNT PACKAGES				LEADED PACKAGES				TYPICAL APPLICATIONS			
					SOT223	D ² PAK (SOT404)	DPAK (SOT428)	TO220AC (SOD59)	TO220AB (SOT78)	SOD100 (2-pin SOT186)	SOT186	SOD113 (2-pin SOT186A)	SOT186A (isolated TO220AB)	TO247 (SOT429)	Power Supply	Motherboard
20	6	440	3	DUAL (2 x 3 A)			PBYR620CTD									4
20	16	460	16	SINGLE		PBYL1620B										
20	25	430	12.5	DUAL (2 x 12.5 A)					PBYL2520CT							
20	70	460	35	DUAL (2 x 35 A)										PBYR7020WT		7
25	3	400	1.5	DUAL (2 x 1.5 A)			PBYR325CTD									4
25	6	440	3	DUAL (2 x 3 A)			PBYR625CTD									4
25	7.5	400	7.5	SINGLE			PBYR725D									5
25	10	400	5	DUAL (2 x 5 A)			PBYR1025CTD									5
25	10	400	10	SINGLE		PBYL1025B		PBYL1025								5
25	10	410	10	SINGLE			PBYR1025D									5
25	10	540	5	DUAL (2 x 5 A)		BYV116B-25										5
25	15	420	7.5	DUAL (2 x 7.5 A)		PBYL1525CTB			PBYL1525CT							10
25	16	460	16	SINGLE		PBYL1625B		PBYL1625								10
25	20	430	20	SINGLE		PBYL2025B		PBYL2025								10
25	25	430	12.5	DUAL (2 x 12.5 A)		PBYL2525CTB			PBYL2525CT							10
25	30	430	15	DUAL (2 x 15 A)		PBYL3025CTB			PBYL3025CT							10
25	40	460	20	DUAL (2 x 20 A)										PBYR4025WT		7
25	70	460	35	DUAL (2 x 35 A)										PBYR7025WT		7
40	2	450	1	DUAL (2 x 1 A)	PBYR240CT											9
40	3	570	1.5	DUAL (2 x 1.5 A)			PBYR340CTD									9
40	6	600	3	DUAL (2 x 3 A)			PBYR640CTD									9
40	10	570	10	SINGLE				PBYR1040								9
40	15	570	7.5	DUAL (2 x 7.5 A)									PBYR1540CTX			10
40	20	570	10	DUAL (2 x 10 A)		PBYR2040CTB										10
40	40	600	20	DUAL (2 x 20 A)										PBYR4040WT		7
40	60	600	30	DUAL (2 x 30 A)										PBYR6040WT		7
45	2	450	1	DUAL (2 x 1 A)	PBYR245CT											9
45	3	570	1.5	DUAL (2 x 1.5 A)			PBYR345CTD									9
45	6	600	3	DUAL (2 x 3 A)			PBYR645CTD									9
45	7.5	570	7.5	SINGLE			PBYR745D	PBYR745		PBYR745F		PBYR745X				9
45	10	570	10	SINGLE		PBYR1045B	PBYR1045D	PBYR1045								9
45	10	590	10	SINGLE								PBYR1045X				9
45	10	600	5	DUAL (2 x 5 A)			PBYR1045CTD									9
45	15	570	7.5	DUAL (2 x 7.5 A)		PBYR1545CTB			PBYR1545CT							10
45	16	570	16	SINGLE		PBYR1645B		PBYR1645								10
45	16	600	16	SINGLE						PBYR1645F						10
45	20	570	10	DUAL (2 x 10 A)		PBYR2045CTB			PBYR2045CT							10
45	25	650	20	DUAL (2 x 12.5 A)						PBYR2545CTF						10
45	30	600	20	DUAL (2 x 15 A)										PBYR3045WT		8
45	30	620	20	DUAL (2 x 15 A)		PBYR2545CTB			PBYR2545CT							8
45	40	600	20	DUAL (2 x 20 A)										PBYR4045WT		7
45	60	600	30	DUAL (2 x 30 A)										PBYR6045WT		7
60	10	700	10	SINGLE				PBYR1060								9
100	10	700	10	SINGLE				PBYR10100				PBYR10100X				9
100	20	700	10	DUAL (2 x 10 A)		PBYR20100CTB			PBYR20100CT							10
100	30	700	15	DUAL (2 x 15 A)										PBYR30100WT		8

Related Literature

Title
Product Selection 2000 - Discrete Semiconductors (CD-ROM)
Power & Battery Management Semiconductors (folder)

Order code
9397 750 05988
9397 750 06394

APPLICATIONS KEY

Motherboard

- 1 = Laptop DC-DC converters
- 2 = Desktop PC & server - DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecoms supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

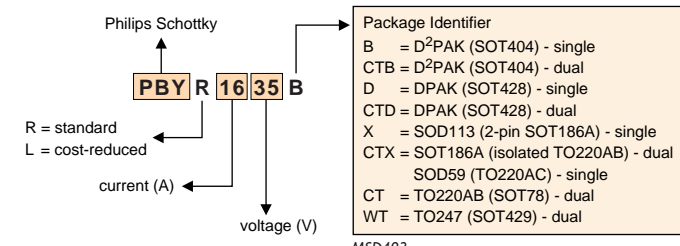
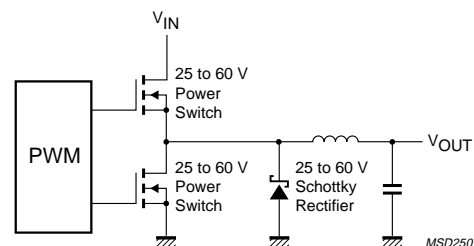
Technical Applications for Schottky Diodes

20 V / 25 V Schottky: - 3 V / 3.3 V power supply outputs
- ORing diodes

40 V / 45 V Schottky: - 5 V outputs

60 V / 100 V Schottky: - 12 V - 15 V outputs

Schottky diode PART NUMBERING



Why choose Philips Semiconductors'...?

...SOD87

- * even smaller package than SMA
- * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

www.semiconductors.philips.com

Benefits of Philips Semiconductors' AM PIN diodes:

- 1) Glass passivated for excellent stability under all conditions.
- 2) Well defined characteristics allowing low distortion RF attenuation over a wide frequency range.
- 3) Black epoxy SMD package for highly reproducible characteristics independent of light incident on the diode.

* at $V_R = 2V$

AM PIN DIODES Use **SOD81** as an alternative to SuperRectifier





CHARGE CARRIER LIFE TIME	DIODE CAPACITANCE	100 kHz DIODE SERIES RESISTANCE	1 MHz DIODE SERIES RESISTANCE	PACKAGE		TYPICAL APPLICATION
				SMD SOD106	LEADED SOD81	
(μs)	(pF)	(M Ω)	(k Ω)			(Car) Radio
25	5*	12*	250*	BAQ806	BAQ800	✓

Benefits of Philips Semiconductors' Ripple Blocking diodes:

- 1) Glass passivated for excellent stability under all conditions.
- 2) Fast rectifier with guaranteed minimum turn-on time for absorbing forward current transients and oscillations.

RIPPLE BLOCKING DIODES

Use **SOD81** as an alternative to SuperRectifier

$I_{O(AV)} / I_{F(AV)}$ (A)	V_{RRM} (V)	V_F (V)	@ I_F (A)	SMD		LEADED		TYPICAL APPLICATIONS Power Supply
				SOD87	SOD57	SOD81	SOD64	
1	300	2.3	1.7					11
1.5	300	2.15	1	BYD67	BYQ63	BYD63		11
2.7	300	2.3	2				BYM63	11

GENERAL PURPOSE RECTIFIERS

Use **SOD81** as an alternative to SuperRectifier

V_{RRM} (V)	$I_{O(AV)} / I_{F(AV)}$ (A)	V_F (V)	@ I_F (A)	Single/ Dual	SURFACE MOUNT PACKAGES			LEADED PACKAGES				TYPICAL APPLICATIONS General Purpose
					SOD87	SOD106	SMA (SOD124)	SOD57	SOD81	SOD64	SOD59 (TO220AC)	
50	1	1.1	1	SINGLE			S1A	1N4001G	1N4001ID			✓
50	1.6	1.1	1	SINGLE	PRLL4001							✓
100	1	1.1	1	SINGLE			S1B	1N4002G	1N4002ID			✓
100	1.6	1.1	1	SINGLE	PRLL4002							✓
200	1	1.1	1	SINGLE			S1D	1N4003G	1N4003ID			✓
200	1.4	1.05	1	SINGLE	BYD17D				BYD13D			✓
200	1.8	1	1	SINGLE				1N5059				✓
200	2.1	1	1	SINGLE		BYG50D						✓
200	3.6	1.15	3	SINGLE						BYM56A		✓
300	7	1.05	5	SINGLE								✓
400	1	1.1	1	SINGLE			S1G	1N4004G	1N4004ID			✓
400	1.4	1.05	1	SINGLE	BYD17G				BYD13G			✓
400	1.8	1	1	SINGLE				1N5060				✓
400	2.1	1	1	SINGLE		BYG50G						✓
400	3.6	1.15	3	SINGLE						BYM56B		✓
600	1	1.1	1	SINGLE			S1J	1N4005G	1N4005ID			✓
600	1.4	1.05	1	SINGLE	BYD17J				BYD13J			✓
600	1.8	1	1	SINGLE				1N5061				✓
600	1.8	1	1	SINGLE				BYW54				✓
600	2.1	1	1	SINGLE		BYG50J						✓
600	3.6	1.15	3	SINGLE						BYM56C		✓
600	7	1.05	5	SINGLE							BY249-600	✓
800	1	1.1	1	SINGLE			S1K	1N4006G	1N4006ID			✓
800	1.4	1.05	1	SINGLE	BYD17K				BYD13K			✓
800	1.8	1	1	SINGLE				1N5062				✓
800	1.8	1	1	SINGLE				BYW55				✓
800	2.1	1	1	SINGLE		BYG50K						✓
800	3.6	1.15	3	SINGLE						BYM56D		✓
1000	1	1.1	1	SINGLE			S1M	1N4007G	1N4007ID			✓
1000	1.4	1.05	1	SINGLE	BYD17M				BYD13M			✓
1000	1.8	1	1	SINGLE				BYW56				✓
1000	2.1	1	1	SINGLE		BYG50M						✓
1000	3.6	1.15	3	SINGLE						BYM56E		✓
1250	1.8	1	1	SINGLE				BY527				✓
1600	1.1	1.5	2	SINGLE				BYX10G				✓

APPLICATIONS KEY

(Car) Radio

Low distortion RF attenuator in (car) radio applications

Related Literature

Title

Product Selection 2000 - Discrete Semiconductors (CD-ROM)
SKN001, Ripple blocking diodes BYD63 and BYM63 (factsheet)

Order code

9397 750 05988
9397 750 00157

APPLICATIONS KEY

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
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- 5 = Output rectifiers for medium power telecoms supplies
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- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

Related Literature

Title

Product Selection 2000 - Discrete Semiconductors (CD-ROM)
Power in Lighting (folder)
Power in Home Appliances (brochure)
SMA - rectifiers and zeners in industry-standard packaging (leaflet)

Order code

9397 750 05988
9397 750 05312
9397 750 05986
9397 750 06731

Why choose Philips Semiconductors'...?

...SMA diodes

- * Ideal for a broad range of applications in the general, industrial and automotive areas
- * Industry-standard packaging allows easy pick-and-place
- * High maximum operating temperature
- * Low leakage current
- * Excellent capability
- * Guaranteed avalanche energy absorption capability

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

...SOD87

- * even smaller package than SMA
- * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

Benefits of Philips Semiconductors' Zener Diodes and Transient Voltage Suppressors

- 1) High quality zeners and TVSs in a wide range of voltages.
- 2) Glass passivated for excellent stability under all conditions.
- 3) Very low leakage current.

Use **SOD81** as an alternative to SuperRectifier

ZENER DIODES AND TRANSIENT VOLTAGE SUPPRESSORS

ZENER TOTAL POWER RATING		LEADED PACKAGES			SURFACE MOUNT PACKAGES			TYPICAL APPLICATIONS
TVS PEAK POWER RATING		SOD64	SOD57	SOD81	SOD87	SOD106		General Purpose
ZENER WORKING VOLTAGE (V)	TVS STAND-OFF VOLTAGE (V)	6 W 500 W	3.25 W 300 W	1.7 W - 2.3 W 150 W	1.7 W - 2.3 W 150 W	3 W	- 300 W	
7.5	6.2		BZT03-C7V5		BZD27-C7V5			
8.2	6.8		BZT03-C8V2		BZD27-C8V2			1 / 2 / 3
9.1	7.5		BZT03-C9V1		BZD27-C9V1			1 / 2 / 3
10	8.2		BZT03-C10		BZD27-C10	BZG03-C10	BZG04-8V2	1 / 2 / 3
11	9.1		BZT03-C11		BZD27-C11	BZG03-C11	BZG04-9V1	1 / 2 / 3
12	10	BZW03-C12	BZT03-C12	BZD23-C12	BZD27-C12	BZG03-C12	BZG04-10	1 / 2 / 3
13	11		BZT03-C13		BZD27-C13	BZG03-C13	BZG04-11	1 / 2 / 3
15	12	BZW03-C15	BZT03-C15	BZD23-C15	BZD27-C15	BZG03-C15	BZG04-12	1 / 2 / 3
16	13		BZT03-C16		BZD27-C16	BZG03-C16	BZG04-13	1 / 2 / 3
18	15		BZT03-C18		BZD27-C18	BZG03-C18	BZG04-15	1 / 2 / 3
20	16		BZT03-C20		BZD27-C20	BZG03-C20	BZG04-16	1 / 2 / 3
22	18	BZW03-C22	BZT03-C22	BZD23-C22	BZD27-C22	BZG03-C22	BZG04-18	1 / 2 / 3
24	20	BZW03-C24	BZT03-C24	BZD23-C24	BZD27-C24	BZG03-C24	BZG04-20	1 / 2 / 3
27	22		BZT03-C27		BZD27-C27	BZG03-C27	BZG04-22	1 / 2 / 3
30	24		BZT03-C30		BZD27-C30	BZG03-C30	BZG04-24	1 / 2 / 3
33	27		BZT03-C33		BZD27-C33	BZG03-C33	BZG04-27	1 / 2 / 3
36	30		BZT03-C36	BZD23-C36	BZD27-C36	BZG03-C36	BZG04-30	1 / 2 / 3
39	33		BZT03-C39		BZD27-C39	BZG03-C39	BZG04-33	1 / 2 / 3
43	36		BZT03-C43		BZD27-C43	BZG03-C43	BZG04-36	1 / 2 / 3
47	39	BZW03-C47	BZT03-C47	BZD23-C47	BZD27-C47	BZG03-C47	BZG04-39	1 / 2 / 3
51	43		BZT03-C51		BZD27-C51	BZG03-C51	BZG04-43	1 / 2 / 3
56	47		BZT03-C56		BZD27-C56	BZG03-C56	BZG04-47	1 / 2 / 3
62	51		BZT03-C62		BZD27-C62	BZG03-C62	BZG04-51	1 / 2 / 3
68	56	BZW03-C68	BZT03-C68	BZD23-C68	BZD27-C68	BZG03-C68	BZG04-56	1 / 2 / 3
75	62		BZT03-C75		BZD27-C75	BZG03-C75	BZG04-62	1 / 2 / 3
82	68		BZT03-C82		BZD27-C82	BZG03-C82	BZG04-68	1 / 2 / 3
91	75		BZT03-C91		BZD27-C91	BZG03-C91	BZG04-75	1 / 2 / 3
	82		BZT03-C100		BZD27-C100	BZG03-C100	BZG04-82	1 / 2 / 3
110	91		BZT03-C110		BZD27-C110	BZG03-C110	BZG04-91	1 / 2 / 3
120	100		BZT03-C120		BZD27-C120	BZG03-C120	BZG04-100	1 / 2 / 3
130	110		BZT03-C130		BZD27-C130	BZG03-C130	BZG04-110	1 / 2 / 3
150	120	BZW03-C150	BZT03-C150	BZD23-C150	BZD27-C150	BZG03-C150	BZG04-120	1 / 2 / 3
160	130		BZT03-C160		BZD27-C160	BZG03-C160	BZG04-130	1 / 2 / 3
180	150	BZW03-C180	BZT03-C180	BZD23-C180	BZD27-C180	BZG03-C180	BZG04-150	1 / 2 / 3
200	160	BZW03-C200	BZT03-C200	BZD23-C200	BZD27-C200	BZG03-C200	BZG04-160	1 / 2 / 3
220	180	BZW03-C220	BZT03-C220	BZD23-C220	BZD27-C220	BZG03-C220	BZG04-180	1 / 2 / 3
240	200		BZT03-C240	BZD23-C240	BZD27-C240	BZG03-C240	BZG04-200	1 / 2 / 3
270	220	BZW03-C270	BZT03-C270	BZD23-C270	BZD27-C270	BZG03-C270	BZG04-220	1 / 2 / 3
300	240				BZD27-C300			1 / 2 / 3
330	270				BZD27-C330			1 / 2 / 3
360	300				BZD27-C360			1 / 2 / 3
390	330				BZD27-C390			1 / 2 / 3
430	360				BZD27-C430			1 / 2 / 3
470	390				BZD27-C470			1 / 2 / 3
510	430				BZD27-C510			1 / 2 / 3

APPLICATIONS KEY

General Purpose

- 1 = Voltage regulation
- 2 = Voltage clamping
- 3 = Surge protection

Why choose Philips Semiconductors' ...?

...SOD87






- * even smaller package than SMA
- * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

Benefits of Philips Semiconductors' ZenBlock™

- 1) Two-in-one diode reduces board space requirements.
- 2) Lower EMI by reducing circuit length
- 3) Higher efficiency at low loads
- 4) Glass passivated for excellent stability under all conditions.
- 5) Very low leakage current.

Use **SOD81** as an alternative to SuperRectifier

ZENBLOCK™ - ZENER WITH INTEGRATED BLOCKING DIODE ("ONE FOR TWO - 142") - *NEW!* products are marked in red

Working Voltage (V)	Power dissipation (W)	Zener diode		Blocking diode		SMD PACKAGE			LEADED PACKAGE			TYPICAL APPLICATION Power Supply
		TVS-stand-off voltage (V)	TVS-peak power-rating (W)	VR (V)	Ersm (m)	SOD87 	SMA (SOD124) 	SOD81 	SOD57 	SOD64 		
68	1.5	56	100	600	10	BZD142W-68						12
100	1.5	82	100	600	10	BZD142W-100						12
160	1.5	130	100	600	10	BZD142W-160						12
68	1.8	56	150	600	7.5		BZG142-68					12
91	1.8	75	150	600	7.5		BZG142-91					12
100	1.8	82	150	600	7.5		BZG142-100					12
120	1.8	100	150	600	7.5		BZG142-120					12
150	1.8	120	150	600	7.5		BZG142-150					12
160	1.8	130	150	600	7.5		BZG142-160					12
180	1.8	150	150	600	7.5		BZG142-180					12
200	1.8	160	150	600	7.5		BZG142-200					12
68	2.1	56	100	600	10			BZD142-68				12
75	2.1	62	100	600	10			BZD142-75				12
82	2.1	68	100	600	10			BZD142-82				12
91	2.1	75	100	600	10			BZD142-91				12
100	2.1	82	100	600	10			BZD142-100				12
110	2.1	91	100	600	10			BZD142-110				12
120	2.1	100	100	600	10			BZD142-120				12
130	2.1	110	100	600	10			BZD142-130				12
150	2.1	120	100	600	10			BZD142-150				12
160	2.1	130	100	600	10			BZD142-160				12
68	3.25	56	200	600	10						BZT142-68	12
150	3.25	120	200	600	10						BZT142-150	12
180	3.25	150	200	600	10						BZT142-180	12
200	3.25	160	200	600	10						BZT142-200	12
68	6	56	400	600	10						BZW142-68	12
150	6	120	400	600	10						BZW142-150	12
180	6	150	400	600	10						BZW142-180	12
200	6	160	400	600	10						BZW142-200	12

Application of the ZenBlock with off-line

PWM Controllers

The ZenBlock can be used in conjunction with off-line PWM controllers. This table provides an overview of some combinations based on the power ratings above.

Off-line controller	Flyback power max @ 90 - 285 V (W)	ZenBlock type
TEA1401T	20	BZD142W or BZG142
TEA1501	3	
TEA1562-63	12-20	
TNY253-256	4-19	
TOP209-210	2-5	
TOP200-201	12-20	
TOP221-222Y	7-15	
TOP221-224P/G	6-20	
VIPer20	20	
MC33369-33370	12-20	
TEA1563	24	BZD142
TOP201-203	22-35	
TOP223Y	30	
MC33370-33371	25-35	
TEA1564	50	BZT142
TOP214	42	
TOP204	50	
TOP224Y	45	
VIPer50	50	
MC33371	45	BZW142
TEA1564-1565	60-75	
TOP225-226	60-75	
MC33372-33373	60-75	
TEA1565-66	80-100	BZZ142
TOP227Y	90	
VIPer100	100	
MC33374	90	

Related Literature

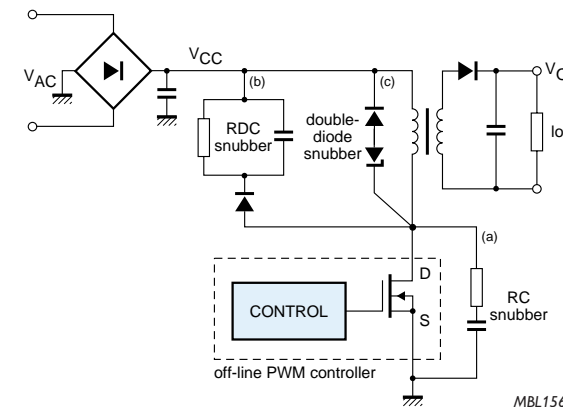
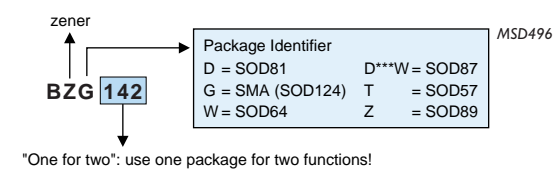
- Title**
 Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 Zenblock™: zener with integrated blocking diode (leaflet)
 Zenblock™: zener with integrated blocking diode (application note)

- Order code**
 9397 750 05988
 9397 750 07017
 9397 750 06903

APPLICATIONS KEY

- Power Supply**
- 1 = Primary side voltage clamp for isolated power supply units
 - 2 = Low power, power factor correction
 - 3 = Medium/ high power, power factor correction
 - 4 = Output rectifiers for low wattage power supplies
 - 5 = Output rectifiers for medium power telecoms supplies
 - 6 = Output rectifiers for high power telecoms supplies
 - 7 = High power workstation telecoms, and server power supply units
 - 8 = Medium power desktop PC power supply units
 - 9 = Low power chargers and laptop power supply units
 - 10 = Medium power chargers and general lower voltage power supply units
 - 11 = Auxiliary voltage
 - 12 = Snubber diode

ZenBlock™ part numbering



Why choose Philips Semiconductors'...?

...SOD87
 * even smaller package than SMA
 * better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)








Benefits of Philips Semiconductors' High Voltage Rectifiers (STACKS)

- 1) Glass passivation for excellent stability and reliability.
- 2) Glass packages with Al-bonded chips allow use under high operating temperature conditions.
- 3) Controlled avalanche capable of absorbing transients during flash-over at high voltage output.
- 4) Custom-rectifiers on offer - we'll make to your spec!

Note 1): for max. 5 secs

* = typical

HIGH VOLTAGE RECTIFIERS - *NEW!* products are marked in red

V _{RWM} (kV)	V _{RRM} (kV)	V _{RRM} ⁽¹⁾ (kV)	I _{F(AV)} (mA)	trr (ns)	TECHNOLOGY	LEADED PACKAGES							TYPICAL APPLICATIONS				
						SOD61 	SOD118A 	SOD125 	SOD107A 	SOD88 	SOD119 	SOD83 	General	Auto	TV	Medical	
1.5	1.8		85	200*		BY584							✓				
2	2		50	5000	controlled avalanche	BYX132G	BYX132GPS	BYX132GPL	BYX132GP		BYX132GL		✓	✓			
2	2.2		50	300		BY614							✓				
2	2.2		85	200*		BY505							✓				
3	3		50	5000	controlled avalanche	BYX133G	BYX133GPS	BYX133GPL	BYX133GP		BYX133GL			✓			
3	3		100	5000	controlled avalanche					BYX120G				✓			
4	4		50	5000	controlled avalanche	BYX134G	BYX134GPS	BYX134GPL	BYX134GP		BYX134GL			✓			
	4	5.6	10	100	controlled avalanche										✓		
4	5		20	60	controlled avalanche	BY8104									✓		
4	5		20	75		BY715									✓		
4	5		20	100	controlled avalanche	BY8004									✓		
4	5		20	100		BY8404									✓		
4.5	5		340	50	controlled avalanche					BYX108G							✓
4.5	5		480	175	controlled avalanche					BYX107G							✓
4.5	5		575	350	controlled avalanche					BYX106G							✓
4.5	5		650	600	controlled avalanche					BYX105G							✓
5	5		50	5000	controlled avalanche	BYX135G	BYX135GPS	BYX135GPL	BYX135GP		BYX135GL			✓			
5	6		20	75		BY716									✓		
	6	8.4	10	35	controlled avalanche										✓		
	6	8.4	10	45	controlled avalanche										✓		
	6	8.4	10	100	controlled avalanche										✓		
6	7.5		550	350	controlled avalanche						BYX90G				✓		✓
6	8		10	60	controlled avalanche	BY8106									✓		
6	8		10	100	controlled avalanche	BY8006									✓		
6	8		10	100		BY8406									✓		
	8	11.2	5	35	controlled avalanche										✓		
	8	11.2	5	45	controlled avalanche										✓		
	8	11.2	5	100	controlled avalanche										✓		
8	10		5	60	controlled avalanche	BY8108									✓		
8	10		5	100	controlled avalanche	BY8008									✓		
8	10		5	100		BY8408									✓		
9	10		225	50	controlled avalanche					BYX104G					✓		✓
9	10		4	75		BY717									✓		
9	10		310	175	controlled avalanche					BYX103G							✓
9	10		360	350	controlled avalanche					BYX102G							✓
9	10		400	600	controlled avalanche					BYX101G							✓
10	12		5	60	controlled avalanche	BY8110									✓		
10	12		4	75		BY718									✓		
10	12		5	100	controlled avalanche	BY8010									✓		
10	12		5	100		BY8410									✓		
12	14		5	60	controlled avalanche	BY8112									✓		
12	14		4	75		BY719									✓		
12	14		5	100	controlled avalanche	BY8012									✓		
12	14		5	100		BY8412									✓		
14	17		5	60	controlled avalanche	BY8114									✓		
14	17		3	75		BY720									✓		
14	17		5	100	controlled avalanche	BY8014									✓		
14	17		5	100		BY8414									✓		
16	19		3	60	controlled avalanche	BY8116									✓		
16	19		3	75		BY721									✓		
16	19		3	100	controlled avalanche	BY8016									✓		
16	19		3	100		BY8416									✓		
18	22		3	75		BY722									✓		
18	22		3	100		BY8418									✓		
20	24		3	75		BY723									✓		
20	24		3	100		BY8420									✓		
24	30		3	75		BY724									✓		
24	30		3	100		BY8424									✓		

Related Literature

Title
 Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 Custom-made Stacks (leaflet)
 Rectifier diodes for high voltage generation in TV sets and monitors (brochure)
 SKN002, Pre-spark blocking diode BYX120G (factsheet)







Order code
 9397 750 05988
 9397 750 06549
 9397 750 03737
 9397 750 00261

Benefits of Philips Semiconductors' P-channel MOSFETs

- 1) Wide range in popular packages, including small SMD packages which allow you to reduce the size and weight of your mobile communication application.
- 2) Philips Semiconductors were the first to offer low resistance MOSFETs in the ultra-small SOT363 (SC88) SMD package
- dual SOT363 parts now available.
- 3) Very low-Ohmic $R_{DS(on)}$ values reduce power losses and so help extend battery life in mobile communication applications.
- 4) BSH range suitable for the most advanced designs thanks to a guaranteed performance at 1.8V gate drive for many of the types in the range.
This allows design engineers to evaluate circuit performance in worst-case conditions.

12 V - 300 V P-CHANNEL MOSFETS

* Dual

V _{DS} (V)	R _{DS(ON)} (Ω)	@V _{GS} (V)	I _{DS} (A)	Technology	SURFACE MOUNT PACKAGES						TYPICAL APPLICATIONS			
					SOT223 	SOT23 	SOT363 	TSOP6 (SOT457) 	SOT96 (SO8) 	TO92 (SOT54) 	General	PC Peripherals	Telecom	
12	0.15	2.5	2	VDMOS				BSH207					1	6
12	0.5	2.5	1.01	VDMOS			BSH206						1	6
12	0.5	2.5	0.86	VDMOS		BSH205							1	6
30	0.09	10	5	VDMOS					PHP109		✓			5
30	0.25	10	2.5	VDMOS					PHP125				1	3 / 6
30	0.25	10	2 x 2.5	VDMOS					PHP225*				1	3 / 6
30	0.25	10	3	VDMOS	BSP250						✓		1	3 / 6
30	0.9	10	0.57	VDMOS		BSH202					✓			6
30	1.1	2.5	0.57	VDMOS		BSH203					✓			6
50	10	10	0.13	VDMOS		BSS84					✓			2 / 3
60	2.5	10	0.34	VDMOS		BSH201					✓			6
200	12	10	0.225	VDMOS	BSP220						✓			2 / 3
250	15	10	0.225	VDMOS	BSP225						✓			3 / 4 / 7
300	17	10	0.21	VDMOS	BSP230					BSP254A	✓			3 / 4 / 7

APPLICATIONS KEY

PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line Card Switching

Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver

Related Literature

Title




Product Selection 2000 - Discrete Semiconductors (CD-ROM)
Power & Battery Management Semiconductors (folder)
The BSH range for cellular and cordless phones and laptop PCs (leaflet)

Order code

9397 750 05988
9397 750 06394
9397 750 05335

25 V - 300 V MULTI-CHIP MOSFETS (N-CHANNEL/P-CHANNEL/COMPLEMENTARY)

* Dual

V _{DS} (V)	R _{DS(ON)} (Ω)	@V _{GS} (V)	I _{DS} (A)	Technology	SURFACE MOUNT PACKAGES			TYPICAL APPLICATIONS				
					SO8 (SOT96) 	SO24 (SOT137) 	SSOP24 (SOT340) 	Motherboard	General	PC Peripherals	Telecom	
25	1 x 0.03 6 x 0.08 (N)	10	5	TrenchMOS			PHN70308				1	
25	1 x 0.035 (MOS) 1 x 6 A (Schottky)	10	5.8	TrenchMOS Schottky	PHN103S			1 / 2 / 3			2 / 3	3 / 4
25	6 x 0.035 (MOS) 6 x 5 A (Schottky)	10	5.5	TrenchMOS		PHN603S					1 / 4	
25	2 x 0.03 (N)	10	2 x 6.3	TrenchMOS	PHN203*						1	6
30	0.1 (N) / 0.25 (P)	10	3.5 (N) / 2.3 (P)	TrenchMOS (N) VDMOS (P)	PHC21025				✓		1	3 / 6
30	2 x 0.1 (N)	10	2 x 3.4	TrenchMOS	PHN210T*				✓		1	3 / 6
30	2 x 0.25 (P)	10	2 x 2.3	VDMOS	PHP225*				✓		1	3 / 6
100	0.09	10	2 x 3	TrenchMOS (N)	PHKD3NQ10T*							3 / 4
300	8 (N) / 17 (P)	10	0.3 (N) / 0.2 (P)	VDMOS	PHC2300							2



Low-ohmic power-switching MOSFETs - extending battery life in mobile equipment

Benefits of Philips Semiconductors' MOSFETs

- 1) Outstanding performance from leading edge TrenchMOS technology.
- 2) Wide variety of operating voltages, $R_{DS(on)}$ values, drain current ratings, power handling and package types - allows you more flexibility.
- 3) Extended TrenchMOS range suitable for a wider variety of applications.
- 4) Continued package and process developments mean smaller and smaller packages.
- 5) Excellent thermal performance eases route to SMD packages.
- 6) Very low gate charge especially in 25 V parts improves switching performance.
- 7) Better switching performance results in cooler chips.
- 8) Low $R_{DS(on)}$ in a given package helps to simplify your design - no charge pump or bootstrap needed.
- 9) Switching losses reduced through low gate charge.

20 V - 50 V MOSFETS (N-CHANNEL)

NEW! products are marked in red

Industry-standard type numbers mean easier selection!

V_{DS} (V)	$R_{DS(on)}$ (Ω)	@ V_{GS} (V)	I_D @ 25°C (max) (A)	Technology	SURFACE MOUNT PACKAGES			LEADED PACKAGES		TYPICAL APPLICATIONS								
					SOT223	SO8 (SOT96)	SOT23	D ² PAK (SOT404)	DPAK (SOT428)	TO220AB (SOT78)	TO247 (SOT429)	General Purpose	PC Peripherals	Telecom	Motherboard			
20	0.009	4.5	13.2	TrenchMOS														
20	0.05	4.5	5	TrenchMOS		SI4466DY												
20	0.1	10	3.5	TrenchMOS		SI9925DY												
20	0.25	2.5	1.05	VDMOS		SI9956DY												
25	0.0032	10	100	TrenchMOS			BSH105											
25	0.003	10	75	TrenchMOS						PSMN003-25W								
25	0.004	10	75	TrenchMOS														2
25	0.005	10	75	TrenchMOS														2
25	0.006	10	75	TrenchMOS														2
25	0.007	10	75	TrenchMOS														2
25	0.009	10	75	TrenchMOS														2
25	0.0058	10	75	TrenchMOS														2
25	0.004	10	75	TrenchMOS														2
25	0.012	10	69	TrenchMOS						PSMN004-25P								2
25	0.014	10	55	TrenchMOS						PHP69N03LT								2
25	0.016	10	50	TrenchMOS						PHB55N03LT								2
25	0.0095	10	75	TrenchMOS						PHB50N03LT								2
25	0.021	10	45	TrenchMOS						PHB87N03LT								2
25	0.056	5	20	TrenchMOS						PHB45N03LT								2
25	0.035	10	5.8	FETKY		PHN103S												5
30	0.009	10	12.5	TrenchMOS		SI4420DY												1
30	0.0135	10	10	TrenchMOS		SI4410DY												1
30	0.018	10	9	TrenchMOS		SI4416DY												1
30	0.03	10	7	TrenchMOS		SI9410DY												1
30	0.05	10	5	TrenchMOS		SI9936DY												1
30	0.0053	10	75	TrenchMOS														1
30	0.15	5	10.3	TrenchMOS														1
30	0.03	10	11	TrenchMOS	BSP030	PHN103T												1
30	0.12	10	1.9	TrenchMOS			BSH108											1
30	0.5	2.5	0.85	VDMOS			BSH103											1
30	0.1	10	6	TrenchMOS	BSP100													1
30	0.1	10	2 x 3.4	TrenchMOS		PHN210T												1
50	15	10	0.17	TrenchMOS			BSN20											1

APPLICATIONS KEY

PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line Card Switching

Motherboard

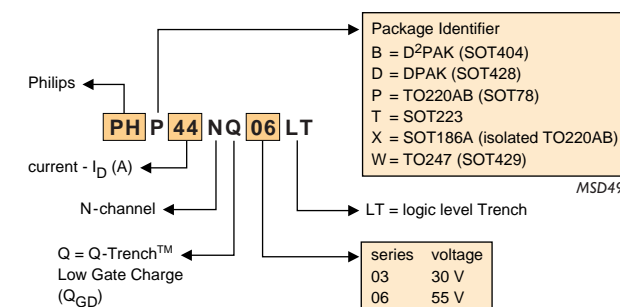
- 1 = Laptop DC-DC converters
- 2 = Desktop PC & server - DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

Related Literature

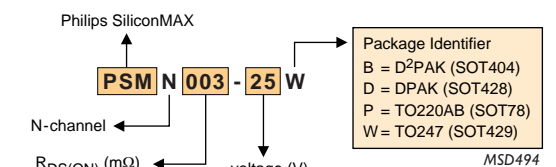
- Title**
- Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 - SiliconMAX™: ultra-low $R_{DS(on)}$ MOSFETs to 200 V (leaflet)
 - TrenchMOS™: innovative technology, world-class performance (folder)
 - Power in Lighting (folder)
 - The BSH range for cellular and cordless phones and laptop PCs (leaflet)

- Order code**
- 9397 750 05988
 - 9397 750 05724
 - 9397 750 03984
 - 9397 750 05312
 - 9397 750 05335

TRENCHMOS PART NUMBERING - PH TYPES



SILICONMAX PART NUMBERING









Spice data can be found on our web-site: <http://www.semiconductors.philips.com/models/>
 For detailed information about our SiliconMAX range go to <http://www.semiconductors.philips.com/siliconmax>

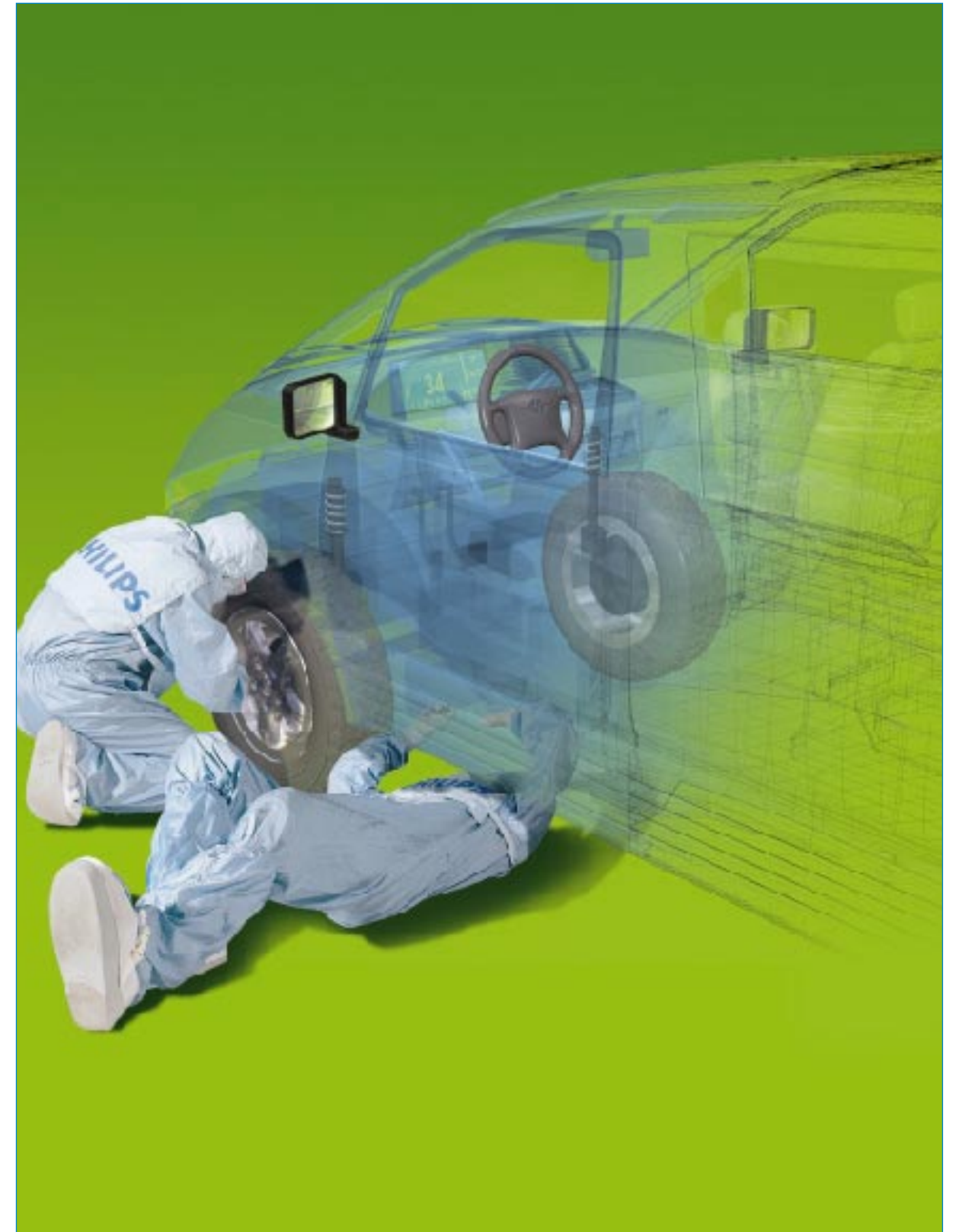
Benefits of Philips Semiconductors' Automotive MOSFETs

- 1) Leading edge TrenchMOS technology used for all devices, giving outstanding performance.
- 2) Wide variety of operating voltages, $R_{DS(on)}$ values, drain current ratings, power handling and package types - allows you more flexibility.
- 3) Extended TrenchMOS range suitable for a wider variety of applications.
- 4) True Logic Level & Standard Level devices available - lets YOU choose!

- 5) Continued package and process developments mean smaller and smaller packages.
- 6) Excellent thermal performance eases route to SMD packages.
- 7) Low $R_{DS(on)}$ in a given package helps to simplify your design - no charge pump or bootstrap needed.
- 8) Switching losses reduced through low gate charge.

30 V - 55 V N-CHANNEL AUTOMOTIVE MOSFETS - *NEW!* products are marked in red

V_{DS} (V)	$R_{DS(on)}$ (Ω)	@ V_{GS} (V)	I_D @ 25°C (max) (A)	SURFACE MOUNT PACKAGES				LEADED PACKAGES		TYPICAL APPLICATIONS Automotive
				SOT223 	D ² PAK (SOT404) 	SOT426 (5-pin D ² PAK) 	DPAK (SOT428) 	SOT78 (TO220AB) 	SOT186A (isolated TO220AB) 	
30	0.005	5	75		BUK9605-30A			BUK9505-30A		1
30	0.005	10	75		BUK7605-30A			BUK7505-30A		1
48	0.02	10	52				BUK9120-48TC			6
55	0.0063	5	75		BUK9606-55A			BUK9506-55A		1 / 8
55	0.0063	10	75		BUK7606-55A			BUK7506-55A		1 / 8
55	0.008	5	75		BUK9608-55			BUK9508-55		1 / 8
55	0.008	10	75		BUK7608-55			BUK7508-55		1 / 8
55	0.008	5	75		BUK9608-55A			BUK9508-55A		1 / 8
55	0.008	10	75		BUK7608-55A			BUK7508-55A		1 / 8
55	0.011	5	75		BUK9611-55A			BUK9511-55A		2 / 10
55	0.011	10	75		BUK7611-55A					2 / 10
55	0.011	10	75					BUK7511-55A		2 / 10
55	0.014	5	68		BUK9614-55			BUK9514-55		2 / 10
55	0.014	10	68		BUK7614-55			BUK7514-55		2 / 10
55	0.014	5	75		BUK9614-55A			BUK9514-55A		2 / 10
55	0.014	10	75		BUK7614-55A			BUK7514-55A		2 / 10
55	0.016	5	64		BUK9616-55A			BUK9516-55A		11
55	0.016	10	64		BUK7616-55A			BUK7516-55A		11
55	0.018	5	57		BUK9618-55			BUK9518-55		11
55	0.018	10	57		BUK7618-55			BUK7518-55		11
55	0.019	5	54				BUK9219-55A			11
55	0.019	10	54				BUK7219-55A			11
55	0.02	5	52		BUK9620-55			BUK9520-55		11
55	0.02	10	52		BUK7620-55			BUK7520-55		11
55	0.02	5	53		BUK9620-55A			BUK9520-55A		11
55	0.02	10	53		BUK7620-55A			BUK7520-55A		11
55	0.02	10	53						BUK7720-55A	11
55	0.024	5	45		BUK9624-55			BUK9524-55		10
55	0.024	10	45		BUK7624-55			BUK7524-55		10
55	0.024	5	44		BUK9624-55A			BUK9524-55A		10
55	0.024	10	44		BUK7624-55A			BUK7524-55A		10
55	0.028	5	40		BUK9628-55			BUK9528-55		10
55	0.028	10	40		BUK7628-55			BUK7528-55		10
55	0.028	5	40		BUK9628-55A			BUK9528-55A		10
55	0.028	10	40		BUK7628-55A			BUK7528-55A		10
55	0.028	5	40						BUK9728-55A	10
55	0.028	10	40						BUK7728-55A	10
55	0.03	5	38				BUK9230-55			10
55	0.03	10	38				BUK7230-55			10
55	0.03	5	38				BUK9230-55A			10
55	0.03	10	38				BUK7230-55A			10
55	0.035	5	34		BUK9635-55			BUK9535-55		10
55	0.035	10	34		BUK7635-55			BUK7535-55		10
55	0.035	5	34		BUK9635-55A			BUK9535-55A		10
55	0.035	10	34		BUK7635-55A			BUK7535-55A		10
55	0.035	5	34						BUK9735-55A	10
55	0.035	10	34						BUK7735-55A	10
55	0.037	5	34				BUK9237-55			10
55	0.032	5	12	BUK9832-55A						10
55	0.008	5	75			BUK9108-40ATC				6
55	0.037	10	34				BUK7237-55			10
55	0.037	5	32				BUK9237-55A			10
55	0.037	10	32				BUK7237-55A			10
55	0.04	5	10.7	BUK9840-55						10
55	0.04	10	10.7	BUK7840-55						10
55	0.075	5	19		BUK9675-55			BUK9575-55	BUK9775-55	10
55	0.075	10	19		BUK7675-55			BUK7575-55		10
55	0.075	5	22		BUK9675-55A			BUK9575-55A		10
55	0.075	10	22		BUK7675-55A			BUK7575-55A		10
55	0.075	5	22						BUK9775-55A	10
55	0.075	10	22						BUK7775-55A	10



continued on next page

30 V - 55 V N-CHANNEL AUTOMOTIVE MOSFETS -- *NEW!* products are marked in red

V _{DS} (V)	R _{DS(on)} (Ω)	@V _{GS} (V)	I _D @ 25°C (max) (A)	SURFACE MOUNT PACKAGES				LEADED PACKAGES		TYPICAL APPLICATIONS
				SOT223	D ² PAK (SOT404)	SOT426 (5-pin D ² PAK)	DPAK (SOT428)	TO220AB (SOT78)	SOT186A (isolated TO220AB)	Automotive
55	0.077	5	19							10
55	0.077	10	19							10
55	0.077	5	18							10
55	0.077	10	18							10
55	0.08	5	7.5	BUK9880-55						10
55	0.08	10	7.5	BUK7880-55						10
55	0.08	5	7	BUK9880-55A						10
55	0.15	5	5.5	BUK98150-55						9 / 11
55	0.15	10	5.5	BUK78150-55						9 / 11
55	0.15	5	5	BUK98150-55A						9 / 11
55	0.15	5	5		BUK96150-55A					9 / 11
55	0.15	10	5	BUK78150-55A	BUK76150-55A					9 / 11
55	0.15	5	5							9 / 11
55	0.15	10	5							9 / 11

75 V - 100 V N-CHANNEL AUTOMOTIVE MOSFETS - *NEW!* products are marked in red

V _{DS} (V)	R _{DS(on)} (Ω)	@V _{GS} (V)	I _D @ 25°C (max) (A)	SURFACE MOUNT PACKAGES				LEADED	TYPICAL APPLICATIONS
				SOT223	D ² PAK (SOT404)	DPAK (SOT428)	TO220AB (SOT78)	Automotive	
75	0.009	5	46						12
75	0.009	10	46						12
75	0.023	5	46						12
75	0.023	10	46						12
75	0.026	5	46						12
75	0.026	10	46						12
75	0.026	5	46						12
75	0.026	10	46						12
100	0.015	5	75						8
100	0.015	10	75						8
100	0.02	5	59						8 / 10
100	0.02	10	59						8 / 10
100	0.028	5	47						8 / 10
100	0.028	10	47						8 / 10
100	0.035	5	45						10
100	0.035	10	45						10
100	0.04	5	36						10
100	0.04	10	36						10
100	0.04	5	32						10
100	0.04	10	32						10
100	0.06	5	26						10
100	0.06	10	26						10
100	0.065	5	7	BUK9875-100A					10
100	0.075	5	23						10
100	0.075	10	21						10
100	0.18	5	4	BUK98180-100A					9 / 10
100	0.18	5	11						9 / 10

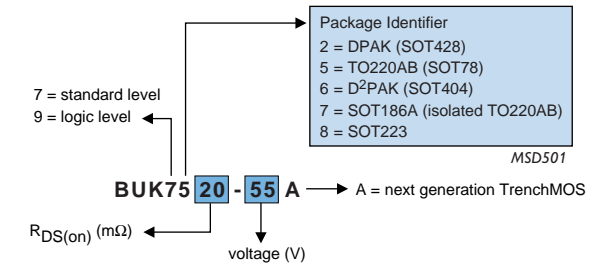


Related Literature

Title
 Power discretes and sensors - A full range of dedicated solutions
 Product Selection 2000 - Discrete Semiconductors (CD-ROM)
 TrenchMOS™: innovative technology, world-class performance (folder)
 What if! Automotive competency (brochure)

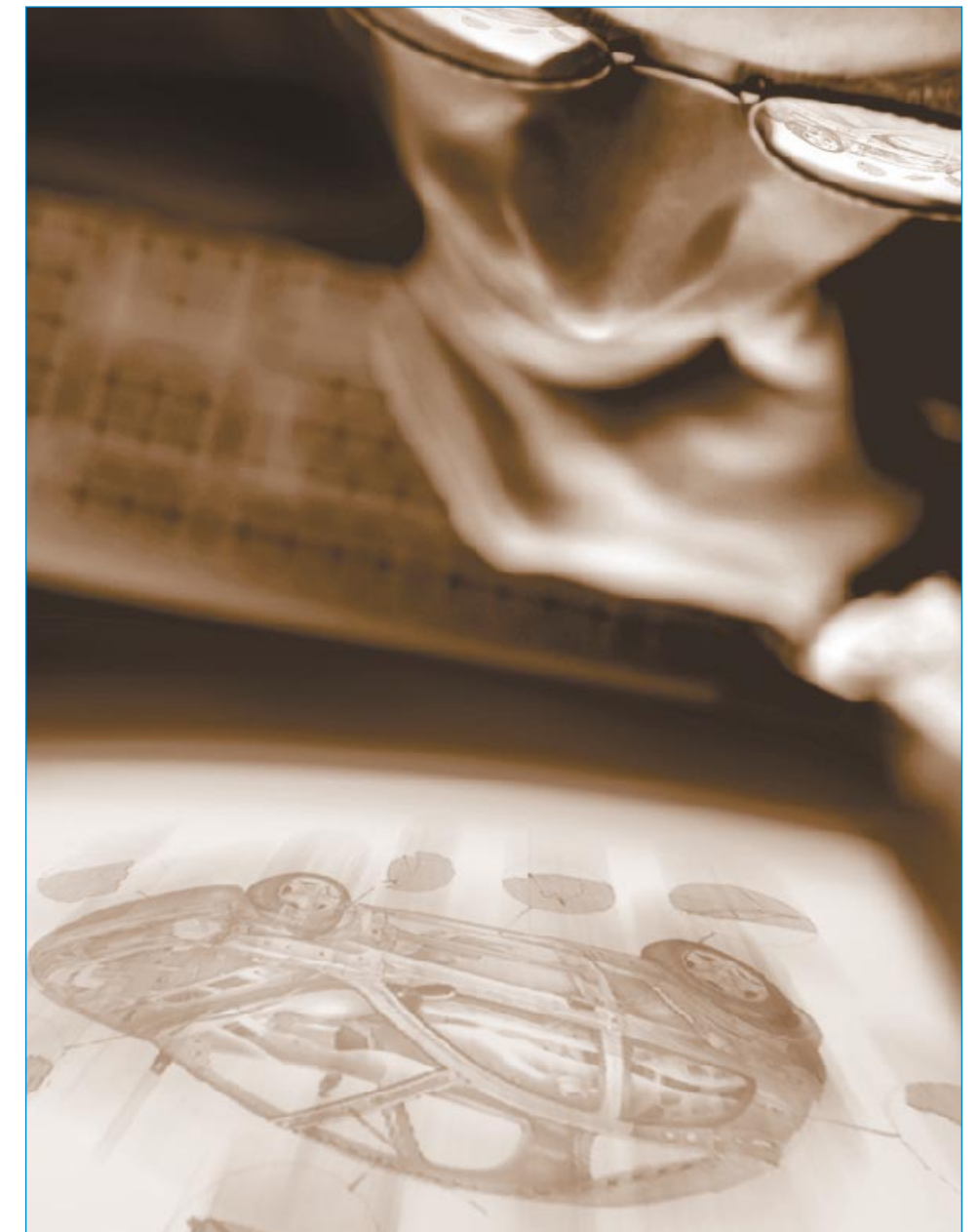
Order code
 9397 750 07512
 9397 750 05988
 9397 750 03984
 9397 750 06353

TrenchMOS - BUK TYPES PART NUMBERING



APPLICATIONS KEY

- Automotive**
- 1 = Electronic Power Assisted Steering (EPAS)
 - 2 = Heater
 - 3 = Ignition
 - 4 = Motor
 - 5 = Motor Switch
 - 6 = Protected Motor Switch
 - 7 = AC Motor Control
 - 8 = Motor Driver
 - 9 = Relay Driver
 - 10 = Solenoid Driver
 - 11 = Lamp Driver



Benefits of Philips Semiconductors' Automotive TOPFETs

- 1) Real low R_{DS} protected Power MOSFETs.
- 2) Protected against overload, overvoltage and shorted load.
- 3) No additional design-in effort required than with a standard MOSFET.
- 4) High side switch - monolithic level shifter, protection circuits and power MOSFET are all on one chip.
- 5) Very low current drain in off state.
- 6) Can be directly interfaced to a microcontroller.
- 7) New TOPFET2 range now uses Philips' field-proven TrenchMOS technology which extends the range further and facilitates cost-reductions making possible top-of-the-range features on lower-end vehicles.
- 8) Minimum feature sizes reduced on TOPFET2 chips from 4 μm to 1.2 μm thus reducing die sizes.

50 V AUTOMOTIVE PROTECTED MOSFETs - TOPFET

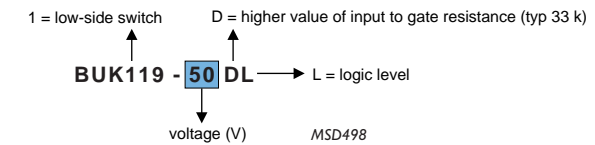
Also suitable for a wide variety of industrial applications

$R_{DS(ON)}$ (Ω)	@ V_{IS} (V)	TECHNOLOGY	SURFACE MOUNT PACKAGES			LEADED PACKAGES			TYPICAL APPLICATIONS Automotive
			D ² PAK (SOT404)	SOT426 (5-pin D ² PAK)	SOT223	TO220AB (SOT78)	SOT263	SOT263-01	
0.035	5	Low side switch	BUK110-50GL	BUK116-50L		BUK102-50GS	BUK106-50L		11
0.06	5	Low side switch	BUK109-50DL/ GL/ GS			BUK101-50DL/ GL/ GS			10
0.125	5	Low side switch	BUK108-50DL/ GL	BUK114-50L		BUK100-50DL/ GL/ GS	BUK104-50L		6
0.2	5	Low side switch			BUK107-50DL/ DS/ GL				9 / 11
0.038	5	High side switch		BUK206-50X/Y				BUK202-50X/Y	6 / 10 / 11
0.06	5	High side switch		BUK205-50Y				BUK201-50Y	6 / 10 / 11
0.1	5	High side switch		BUK204-50X/Y				BUK200-50Y	6 / 10 / 11
0.2	5	High side switch						BUK203-50Y	6 / 10 / 11

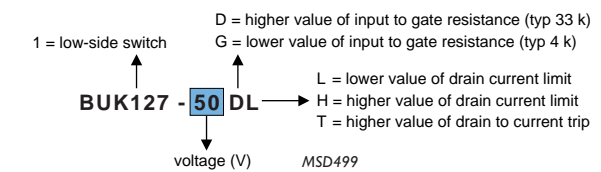
50 V AUTOMOTIVE PROTECTED MOSFETs - TOPFET2 - *NEW!* products are marked in red

$R_{DS(ON)}$ (Ω)	@ V_{IS} (V)	TECHNOLOGY	SURFACE MOUNT PACKAGES				TYPICAL APPLICATIONS Automotive
			D ² PAK (SOT404)	SOT426 (5-pin D ² PAK)	SOT223	SOT427 (7-pin D ² PAK)	
0.028	5	Low side switch	BUK130-50DL	BUK135-50L			11
0.2	5	Low side switch			BUK127-50DL		9 / 11
0.014	5	High side switch		BUK217-50YT			6 / 10 / 11
0.038	5	High side switch		BUK215-50Y			6 / 10 / 11
2 x 0.04	5	High side switch (dual)				BUK218-50DY	6 / 10 / 11

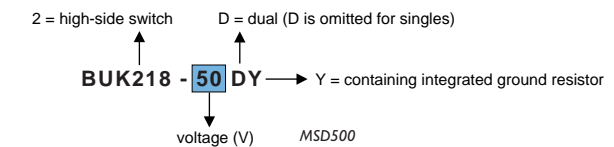
TOPFET LSS PART NUMBERING



TOPFET BUK127 (exception) PART NUMBERING



TOPFET HSS PART NUMBERING



Related Literature

Title
TOPFETs - driving forward in protected PowerMOS (folder)
What if! Automotive competency (brochure)

Order code
9397 750 03985
9397 750 06353

Benefits of Philips Semiconductors' IGBTs

- 1) Application-optimised parts for automotive ignition and high frequency AC motor control
- 2) Available in SMD package (D²PAK, SOT404).

INSULATED GATE BIPOLAR TRANSISTORS

V_{CE} (V)	$V_{CE(SAT)}$ (V)	I_C (A)	t_f (μs)	TECHNOLOGY	SMD	TYPICAL APPLICATIONS Automotive
					D ² PAK (SOT404)	
400	2.2	15	10	PROTECTED	BUK866-400IZ	3

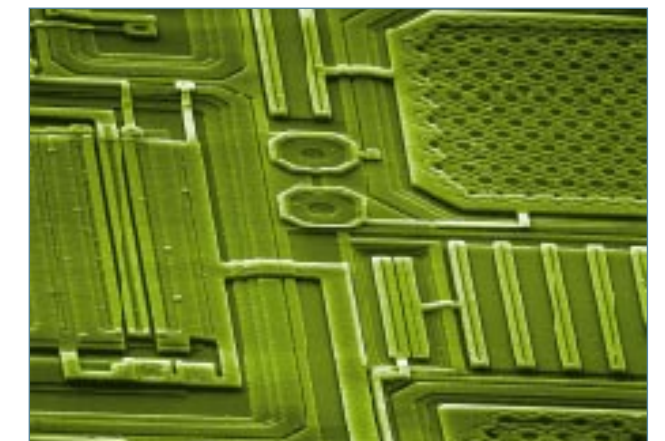
Related Literature

Title
Product Selection 2000 - Discrete Semiconductors (CD-ROM)
FS038, IGBTs for automotive ignition (factsheet)
FS039, Electronic switches for automotive ignition (factsheet)

Order code
9397 750 05988
9398 510 67011
9398 510 68011

APPLICATIONS KEY

- Automotive**
- 1 = Electronic Power Assisted Steering (EPAS)
 - 2 = Heater
 - 3 = Ignition
 - 4 = Motor
 - 5 = Motor Switch
 - 6 = Protected Motor Switch
 - 7 = AC Motor Control
 - 8 = Motor Driver
 - 9 = Relay Driver
 - 10 = Solenoid Driver
 - 11 = Lamp Driver



Scanning-electron microscope picture of Philips Semiconductors' latest TOPFET

“Philips Type” refers to closest Philips alternative or equivalent if available.

Always consider the application and compare data specifications before recommending the suitable Philips type.

Notes:

1 - dual device.

2 - competitor $R_{DS(on)}$ falls between two Philips types, hence either stated device may be suitable.

Type	Manufacturer	Philips Type
10TQ045S	IR	PBYR1045B
11DQ03	IR	1N5818
11DQ04	IR	1N5819
11E1	NIEC	1N5059
11E2	NIEC	1N5059
11E4	NIEC	1N5060
11EQ03	NIEC	1N5818
11EQ04	NIEC	1N5819
11EQS02L	NIEC	1N5817
11EQS03	NIEC	1N5818
11EQS04	NIEC	1N5819
11ES1	NIEC	1N5059
11ES2	NIEC	1N5059
11ES4	NIEC	1N5060
11ES6	NIEC	1N5061
11ES8	NIEC	1N5062
15DF4	NIEC	BYV95B
1FWJ43N	TOSHIBA	1N5818
1GWJ42	TOSHIBA	1N5819
1GWJ43	TOSHIBA	1N5819
1N3645	INDUSTRY STANDARD – VARIOUS	BYX120G
1N3646	INDUSTRY STANDARD – VARIOUS	BYX120G
1N3647	INDUSTRY STANDARD – VARIOUS	BYX120G
1N4001	INDUSTRY STANDARD – VARIOUS	1N4001ID
1N4001GP	GENERAL SEMICONDUCTOR	1N4001ID
1N4005	INDUSTRY STANDARD – VARIOUS	1N4005ID
1N4005GP	GENERAL SEMICONDUCTOR	1N4005ID
1N4006	INDUSTRY STANDARD – VARIOUS	1N4006ID
1N4006GP	GENERAL SEMICONDUCTOR	1N4006ID
1N4245	GENERAL SEMICONDUCTOR	1N5059
1N4246	GENERAL SEMICONDUCTOR	1N5060
1N4247	GENERAL SEMICONDUCTOR	1N5061
1N4248	GENERAL SEMICONDUCTOR	1N5062
1N4256	MICROSEMI/MICRO QUALITY	BYX120G
1N4257	MICROSEMI/MICRO QUALITY	BYX120G
1N4383	INDUSTRY STANDARD – VARIOUS	1N5059
1N4383GP	GENERAL SEMICONDUCTOR	1N5059
1N4384	INDUSTRY STANDARD – VARIOUS	1N5060
1N4384GP	GENERAL SEMICONDUCTOR	1N5060
1N4385	INDUSTRY STANDARD – VARIOUS	1N5061
1N4385GP	GENERAL SEMICONDUCTOR	1N5061
1N4585	INDUSTRY STANDARD – VARIOUS	1N5062
1N4585GP	GENERAL SEMICONDUCTOR	1N5062
1N4816	INDUSTRY STANDARD – VARIOUS	1N5059
1N4817	INDUSTRY STANDARD – VARIOUS	1N5059
1N4818	INDUSTRY STANDARD – VARIOUS	1N5059
1N4819	INDUSTRY STANDARD – VARIOUS	1N5060
1N4820	INDUSTRY STANDARD – VARIOUS	1N5060
1N4821	INDUSTRY STANDARD – VARIOUS	1N5061
1N4822	INDUSTRY STANDARD – VARIOUS	1N5061
1N4989	INDUSTRY STANDARD – VARIOUS	BZV03-C200
1N5052	INDUSTRY STANDARD – VARIOUS	1N5062
1N5053	INDUSTRY STANDARD – VARIOUS	1N5062
1N5059GP	GENERAL SEMICONDUCTOR	1N5059
1N5061GP	GENERAL SEMICONDUCTOR	1N5061
1N5062GP	GENERAL SEMICONDUCTOR	1N5062
1N5181	MICROSEMI/MICRO QUALITY	BYX105G
1N5182	MICROSEMI/MICRO QUALITY	BYX105G
1N5183	MICROSEMI/MICRO QUALITY	BYX101G
1N5184	MICROSEMI/MICRO QUALITY	BYX101G
1N5185	INDUSTRY STANDARD - VARIOUS	BYV95A
1N5186	INDUSTRY STANDARD - VARIOUS	BYV95A
1N5187	INDUSTRY STANDARD - VARIOUS	BYV95A
1N5188	INDUSTRY STANDARD - VARIOUS	BYV95B
1N5387A	INDUSTRY STANDARD - VARIOUS	BZV03-C200
1N5388A	INDUSTRY STANDARD - VARIOUS	BZV03-C200
1N5391	INDUSTRY STANDARD - VARIOUS	1N5059

Type	Manufacturer	Philips Type
1N5391G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5391GP	GENERAL SEMICONDUCTOR	1N5059
1N5392	INDUSTRY STANDARD - VARIOUS	1N5059
1N5392G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5392GP	GENERAL SEMICONDUCTOR	1N5059
1N5393	INDUSTRY STANDARD - VARIOUS	1N5059
1N5393G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5393GP	GENERAL SEMICONDUCTOR	1N5059
1N5415	INDUSTRY STANDARD – VARIOUS	BYV95A
1N5416	INDUSTRY STANDARD – VARIOUS	BYV95A
1N5417	INDUSTRY STANDARD – VARIOUS	BYV95A
1N5418	INDUSTRY STANDARD – VARIOUS	BYV95B
1N5550	INDUSTRY STANDARD – VARIOUS	BYM56A
1N5551	INDUSTRY STANDARD – VARIOUS	BYM56B
1N5552	INDUSTRY STANDARD – VARIOUS	BYM56C
1N5553	INDUSTRY STANDARD – VARIOUS	BYM56D
1N5554	INDUSTRY STANDARD – VARIOUS	BYM56E
1N5614	INDUSTRY STANDARD – VARIOUS	1N5059
1N5616	INDUSTRY STANDARD – VARIOUS	1N5060
1N5617	INDUSTRY STANDARD – VARIOUS	BYV95B
1N5617GP	GENERAL SEMICONDUCTOR	BYV95B
1N5618	INDUSTRY STANDARD – VARIOUS	1N5061
1N5620	INDUSTRY STANDARD – VARIOUS	1N5062
1N5624	INDUSTRY STANDARD – VARIOUS	BYM56A
1N5624GP	GENERAL SEMICONDUCTOR	BYM56A
1N5625	INDUSTRY STANDARD – VARIOUS	BYM56B
1N5625GP	GENERAL SEMICONDUCTOR	BYM56B
1N5626	INDUSTRY STANDARD – VARIOUS	BYM56C
1N5626GP	GENERAL SEMICONDUCTOR	BYM56C
1N5627	INDUSTRY STANDARD – VARIOUS	BYM56D
1N5627GP	GENERAL SEMICONDUCTOR	BYM56D
1N5807	INDUSTRY STANDARD – VARIOUS	BYV28-50
1N5808	INDUSTRY STANDARD – VARIOUS	BYV28-100
1N5809	INDUSTRY STANDARD – VARIOUS	BYV28-100
1N5810	INDUSTRY STANDARD – VARIOUS	BYV28-150
1N5811	INDUSTRY STANDARD – VARIOUS	BYV28-150
1N5817G	MICROSEMI/MICRO QUALITY	1N5817
1N5817M	ITT	PRLL5817
1N5818G	MICROSEMI/MICRO QUALITY	1N5818
1N5818M	ITT	PRLL5818
1N5819G	MICROSEMI/MICRO QUALITY	1N5819
1N5819M	ITT	PRLL5819
1N6076	MICROSEMI/MICRO QUALITY	BYV28-50
1N6077	MICROSEMI/MICRO QUALITY	BYV28-100
1N6078	MICROSEMI/MICRO QUALITY	BYV28-150
1N6478	GENERAL SEMICONDUCTOR	PRLL4001
1N6480	GENERAL SEMICONDUCTOR	BYD17D
1N6481	GENERAL SEMICONDUCTOR	BYD17G
1N6482	GENERAL SEMICONDUCTOR	BYD17J
1N6484	GENERAL SEMICONDUCTOR	BYD17M
1N6620US	MICROSEMI/MICRO QUALITY	BYD77D
1N6621US	MICROSEMI/MICRO QUALITY	BYD77G
1N6626	INDUSTRY STANDARD - VARIOUS	BYV27-200
1N6628	INDUSTRY STANDARD - VARIOUS	BYV28-600
1SMA59xxBT3	ON SEMICONDUCTOR	PSMA59xxB
1SMAxxAT3	ON SEMICONDUCTOR	PSMAxxA
1SR139-600	ROHM	1N4005ID
1SR159-200	ROHM	BYG80D
20D05	IR	1N5059
20D1	IR	1N5059
20D2	IR	1N5059
20D4	IR	1N5060
20D6	IR	1N5061
20D8	IR	1N5062
2A01	AMOS	1N5059
2A02	AMOS	1N5059
2A03	AMOS	1N5059

Type	Manufacturer	Philips Type
2A04	AMOS	1N5060
2A05	AMOS	1N5061
2A06	AMOS	1N5062
2N6071A	ON SEMICONDUCTOR	BT134-600D
2N6073	ON SEMICONDUCTOR	BT134-600
2N6073A	ON SEMICONDUCTOR	BT134-600D
2N6075A	ON SEMICONDUCTOR	BT134-600D
2N6346	ON SEMICONDUCTOR	BT138-600
2N6346A	ON SEMICONDUCTOR	BT139-800G
2N6347	ON SEMICONDUCTOR	BT138-600
2N6347A	ON SEMICONDUCTOR	BT139-800G
2N6348	ON SEMICONDUCTOR	BT138-600
2N6348A	ON SEMICONDUCTOR	BT139-800G
2N6349	ON SEMICONDUCTOR	BT138-800
2N6349A	ON SEMICONDUCTOR	BT139-800G
2N7002	INDUSTRY STANDARD - VARIOUS	2N7002
2PFF0	SEMTECH	BYM26E
2PFF2	SEMTECH	BYM26B
2PFF4	SEMTECH	BYM26B
2PFF6	SEMTECH	BYM26C
2PFF8	SEMTECH	BYM26D
2PFT2	SEMTECH	BYV27-200
2SC3162	SHINDENGEN	BUJ103A
2SC3163	SHINDENGEN	BUJ105A
2SC3681	SANYO	BU4507DX
2SC3683	SANYO	BU2520DV
2SC3685	SANYO	BU4507AX
2SC3686	SANYO	BU4508AX
2SC3688	SANYO	BU4530AW
2SC3884A	TOSHIBA	BU4508AX
2SC3885A	TOSHIBA	BU4515AX
2SC3886A	TOSHIBA	BU4522AX
2SC3887A	TOSHIBA	BU4508AX
2SC3888A	TOSHIBA	BU4515AX
2SC3892A	TOSHIBA	BU4508DX
2SC3893A	TOSHIBA	BU4522DX
2SC3894	SANYO	BU4507AX
2SC3895	SANYO	BU4508AX
2SC3896	SANYO	BU4522AX
2SC3897	SANYO	BU4530AL
2SC3995	SANYO	BU4530AL
2SC3996	SANYO	BU4530AL
2SC3997	SANYO	BU4540AL
2SC3998	SANYO	BU4540AL
2SC4051	SHINDENGEN	BUJ202A
2SC4052	SHINDENGEN	BUJ202AX
2SC4053	SHINDENGEN	BUJ204A
2SC4055	SHINDENGEN	BUJ205A
2SC4056	SHINDENGEN	BUJ205AX
2SC4122	SANYO	BU4507DX
2SC4123	SANYO	BU4508DX
2SC4124	SANYO	BU4522DX
2SC4230	SHINDENGEN	BU1706AB
2SC4288A	TOSHIBA	BU4540AL
2SC4289A	TOSHIBA	BU4540AL
2SC4290A	TOSHIBA	BU4550AL
2SC4291	SANYO	BU4507DX
2SC4293	SANYO	BU4507DX
2SC4294	SANYO	BU4508DX
2SC4435	SANYO	BU4508AX
2SC4436	SANYO	BU4515AX
2SC4437	SANYO	BU4508AX
2SC4438	SANYO	BU4515AX
2SC4531	TOSHIBA	BU4523DX
2SC4532	TOSHIBA	BU4730AL
2SC4542	TOSHIBA	BU4525AX
2SC4692	HITACHI	BU4530AL
2SC4743	HITACHI	BU4508AX
2SC4744	HITACHI	BU4508DF
2SC4745	HITACHI	BU4515AF
2SC4747	HITACHI	BU4540AL
2SC4757	TOSHIBA	BU4515AX
2SC4758	TOSHIBA	BU4522AX
2SC4759	TOSHIBA	BU4525AX
2SC4762	TOSHIBA	BU4508DX

Type	Manufacturer	Philips Type
2SC4763	TOSHIBA	BU4522DX
2SC4764	TOSHIBA	BU4507DX
2SC4766	TOSHIBA	BU2720DX
2SC4769	SANYO	BU4508DX
2SC4770	SANYO	BU4508AX
2SC4789	HITACHI	BU4550AL
2SC4830	TOSHIBA	BU4508AX
2SC4877	HITACHI	BU4523DF
2SC4880	HITACHI	BU4730AL
2SC4890	SANYO	BU4540AL
2SC4891	SANYO	BU4540AL
2SC4897	HITACHI	BU4550AL
2SC4916	TOSHIBA	BU4508DX
2SC4923	SANYO	BU4522AX
2SC4924	SANYO	BU4522AX
2SC4927	HITACHI	BU4522DF
2SC4928	HITACHI	BU4550AL
2SC4962	HITACHI	BU2727DF
2SC4963	HITACHI	BU2727DF
2SC5002	SANKEN	BU4522AF
2SC5003	SANKEN	BU4522DF
2SC5043	SANYO	BU2727DX
2SC5045	SANYO	BU4730AL
2SC5046	SANYO	BU4730AL
2SC5048	TOSHIBA	BU4523AX
2SC5058	HITACHI	BU4730AL
2SC5067	HITACHI	BU4522AF
2SC5105	HITACHI	BU4530AL
2SC5129	TOSHIBA	BU4515AX
2SC5132A	HITACHI	BU4508DF
2SC5133	HITACHI	BU4515DX
2SC5142	TOSHIBA	BU4550AL
2SC5143	TOSHIBA	BU2727DX
2SC5148	TOSHIBA	BU4508AX
2SC5149	TOSHIBA	BU4508DX
2SC5207	HITACHI	BU4522AF
2SC5207A	HITACHI	BU4522AF
2SC5219	HITACHI	BU2727DF
2SC5250	HITACHI	BU4508DF
2SC5251	HITACHI	BU4522AF
2SC5296	SANYO	BU4508DX
2SC5297	SANYO	BU4522AX
2SC5298	SANYO	BU4522AX
2SC5299	SANYO	BU4522AX
2SC5302	SANYO	BU4530AL
2SC5306	HITACHI	BU4540AL
2SC5326	HITACHI	BU4508AF
2SC5331	TOSHIBA	BU4530AL
2SC5339	TOSHIBA	BU4508DX
2SC5386	TOSHIBA	BU4515AX
2SC5387	TOSHIBA	BU4522AX
2SC5404	TOSHIBA	BU4522AX
2SC5421	TOSHIBA	BU4530AL
2SC5422	TOSHIBA	BU4730AL
2SC5427	HITACHI	BU4522AF
2SC5440	MATSUSHITA	BU4525AX
2SC5445	TOSHIBA	BU4540AL
2SC5448	HITACHI	BU4515AF
2SC5456	MATSUSHITA	BU4530AL
2SC5513	MATSUSHITA	BU4522AX
2SC5514	MATSUSHITA	BU4523AX
2SC5515	MATSUSHITA	BU4530AL
2SC5516	MATSUSHITA	BU4540AL
2SD1391	MATSUSHITA	BU4508AX
2SD1397	SANYO	BU4505DX
2SD1398	SANYO	BU4507DX
2SD1400	SANYO	BU505
2SD1401	SANYO	BU4505AX
2SD1402	SANYO	BU4507AX
2SD1403	SANYO	BU4508AX
2SD1426	TOSHIBA	BU4506DX
2SD1427	TOSHIBA	BU4507DX
2SD1429	TOSHIBA	BU505
2SD1430	TOSHIBA	BU4506AX
2SD1431	TOSHIBA	BU4507AX

Type	Manufacturer	Philips Type
BYT43K	VISHAY/ SILICONIX	BYV26D
BYT43M	VISHAY/ SILICONIX	BYV26E
BYT51A	VISHAY/ SILICONIX	1N5059
BYT51B	VISHAY/ SILICONIX	1N5059
BYT51D	VISHAY/ SILICONIX	1N5059
BYT51G	VISHAY/ SILICONIX	1N5060
BYT51J	VISHAY/ SILICONIX	1N5061
BYT51K	VISHAY/ SILICONIX	1N5062
BYT52G	VISHAY/ SILICONIX	BYV95B
BYT53D	VISHAY/ SILICONIX	BYV27-200
BYT56A	VISHAY/ SILICONIX	BYM36C
BYT56B	VISHAY/ SILICONIX	BYM36C
BYT56D	VISHAY/ SILICONIX	BYM36C
BYT56G	VISHAY/ SILICONIX	BYM36C
BYT56J	VISHAY/ SILICONIX	BYM36C
BYT56K	VISHAY/ SILICONIX	BYM36E
BYT56M	VISHAY/ SILICONIX	BYM36E
BYT62	VISHAY/ SILICONIX	BYX120G
BYT77	VISHAY/ SILICONIX	BYV96E
BYT78	VISHAY/ SILICONIX	BYV96E
BYV10-20A	ST MICROELECTRONICS	1N5817
BYV13	VISHAY/ SILICONIX	BYV95B
BYW100-200	ST MICROELECTRONICS	BYV27-200
BYW27-100	FAGOR	1N5059
BYW27-200	FAGOR	1N5059
BYW27-400	FAGOR	1N5060
BYW27-50	FAGOR	1N5059
BYW27-600	FAGOR	1N5061
BYW27-800	FAGOR	1N5062
BYW33	VISHAY/ SILICONIX	BYV95B
BYW34	VISHAY/ SILICONIX	BYV95B
BYW52	VISHAY/ SILICONIX	1N5059
BYW53	VISHAY/ SILICONIX	1N5060
BYW72	VISHAY/ SILICONIX	BYV95A
BYW73	VISHAY/ SILICONIX	BYV95B
BYW74	VISHAY/ SILICONIX	BYV95B
BYW82	VISHAY/ SILICONIX	BYM56A
BYW83	VISHAY/ SILICONIX	BYM56B
BYW84	VISHAY/ SILICONIX	BYM56C
BYW85	VISHAY/ SILICONIX	BYM56D
BYW86	VISHAY/ SILICONIX	BYM56E
BYW98-100	ST MICROELECTRONICS	BYV28-100
BYW98-150	ST MICROELECTRONICS	BYV28-150
BYW98-200	ST MICROELECTRONICS	BYV28-200
BYW98-50	ST MICROELECTRONICS	BYV28-50
BYX55/350	DIOTEC	BYV95B
BYX82	VISHAY/ SILICONIX	1N5059
BYX83	VISHAY/ SILICONIX	1N5060
BYX84	VISHAY/ SILICONIX	1N5061
BYX85	VISHAY/ SILICONIX	1N5062
BZT03/Cxxx	VISHAY/ SILICONIX	BZT03-Cxxx
BZT03/Dxxx	VISHAY/ SILICONIX	BZT03-Cxxx
BZV47-Cxxx	ST MICROELECTRONICS	BZD23-Cxxx
BZY97-Cxxx	FAGOR	BZT03-Cxxx
CG3	GENERAL SEMICONDUCTOR	BY228
CTB33	SANKEN	PBYR3045WT
CTB33M	SANKEN	PBYR3045WT
CTB34	ALLEGRO	PBYR3045WT
CTB34M	ALLEGRO	PBYR3045WT
D1FL20U	SHINDENGEN	BYG80D
D1FL40	SHINDENGEN	BYG80G
D1FS4	SHINDENGEN	BYG90-40
D1NS4	SHINDENGEN	1N5819
D2L20U	SHINDENGEN	BYV27-200
DA3/1000	EUPEC	BYM56E
DD1000	DIOTEC	BY8410
DD1200	DIOTEC	BY8412
DD1400	DIOTEC	BY8414
DD1600	DIOTEC	BY8416
DD1800	DIOTEC	BY8418
DD300	DIOTEC	BY8404
DD600	DIOTEC	BY8406
DFB20TB	SANYO	BYV95A
DFB20TE	SANYO	BYV95B
DFB20TL	SANYO	BYV96E

Type	Manufacturer	Philips Type
DFC15TE	SANYO	BYV95B
DFH10TE	SANYO	BYV95B
DG3	GENERAL SEMICONDUCTOR	BY228
DHM3E30	HITACHI	BY8404
DHM3FJ60	HITACHI	BY8206
DHM3FL80	HITACHI	BY8108
DHM3HC80	HITACHI	BY8108
DHM3HD80	HITACHI	BY8108
DHM3HE120	HITACHI	BY8112
DHM3K20	HITACHI	BY505
DL4001	MICROSEMI/MICRO QUALITY	PRLL4001
DL4003	MICROSEMI/MICRO QUALITY	BYD17D
DL4004	MICROSEMI/MICRO QUALITY	BYD17G
DL4005	MICROSEMI/MICRO QUALITY	BYD17J
DL4007	MICROSEMI/MICRO QUALITY	BYD17M
DL4933	MICROSEMI/MICRO QUALITY	BYD37D
DL4934	MICROSEMI/MICRO QUALITY	BYD37D
DL4935	MICROSEMI/MICRO QUALITY	BYD37D
DL4936	MICROSEMI/MICRO QUALITY	BYD37G
DL4937	MICROSEMI/MICRO QUALITY	BYD37J
DL5817	MICROSEMI/MICRO QUALITY	PRLL5817
DL5818	MICROSEMI/MICRO QUALITY	PRLL5818
DL5819	MICROSEMI/MICRO QUALITY	PRLL5819
DLA11C	SANYO	BYG80D
DLC20C	SANYO	BYV27-200
DLE30B	SANYO	BYV28-100
DLE30C	SANYO	BYV28-200
DLE30E	SANYO	BYV28-400
DLF30C	SANYO	BYV28-200
DLF30E	SANYO	BYV28-400
DLFR106	MICROSEMI/MICRO QUALITY	BYD37M
DLFR107	MICROSEMI/MICRO QUALITY	BYD37M
DLSF11	MICROSEMI/MICRO QUALITY	BYD77A
DLSF12	MICROSEMI/MICRO QUALITY	BYD77B
DLSF13	MICROSEMI/MICRO QUALITY	BYD77C
DLSF14	MICROSEMI/MICRO QUALITY	BYD77D
DLSF15	MICROSEMI/MICRO QUALITY	BYD77G
DLSF16	MICROSEMI/MICRO QUALITY	BYD77G
DS135C	SANYO	1N5060
DS135E	SANYO	1N5059
DSA12TG	SANYO	1N5061
DSA17C	SANYO	1N5059
DSA17E	SANYO	1N5060
DSA20TG	SANYO	BYM56C
DSA20TL	SANYO	BYM56E
DSA26C	SANYO	BYM56A
DSA26E	SANYO	BYM56B
DTA6C-N	SANYO	BT137-600
DTA6E-N	SANYO	BT137-600
DTA6G-N	SANYO	BT137-600
DTB3B	SANYO	BTA204-600F
DTB3C	SANYO	BTA204-600F
DTB3E	SANYO	BTA204-600F
DTB3G	SANYO	BTA204-600F
DTC10C-N	SANYO	BT138-600F
DTC10E-N	SANYO	BT138-600F
DTC10G-N	SANYO	BT138-800F
DTC12C-N	SANYO	BT139-600
DTC12E-N	SANYO	BT139-600
DTC12G-N	SANYO	BT139-600
DTC8C-N	SANYO	BT138-600
DTC8E-N	SANYO	BT138-600
DTC8G-N	SANYO	BT138-600
DTM10C-N	SANYO	BT138X-600
DTM10E-N	SANYO	BT138X-600
DTM10G-N	SANYO	BT138X-600
DTM6C-N	SANYO	BT137X-600
DTM6E-N	SANYO	BT137X-600
DTM6G-N	SANYO	BT137X-600
DTM8C-N	SANYO	BT138X-600
DTM8E-N	SANYO	BT138X-600
DTM8G-N	SANYO	BT138X-600
DTN12G	SANYO	BT139X-600F
DTN6E	SANYO	BT137X-600F
DTN6G	SANYO	BT137X-600F

Type	Manufacturer	Philips Type
DTN8E	SANYO	BT137X-600F
DTN8G	SANYO	BT138X-600F
EBT1103	SHINDENGEN	BUJ403B, BUJ403BX
EC10QS02L	NIEC	BYG90-20
EC10QS03	NIEC	BYG90-30
EC10QS04	NIEC	BYG90-40
EC10QS09	NIEC	BYG90-90
EC11FS1	NIEC	BYG80D
EC11FS2	NIEC	BYG80D
EC11FS3	NIEC	BYG80G
EC11FS4	NIEC	BYG80G
EC8FS6	NIEC	BYG80J
EG01C	SANKEN	BYV26E
EGF1A	GENERAL SEMICONDUCTOR	BYG80D
EGF1B	GENERAL SEMICONDUCTOR	BYG80D
EGF1C	GENERAL SEMICONDUCTOR	BYG80D
EGF1D	GENERAL SEMICONDUCTOR	BYG80D
EGL34A	GENERAL SEMICONDUCTOR	BYD77A
EGL34B	GENERAL SEMICONDUCTOR	BYD77B
EGL34C	GENERAL SEMICONDUCTOR	BYD77C
EGL34D	GENERAL SEMICONDUCTOR	BYD77D
EGL34F	GENERAL SEMICONDUCTOR	BYD77G
EGL34G	GENERAL SEMICONDUCTOR	BYD77G
EGL41A	GENERAL SEMICONDUCTOR	BYD77A
EGL41B	GENERAL SEMICONDUCTOR	BYD77B
EGL41C	GENERAL SEMICONDUCTOR	BYD77C
EGL41D	GENERAL SEMICONDUCTOR	BYD77D
EGL41F	GENERAL SEMICONDUCTOR	BYD77G
EGL41G	GENERAL SEMICONDUCTOR	BYD77G
EGP20D	GENERAL SEMICONDUCTOR	BYV27-200
EGP30A	GENERAL SEMICONDUCTOR	BYV28-50
EGP30B	GENERAL SEMICONDUCTOR	BYV28-100
EGP30C	GENERAL SEMICONDUCTOR	BYV28-150
EGP30D	GENERAL SEMICONDUCTOR	BYV28-200
EGP30F	GENERAL SEMICONDUCTOR	BYV28-400
EGP30G	GENERAL SEMICONDUCTOR	BYV28-400
EK03	SANKEN	1N5818
EK04	SANKEN	1N5819
EK13	SANKEN	1N5818
EK14	SANKEN	1N5819
EM01	SANKEN	1N5060
EM01A	SANKEN	1N5061
EM01Z	SANKEN	1N5059
EM1	SANKEN	1N5060
EM1A	SANKEN	1N5061
EM1B	SANKEN	1N5062
EM1Y	SANKEN	1N5059
EM1Z	SANKEN	1N5059
EM2	SANKEN	BYM56B
EM2A	SANKEN	BYM56C
EM2B	SANKEN	BYM56D
ER1A	DIOTEC	BYG80D
ER1B	DIOTEC	BYG80D
ER1C	DIOTEC	BYG80D
ER1D	DIOTEC	BYG80D
ER1E	DIOTEC	BYG80G
ER1G	MICROSEMI/MICRO QUALITY	BYG80G
ER1J	MICROSEMI/MICRO QUALITY	BYG80J
ERA15-06	FUJI	1N4005ID
ERA15-08	FUJI	1N4006ID
ERA81-004	FUJI	1N5819
ERA82-004	FUJI	1N5819
ERA83-004	FUJI	1N5819
ERB12-01	FUJI	1N5059
ERB12-02	FUJI	1N5059
ERB12-04	FUJI	1N5060
ERB12-06	FUJI	1N5061
ERB32-02	FUJI	BYV27-200
ERB38-05	FUJI	BYV26C
ERB38-06	FUJI	BYV26C
ERC01-02	FUJI	BYM56A
ERC01-04	FUJI	BYM56B
ERC01-04F	FUJI	BYM56B
ERC01-06	FUJI	BYM56C

Type	Manufacturer	Philips Type
ERC01-10	FUJI	BYM56E
ERC04-02	FUJI	BYM56A
ERC04-02F	FUJI	BYM56A
ERC04-04	FUJI	BYM56B
ERC04-04F	FUJI	BYM56B
ERC04-06	FUJI	BYM56C
ERC04-10	FUJI	BYM56E
ERC05-06	FUJI	BYM56C
ERC05-08	FUJI	BYM56D
ERC06-13	FUJI	BY228
ERC06-15	FUJI	BY228
ERC18-04	FUJI	BYV95B
ERC25-04	FUJI	BYV95B
ERC30-02	FUJI	BYV27-200
ERC35-02	FUJI	BYV28-200
ERC38-04	FUJI	BYV26B
ERC38-05	FUJI	BYV26C
ERC38-06	FUJI	BYV26C
ERC91-02	FUJI	BYV28-200
ERD03-02	FUJI	BYM56A
ERD03-04	FUJI	BYM56B
ERD07-13	FUJI	BY228
ERD07-15	FUJI	BY228
ERD09-13	FUJI	BYV97G
ERD28-04	FUJI	BYV95B
ERD29-02	FUJI	BYV95A
ERD29-04	FUJI	BYV95B
ERD32-01	FUJI	BYV28-100
ERD32-02	FUJI	BYV28-200
ERD33-02	FUJI	BYV28-200
ERD38-04	FUJI	BYM26B
ERD38-05	FUJI	BYM26C
ERD38-06	FUJI	BYM26C
ERE41-15	FUJI	BY328
ES1A	GENERAL SEMICONDUCTOR	ES1A
ES1B	GENERAL SEMICONDUCTOR	ES1B
ES1C	GENERAL SEMICONDUCTOR	ES1C
ES1D	GENERAL SEMICONDUCTOR	ES1D
ES1E	AMOS	BYG80G
ES1G	MICROSEMI/MICRO QUALITY	BYG80G
ES1J	MICROSEMI/MICRO QUALITY	BYG80J
ESAC83-004K	COLLMEER SEMICONDUCTOR	PBYR3045WT
ESJA04-02	FUJI	BY505
ESJA53-18	FUJI	BY8418
ESJA53-20	FUJI	BY8420
ESJA54-08	FUJI	BY8408
ESJA56-20	FUJI	BY8420
ESJA56-24	FUJI	BY8424
ESJA82-10	FUJI	BY8110
ESJA82-12	FUJI	BY8112
ESJA82-14	FUJI	BY8114
ESJA83-16	FUJI	BY8116
ESJA88-06	FUJI	BY8206
ESJA89-14	FUJI	BY8114
ESJA92-10	FUJI	BY8110
ESJA92-12	FUJI	BY8112
ESJA98-06	FUJI	BY8206
ESJC03-09	FUJI	BYX101G
ESJC04-05	FUJI	BYX105G
ESJC12-09	FUJI	BYX101G
ESJC30-05	FUJI	BYX106G
ESJC30-08	FUJI	BYX102G
ESJC37-03	EUPEC	BYX120G
ESJC37-05	EUPEC	BYX105G
ESJC37-08	EUPEC	BYX101G
ESJC37-10	EUPEC	BYX101G
ESM101	RECTRON	BYD77A
ESM102	RECTRON	BYD77B
ESM103	RECTRON	BYD77C
ESM104	RECTRON	BYD77D
ESM105	RECTRON	BYD77G
ESM106	RECTRON	BYD77G
FDB6030L	FAIRCHILD	PHB50N03LT
FDB6035L	FAIRCHILD	PHB55N03LT
FDB6670AL	FAIRCHILD	PHB110N03LT

Type	Manufacturer	Philips Type
FDB6670AL	FAIRCHILD	PHB95N03LT
FDB7030BL	FAIRCHILD	PHB83N03LT
FDB7030L	FAIRCHILD	PHB95N03LT
FDB7030L	FAIRCHILD	PHB87N03LT
FDB7042L	FAIRCHILD	PHB95N03LT
FDB7045L	FAIRCHILD	PHB125N03LT
FDB7045L	FAIRCHILD	PHB150N03LT
FDB8030L	FAIRCHILD	PHB150N03LT
FDB8030L	FAIRCHILD	PHB190N03LT
FDP6030L	FAIRCHILD	PHP50N03LT
FDP6035L	FAIRCHILD	PHP55N03LT
FDP7030L	FAIRCHILD	PHP87N03LT
FDS2570	FAIRCHILD	PSMN085-150K
FDS3670	FAIRCHILD	PSMN038-100K
FDS3680	FAIRCHILD	PSMN038-100K
FDS8936A	FAIRCHILD	PHN203 ¹⁾
FDS8936S	FAIRCHILD	PHN203 ^{1) 2)}
FDS8936S	FAIRCHILD	PHN203 ^{1) 2)}
FE2D	GENERAL SEMICONDUCTOR	BYV27-200
FE3A	GENERAL SEMICONDUCTOR	BYV28-50
FE3B	GENERAL SEMICONDUCTOR	BYV28-100
FE3C	GENERAL SEMICONDUCTOR	BYV28-150
FE3D	GENERAL SEMICONDUCTOR	BYV28-200
FE3E	DIOTEC	BYV28-400
FE3F	DIOTEC	BYV28-400
FE3G	DIOTEC	BYV28-400
FE3H	DIOTEC	BYV28-400
FES1A	FAGOR	BYG80D
FES1B	FAGOR	BYG80D
FES1D	FAGOR	BYG80D
FES1F	FAGOR	BYG80G
FES1G	FAGOR	BYG80G
FF1504	FAGOR	BYV95B
FQ08C	(2SM161-200) HITACHI	BTA225-600B
FQ08D	(2SM161-300) HITACHI	BTA225-600B
FQ08E	(2SM161-400) HITACHI	BTA225-600B
FQ08F	(2SM161-500) HITACHI	BTA225-600B
FQ08G	(2SM161-600) HITACHI	BTA225-600B
FQ09C	(2SM162-200) HITACHI	BTA225-600B
FQ09D	(2SM162-300) HITACHI	BTA225-600B
FQ09E	(2SM162-400) HITACHI	BTA225-600B
FQ09F	(2SM162-500) HITACHI	BTA225-600B
FQ09G	(2SM162-600) HITACHI	BTA225-600B
FR08C	(2SM159-200) HITACHI	BTA225-600B
FR08D	(2SM159-300) HITACHI	BTA225-600B
FR08E	(2SM159-400) HITACHI	BTA225-600B
FR08F	(2SM159-500) HITACHI	BTA225-600B
FR08G	(2SM159-600) HITACHI	BTA225-600B
FR09C	(2SM160-200) HITACHI	BTA225-600B
FR09D	(2SM160-300) HITACHI	BTA225-600B
FR09E	(2SM160-400) HITACHI	BTA225-600B
FR09F	(2SM160-500) HITACHI	BTA225-600B
FR09G	(2SM160-600) HITACHI	BTA225-600B
FR104	RECTRON	BYV95B
FR104GP	MICROSEMI/MICRO QUALITY	BYV95B

Type	Manufacturer	Philips Type
FR154	RECTRON	BYV95B
FR154GP	MICROSEMI/MICRO QUALITY	BYV95B
FR201	RECTRON	BYV95A
FR202	RECTRON	BYV95A
FR203	RECTRON	BYV95A
FR204	RECTRON	BYV95B
FR206	RECTRON	BYV96E
FR207	RECTRON	BYV96E
FS08C	(2SM157-200) HITACHI	BTA212-600B
FS08D	(2SM157-300) HITACHI	BTA212-600B
FS08E	(2SM157-400) HITACHI	BTA212-600B
FS08F	(2SM157-500) HITACHI	BTA212-600B
FS08G	(2SM157-600) HITACHI	BTA212-600B
FS09C	(2SM158-200) HITACHI	BTA212-600B
FS09D	(2SM158-300) HITACHI	BTA212-600B
FS09E	(2SM158-400) HITACHI	BTA212-600B
FS09F	(2SM158-500) HITACHI	BTA212-600B
FS09G	(2SM158-600) HITACHI	BTA212-600B
FSM101	RECTRON	BYD37D
FSM102	RECTRON	BYD37D
FSM103	RECTRON	BYD37D
FSM104	RECTRON	BYD37G
FSM105	RECTRON	BYD37J
FSM106	RECTRON	BYD37M
FSM107	RECTRON	BYD37M
FSM16C2	HITACHI	BTA216-600B
FSM16C4	HITACHI	BTA216-600B
FSM16C6	HITACHI	BTA216-600B
FSM20C2	HITACHI	BTA225-600B
FSM20C4	HITACHI	BTA225-600B
FSM20C6	HITACHI	BTA225-600B
FSM25C2	HITACHI	BTA225-600B
FSM25C4	HITACHI	BTA225-600B
FSM25C6	HITACHI	BTA225-600B
FT08C	(2SM155-200) HITACHI	BTA208-600B
FT08D	(2SM155-300) HITACHI	BTA208-600B
FT08E	(2SM155-400) HITACHI	BTA208-600B
FT08F	(2SM155-500) HITACHI	BTA208-600B
FT08G	(2SM155-600) HITACHI	BTA208-600B
FT09C	(2SM156-200) HITACHI	BTA208-600B
FT09D	(2SM156-300) HITACHI	BTA208-600B
FT09E	(2SM156-400) HITACHI	BTA208-600B
FT09F	(2SM156-500) HITACHI	BTA208-600B
FT09G	(2SM156-600) HITACHI	BTA208-600B
FUF4006	FAGOR	BYV26D
FUF5400	FAGOR	BYV28-50
FUF5401	FAGOR	BYV28-100
FUF5402	FAGOR	BYV28-200
FUF5404	FAGOR	BYV28-400
FUF5406	FAGOR	BYV28-600
G1A	GENERAL SEMICONDUCTOR	1N5059
G1B	GENERAL SEMICONDUCTOR	1N5059
G1D	GENERAL SEMICONDUCTOR	1N5059
G1G	GENERAL SEMICONDUCTOR	1N5060
G1J	GENERAL SEMICONDUCTOR	1N5061

Type	Manufacturer	Philips Type
G1K	GENERAL SEMICONDUCTOR	1N5062
G2A	GENERAL SEMICONDUCTOR	1N5059
G2B	GENERAL SEMICONDUCTOR	1N5059
G2D	GENERAL SEMICONDUCTOR	1N5059
G2G	GENERAL SEMICONDUCTOR	1N5060
G2J	GENERAL SEMICONDUCTOR	1N5061
G2K	GENERAL SEMICONDUCTOR	1N5062
G3A	GENERAL SEMICONDUCTOR	BYM56A
G3B	GENERAL SEMICONDUCTOR	BYM56A
G3D	GENERAL SEMICONDUCTOR	BYM56A
G3G	GENERAL SEMICONDUCTOR	BYM56B
G3J	GENERAL SEMICONDUCTOR	BYM56C
G3K	GENERAL SEMICONDUCTOR	BYM56D
G3M	GENERAL SEMICONDUCTOR	BYM56E
G4A	GENERAL SEMICONDUCTOR	BYM56A
G4B	GENERAL SEMICONDUCTOR	BYM56A
G4D	GENERAL SEMICONDUCTOR	BYM56A
G4G	GENERAL SEMICONDUCTOR	BYM56B
G4J	GENERAL SEMICONDUCTOR	BYM56C
G1104	GENERAL SEMICONDUCTOR	BYV27-200
G1500	GENERAL SEMICONDUCTOR	BYM56A
G1501	GENERAL SEMICONDUCTOR	BYM56A
G1502	GENERAL SEMICONDUCTOR	BYM56A
G1504	GENERAL SEMICONDUCTOR	BYM56B
G1506	GENERAL SEMICONDUCTOR	BYM56C
G1508	GENERAL SEMICONDUCTOR	BYM56D
G1510	GENERAL SEMICONDUCTOR	BYM56E
G1850	GENERAL SEMICONDUCTOR	BYW95A
G1851	GENERAL SEMICONDUCTOR	BYW95A
G1852	GENERAL SEMICONDUCTOR	BYW95A
G1854	GENERAL SEMICONDUCTOR	BYW95B
G1858	GENERAL SEMICONDUCTOR	BYW96E
G1910	GENERAL SEMICONDUCTOR	BYW95A
G1911	GENERAL SEMICONDUCTOR	BYW95A
G1912	GENERAL SEMICONDUCTOR	BYW95A
G1914	GENERAL SEMICONDUCTOR	BYW95B
G1917	GENERAL SEMICONDUCTOR	BYW96E
GL34A	GENERAL SEMICONDUCTOR	PRLL4001
GL34D	GENERAL SEMICONDUCTOR	BYD17D
GL34G	GENERAL SEMICONDUCTOR	BYD17G
GL34J	GENERAL SEMICONDUCTOR	BYD17J
GL41D	GENERAL SEMICONDUCTOR	BYD17D
GL41G	GENERAL SEMICONDUCTOR	BYD17G
GL41J	GENERAL SEMICONDUCTOR	BYD17J
GL41M	GENERAL SEMICONDUCTOR	BYD17M
GLL4737	GENERAL SEMICONDUCTOR	BZD27-C7V5
GLL4738	GENERAL SEMICONDUCTOR	BZD27-C8V2
GLL4740	GENERAL SEMICONDUCTOR	BZD27-C10
GLL4741	GENERAL SEMICONDUCTOR	BZD27-C11
GLL4742	GENERAL SEMICONDUCTOR	BZD27-C12
GLL4744	GENERAL SEMICONDUCTOR	BZD27-C15
GLL4746	GENERAL SEMICONDUCTOR	BZD27-C18
GLL4747	GENERAL SEMICONDUCTOR	BZD27-C20
GLL4748	GENERAL SEMICONDUCTOR	BZD27-C22
GLL4749	GENERAL SEMICONDUCTOR	BZD27-C24
GLL4750	GENERAL SEMICONDUCTOR	BZD27-C27
GLL4751	GENERAL SEMICONDUCTOR	BZD27-C30
GLL4752	GENERAL SEMICONDUCTOR	BZD27-C33
GLL4753	GENERAL SEMICONDUCTOR	BZD27-C36
GLL4754	GENERAL SEMICONDUCTOR	BZD27-C39
GLL4755	GENERAL SEMICONDUCTOR	BZD27-C43
GLL4756	GENERAL SEMICONDUCTOR	BZD27-C47
GLL4760	GENERAL SEMICONDUCTOR	BZD27-C68
GLL4761	GENERAL SEMICONDUCTOR	BZD27-C75
GP15A	GENERAL SEMICONDUCTOR	1N5059
GP15B	GENERAL SEMICONDUCTOR	1N5059
GP15D	GENERAL SEMICONDUCTOR	1N5059
GP15G	GENERAL SEMICONDUCTOR	1N5060
GP15J	GENERAL SEMICONDUCTOR	1N5061
GP15K	GENERAL SEMICONDUCTOR	1N5062
GP20A	GENERAL SEMICONDUCTOR	BYM56A
GP20B	GENERAL SEMICONDUCTOR	BYM56A
GP20D	GENERAL SEMICONDUCTOR	BYM56A
GP20G	GENERAL SEMICONDUCTOR	BYM56B
GP20J	GENERAL SEMICONDUCTOR	BYM56C

Type	Manufacturer	Philips Type
GP30A	GENERAL SEMICONDUCTOR	BYM56A
GP30B	GENERAL SEMICONDUCTOR	BYM56A
GP30D	GENERAL SEMICONDUCTOR	BYM56A
GP30G	GENERAL SEMICONDUCTOR	BYM56B
GP30J	GENERAL SEMICONDUCTOR	BYM56C
GP30K	GENERAL SEMICONDUCTOR	BYM56D
GP30M	GENERAL SEMICONDUCTOR	BYM56E
GPP15A	MICROSEMI/MICRO QUALITY	1N5059
GPP15B	MICROSEMI/MICRO QUALITY	1N5059
GPP15D	MICROSEMI/MICRO QUALITY	1N5059
GPP15G	MICROSEMI/MICRO QUALITY	1N5060
GPP15J	MICROSEMI/MICRO QUALITY	1N5061
GPP15K	MICROSEMI/MICRO QUALITY	1N5062
GPP20A	MICROSEMI/MICRO QUALITY	1N5059
GPP20B	MICROSEMI/MICRO QUALITY	1N5059
GPP20D	MICROSEMI/MICRO QUALITY	1N5059
GPP20G	MICROSEMI/MICRO QUALITY	1N5060
GPP20J	MICROSEMI/MICRO QUALITY	1N5061
GPP20K	MICROSEMI/MICRO QUALITY	1N5062
GPP30A	MICROSEMI/MICRO QUALITY	BYM56A
GPP30B	MICROSEMI/MICRO QUALITY	BYM56A
GPP30D	MICROSEMI/MICRO QUALITY	BYM56A
GPP30G	MICROSEMI/MICRO QUALITY	BYM56B
GPP30J	MICROSEMI/MICRO QUALITY	BYM56C
GPP30K	MICROSEMI/MICRO QUALITY	BYM56D
GPP30M	MICROSEMI/MICRO QUALITY	BYM56E
HER153	MASTER INSTRUMENT	BYV27-200
HER203	RECTRON	BYV27-200
HP4936DY	INTERSIL	PHN203
HSM101	RECTRON	BYD77A
HSM102	RECTRON	BYD77B
HSM103	RECTRON	BYD77D
HSM104	RECTRON	BYD77G
HSM105	RECTRON	BYD77G
HUF75307D3S	INTERSIL	PHD21N06LT
HUF75307T3ST	INTERSIL	PHT8N06LT
HUF75309D3S	INTERSIL	PHD21N06LT
HUF75309P3	INTERSIL	PHP21N06LT
HUF75309T3ST	INTERSIL	PHT8N06LT
HUF75321D3S	INTERSIL	PHD37N06LT
HUF75332S3S	INTERSIL	PHB60N06LT
HUF75339S3S	INTERSIL	BUK9614-55A
HUF75343G3	INTERSIL	PSMN004-55W
HUF75343P3	INTERSIL	BUK9508-55
HUF75343S3S	INTERSIL	BUK9608-55
HUF75344G3	INTERSIL	PSMN004-55W
HUF75344P3	INTERSIL	BUK9508-55
HUF75344S3S	INTERSIL	BUK9608-55
HUF75345G3	INTERSIL	PSMN004-55W
HUF75631SK8	INTERSIL	PSMN038-100K
HUF75639S3S	INTERSIL	BUK7620-100A
HUF75831SK8	INTERSIL	PSMN085-150K
HUF76121D3S	INTERSIL	PHD45N03LT
HUF76121P3	INTERSIL	PHP45N03LT
HUF76121S3S	INTERSIL	PHB45N03LT
HUF76129D3S	INTERSIL	PHD50N03LT
HUF76129P3	INTERSIL	PHP50N03LT
HUF76129S3S	INTERSIL	PHB50N03LT
HUF76132P3	INTERSIL	PHP69N03LT
HUF76132S3S	INTERSIL	PHB69N03LT
HUF76137P3	INTERSIL	PHP87N03LT
HUF76137S3S	INTERSIL	PHB83N03LT
HUF76137S3S	INTERSIL	PHB87N03LT
HUF76139S3S	INTERSIL	PHB95N03LT
HUF76143P3	INTERSIL	PSMN004-25P
HUF76143S3S	INTERSIL	PHB125N03LT
HUF76143S3S	INTERSIL	PSMN004-25B
HUF76145P3	INTERSIL	PSMN004-25P
HUF76145S3S	INTERSIL	PHB150N03LT
HUF76145S3S	INTERSIL	PHB190N03LT
HUF76145S3S	INTERSIL	PSMN004-25B
HVR-1X-40B	SANKEN	BYX101G
HVR3-7	FAGOR	BYX90G
IRF540	IR	IRF540
IRF540N	IR	IRF540N

Type	Manufacturer	Philips Type
SB1035	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SB1040	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SB1045	AMERICAN MICROSEMICONDUCTOR	PBYR1045
SB11-04HP	SANYO	BYG90-40
SB120	GENERAL SEMICONDUCTOR	1N5817
SB130	GENERAL SEMICONDUCTOR	1N5818
SB140	GENERAL SEMICONDUCTOR	1N5819
SC10C-40	SANSHA DENKI	BT152-600R
SC10C-40(D)	SANSHA DENKI	BT152-600R
SC10C-60	SANSHA DENKI	BT152-800R
SC10C-60(D)	SANSHA DENKI	BT152-800R
SC16C-40	SANSHA DENKI	BT145-500R
SC16C-60	SANSHA DENKI	BT145-500R
SC311-4	FUJI	BYG70G
SC311-6	FUJI	BYG70J
SC321-2	FUJI	BYG80D
SC802-04	FUJI	BYG90-40
SC802-09	FUJI	BYG90-90
SC902-2	FUJI	BYG80D
SF10B13	TOSHIBA	BT152-400R
SF10B14	TOSHIBA	BT152-500R
SF10B41	TOSHIBA	BT152-400R
SF10D13	TOSHIBA	BT152-400R
SF10D14	TOSHIBA	BT152-500R
SF10D41	TOSHIBA	BT152-400R
SF10D41A	TOSHIBA	BT152-400R
SF10F13	TOSHIBA	BT152-400R
SF10G13	TOSHIBA	BT152-400R
SF10G14	TOSHIBA	BT152-500R
SF10G41	TOSHIBA	BT152-600R
SF10G41A	TOSHIBA	BT152-600R
SF10G48	TOSHIBA	BT152-600R
SF10GZ47	TOSHIBA	BT152X-600R
SF10J13	TOSHIBA	BT152-800R
SF10J41	TOSHIBA	BT152-800R
SF10J41A	TOSHIBA	BT152-800R
SF10J48	TOSHIBA	BT152-800R
SF10JZ47	TOSHIBA	BT152X-800R
SF16JZ51	TOSHIBA	BT145-800R
SF24	RECTRON	BYV27-200
SF2B41	TOSHIBA	BT148-400R
SF2D41	TOSHIBA	BT148-400R
SF2G41	TOSHIBA	BT148-500R
SF2J41	TOSHIBA	BT148-500R
SF2R5B42	TOSHIBA	BT258-500R
SF2R5D42	TOSHIBA	BT258-500R
SF2R5G42	TOSHIBA	BT258-500R
SF31	RECTRON	BYV28-50
SF32	RECTRON	BYV28-100
SF33	RECTRON	BYV28-150
SF34	RECTRON	BYV28-200
SF35	RECTRON	BYV28-400
SF36	RECTRON	BYV28-400
SF37	MICROSEMI/MICRO QUALITY	BYV28-600
SF3B14	TOSHIBA	BT151-500R
SF3B41	TOSHIBA	BT300-500R
SF3B42	TOSHIBA	BT258-500R
SF3D14	TOSHIBA	BT151-500R
SF3D41	TOSHIBA	BT300-500R
SF3D42	TOSHIBA	BT258-500R
SF3D42C	TOSHIBA	BT258-500R
SF3G14	TOSHIBA	BT151-500R
SF3G41	TOSHIBA	BT300-500R
SF3G42	TOSHIBA	BT258-500R
SF3G42C	TOSHIBA	BT258-600R
SF3G48	TOSHIBA	BT300-500R
SF3J42	TOSHIBA	BT258-800R
SF4003	VISHAY/ SILICONIX	BYV27-200
SF4006	VISHAY/ SILICONIX	BYV26D
SF4007	VISHAY/ SILICONIX	BYV26E
SF5B13	TOSHIBA	BT151-500R
SF5B14	TOSHIBA	BT151-500R
SF5B41	TOSHIBA	BT151-500R
SF5D13	TOSHIBA	BT151-500R
SF5D14	TOSHIBA	BT151-500R

Type	Manufacturer	Philips Type
SF5D41	TOSHIBA	BT151-500R
SF5D41A	TOSHIBA	BT151-500R
SF5F13	TOSHIBA	BT151-500R
SF5G13	TOSHIBA	BT151-500R
SF5G14	TOSHIBA	BT151-500R
SF5G41	TOSHIBA	BT151-500R
SF5G41A	TOSHIBA	BT151-500R
SF5G48	TOSHIBA	BT151-500R
SF5GZ47	TOSHIBA	BT151X-500R
SF5J13	TOSHIBA	BT151-800R
SF5J41	TOSHIBA	BT151-800R
SF5J41A	TOSHIBA	BT145-500R
SF5J48	TOSHIBA	BT151-800R
SF5JZ47	TOSHIBA	BT151X-800R
SF8B41	TOSHIBA	BT152-400R
SF8B41A	TOSHIBA	BT152-400R
SF8D41	TOSHIBA	BT152-400R
SF8G41	TOSHIBA	BT152-600R
SF8G41A	TOSHIBA	BT152-600R
SF8G48	TOSHIBA	BT152-600R
SF8GZ47	TOSHIBA	BT152X-600R
SF8J41	TOSHIBA	BT152-800R
SF8J41A	TOSHIBA	BT152-800R
SF8J48	TOSHIBA	BT152-800R
SF8JZ47	TOSHIBA	BT152X-800R
SFE1A	DIOTEC	BYD77A
SFE1B	DIOTEC	BYD77B
SFE1C	DIOTEC	BYD77C
SFE1D	DIOTEC	BYD77D
SFE1E	DIOTEC	BYD77G
SFE1F	DIOTEC	BYD77G
SFE1G	DIOTEC	BYD77G
SFE1H	DIOTEC	BYD77G
SFOR1A42	TOSHIBA	BT169G
SFOR1B42	TOSHIBA	BT169G
SFOR1D42	TOSHIBA	BT169G
SFOR3B42	TOSHIBA	BT169G
SFOR3D42	TOSHIBA	BT169G
SFOR3J42	TOSHIBA	BT169G
SFOR5B43	TOSHIBA	BT169G
SFOR5D43	TOSHIBA	BT169G
SFOR5G43	TOSHIBA	BT169G
SFOR5J43	TOSHIBA	BT169G
SFPB-54	SANKEN	BYG90-40
SFPB-59	SANKEN	BYG90-90
SFPL-52	SANKEN	BYG80D
SFPL-62	SANKEN	YG80D
SGL41-20	GENERAL SEMICONDUCTOR	PRLL5817
SGL41-30	GENERAL SEMICONDUCTOR	PRLL5818
SGL41-40	GENERAL SEMICONDUCTOR	PRLL5819
SGSF323	ST MICROELECTRONICS	BUJ202A, BUJ303A
SGSF343	ST MICROELECTRONICS	BUJ204A, BUJ304A
Shindeng1103	SHINDENGEN	BUJ403B, BUJ403BX
SHV-02	SANKEN	BY505
SHV-06	SANKEN	BY8406
SHV-06K	SANKEN	BY8006
SHV-06UNK	SANKEN	BY8206
SHV-08	SANKEN	BY8408
SHV-08K	SANKEN	BY8008
SHV-08UK	SANKEN	BY8108
SHV-08X	SANKEN	BY8108
SHV-08XN	SANKEN	BY8108
SHV-10UK	SANKEN	BY8110
SHV-12UK	SANKEN	BY8112
SHV-16UK	SANKEN	BY8116
SHV-20	SANKEN	BY8420
SHV-24	SANKEN	BY8424
SI4410DY	VISHAY / SILICONIX	SI4410DY
SI4416DY	VISHAY / SILICONIX	SI4416DY
SI4420DY	VISHAY / SILICONIX	SI4420DY
SI4431DY	VISHAY/ SILICONIX	PHP1035
SI4435DY	VISHAY/ SILICONIX	PHP1025
SI4466DY	VISHAY / SILICONIX	SI4466DY
SI4920DY	VISHAY/ SILICONIX	PHN203 1)
SI4936DY	VISHAY/ SILICONIX	PHN203 1)

Type	Manufacturer	Philips Type
SI850	MICROSEMI/MICRO QUALITY	BYW95A
SI851	MICROSEMI/MICRO QUALITY	BYW95A
SI852	MICROSEMI/MICRO QUALITY	BYW95A
SI854	MICROSEMI/MICRO QUALITY	BYW95B
SI910	MICROSEMI/MICRO QUALITY	BYW95A
SI911	MICROSEMI/MICRO QUALITY	BYW95A
SI912	MICROSEMI/MICRO QUALITY	BYW95A
SI914	MICROSEMI/MICRO QUALITY	BYW95B
SI917	MICROSEMI/MICRO QUALITY	BYW96E
SI918	MICROSEMI/MICRO QUALITY	BYW96E
SI9410DY	VISHAY / SILICONIX	SI9410DY
SI9925DY	VISHAY / SILICONIX	SI9925DY
SI9933DY	VISHAY/ SILICONIX	PHP222
SI9936DY	VISHAY / SILICONIX	SI9936DY
SI9956DY	VISHAY / SILICONIX	SI9956DY
SK1004	DIOTEC	PBYR1040
SK12	DIOTEC	BYG90-20
SK13	DIOTEC	BYG90-30
SK14	DIOTEC	BYG90-40
SK18	DIOTEC	BYG90-90
SK19	AMOS	BYG90-90
SLP2045P	GENERAL INSTRUMENTS	PBYR3045VWT
SM12D45	TOSHIBA	BT139-600
SM12D45A	TOSHIBA	BT139-600F
SM12G45	TOSHIBA	BT139-600
SM12G45A	TOSHIBA	BT139-600F
SM12G48	TOSHIBA	BT139-600
SM12G48A	TOSHIBA	BT139-600
SM12GZ47	TOSHIBA	BT139X-600G
SM12GZ47A	TOSHIBA	BT139X-600F
SM12J45	TOSHIBA	BT139-600
SM12J45A	TOSHIBA	BT139-600F
SM12J48	TOSHIBA	BT139-600
SM12J48A	TOSHIBA	BT139-600
SM12JZ47	TOSHIBA	BT139X-600G
SM16D16	TOSHIBA	BTA216-600B
SM16DZ41	TOSHIBA	BTA216-600B
SM16G16	TOSHIBA	BTA216-600B
SM16G45	TOSHIBA	BTA140-600
SM16G45A	TOSHIBA	BT139-600F
SM16G48	TOSHIBA	BTA140-600
SM16G48A	TOSHIBA	BTA140-600
SM16GZ41	TOSHIBA	BTA216-600B
SM16GZ42A	TOSHIBA	BTA216-600B
SM16GZ47	TOSHIBA	BT139X-600
SM16GZ47A	TOSHIBA	BT139X-600F
SM16J45	TOSHIBA	BTA140-600
SM16J45A	TOSHIBA	BT139-600F
SM16J48	TOSHIBA	BTA140-600
SM16J48A	TOSHIBA	BTA140-600
SM16JZ41	TOSHIBA	BTA216-600B
SM16JZ42A	TOSHIBA	BTA216-600B
SM16JZ47	TOSHIBA	BT139X-600
SM16JZ47A	TOSHIBA	BT139X-600F
SM1G43	TOSHIBA	BT132-600D
SM1J43	TOSHIBA	BT132-600D
SM20	SEMTECH	BYX120G
SM25	SEMTECH	BYX120G
SM2B41	TOSHIBA	BT134-600E
SM2D41	TOSHIBA	BT134-600E
SM2D44	TOSHIBA	BT134-600D
SM2G41	TOSHIBA	BT134-600E
SM2G44	TOSHIBA	BT134-600D
SM30	SEMTECH	BYX120G
SM3B41	TOSHIBA	BTA204-600F
SM3D41	TOSHIBA	BTA204-600F
SM3G41	TOSHIBA	BTA204-600F
SM3G44	TOSHIBA	BTA204-600F
SM3G45	TOSHIBA	BT137-600F
SM3G45A	TOSHIBA	BT137-600E
SM3G48	TOSHIBA	BT136-600
SM3GZ46A	TOSHIBA	BT136X-600E
SM3GZ47	TOSHIBA	BT136X-600F
SM3J41	TOSHIBA	BTA204-600F
SM3J44	TOSHIBA	BT134-800

Type	Manufacturer	Philips Type
SM3J45	TOSHIBA	BT137-600F
SM3J45A	TOSHIBA	BT137-600E
SM3J48	TOSHIBA	BT136-600
SM3JZ46A	TOSHIBA	BT136X-600E
SM3JZ47	TOSHIBA	BT136X-600F
SM4001	RECTRON	PRLL4001
SM4003	RECTRON	BYD17D
SM4004	RECTRON	BYD17G
SM4005	RECTRON	BYD17J
SM4007	RECTRON	BYD17M
SM4933	RECTRON	BYD37D
SM4934	RECTRON	BYD37D
SM4935	RECTRON	BYD37D
SM4936	RECTRON	BYD37G
SM4937	RECTRON	BYD37J
SM6D45	PBYR1040	BT137-600
SM6D45A	TOSHIBA	BT137-600F
SM6G44	TOSHIBA	BT137-600
SM6G45	TOSHIBA	BT137-600
SM6G45A	TOSHIBA	BT137-600F
SM6G48	TOSHIBA	BT137-600
SM6G48A	TOSHIBA	BT137-600
SM6GZ47	TOSHIBA	BT137X-600
SM6GZ47A	TOSHIBA	BT137X-600F
SM6J44	TOSHIBA	BT137-800
SM6J45	TOSHIBA	BT137-600
SM6J45A	TOSHIBA	BT137-600F
SM6J48	TOSHIBA	BT137-600
SM6J48A	TOSHIBA	BT137-600
SM6JZ47	TOSHIBA	BT137X-600F
SM6JZ47A	TOSHIBA	BT137X-600F
SM8D45	TOSHIBA	BT138-600
SM8D45A	TOSHIBA	BT138-600F
SM8G45	TOSHIBA	BT138-600
SM8G45A	TOSHIBA	BT138-600F
SM8G48	TOSHIBA	BT138-600
SM8G48A	TOSHIBA	BT138-600
SM8GZ47	TOSHIBA	BT138X-600
SM8GZ47A	TOSHIBA	BT137X-600F
SM8J45	TOSHIBA	BT138-600
SM8J45A	TOSHIBA	BT138-600F
SM8J48	TOSHIBA	BT138-600
SM8J48A	TOSHIBA	BT138-600
SM8JZ47	TOSHIBA	BT138X-600
SM8JZ47A	TOSHIBA	BT138X-600F
SMAjxxx	GENERAL SEMICONDUCTOR	BZG04-xxx
SMB5817	MICROSEMI/MICRO QUALITY	BYG90-20
SMB5818	MICROSEMI/MICRO QUALITY	BYG90-30
SMB5819	MICROSEMI/MICRO QUALITY	BYG90-40
SMB60N03-10L	VISHAY/ SILICONIX	PHB87N03LT
SMBSF11	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF12	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF13	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF14	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF15	MICROSEMI/MICRO QUALITY	BYG80G
SMBSF16	MICROSEMI/MICRO QUALITY	BYG80G
SMBSF17	MICROSEMI/MICRO QUALITY	BYG80J
SMBSF18	MICROSEMI/MICRO QUALITY	BYG80J
SMBSR108	MICROSEMI/MICRO QUALITY	BYG90-90
SMBYT01-200	ST MICROELECTRONICS	BYG80D
SMBYT01-300	ST MICROELECTRONICS	BYG80G
SMBYT01-400	ST MICROELECTRONICS	BYG80G
SMBYW02-100	ST MICROELECTRONICS	BYG80D
SMBYW02-150	ST MICROELECTRONICS	BYG80D
SMBYW02-200	ST MICROELECTRONICS	BYG80D
SMBYW02-50	ST MICROELECTRONICS	BYG80D
SMP60N03-10L	VISHAY/ SILICONIX	PHP87N03LT
SMS120	DIOTEC	PRLL5817
SMS130	DIOTEC	PRLL5818
SMS140	DIOTEC	PRLL5819
SMZxxx	DIOTEC	BZD27-Cxxx
SP4J	NEC	BT258-500R
SR102	MASTER INSTRUMENT	1N5817
SR103	MASTER INSTRUMENT	1N5818
SR104	MASTER INSTRUMENT	1N5819

Type	Manufacturer	Philips Type
TP8V45FX	SHINDENGEN	BUJ205AX
TPCS8201	TOSHIBA	BSH301
TPSMAxxx	GENERAL SEMICONDUCTOR	BZG04-xxx
TXN0512	ST MICROELECTRONICS	BT152X-400R
TXN112	ST MICROELECTRONICS	BT152X-400R
TXN212	ST MICROELECTRONICS	BT152X-400R
TXN412	ST MICROELECTRONICS	BT152X-400R
TXN612	ST MICROELECTRONICS	BT152X-600R
TXN812	ST MICROELECTRONICS	BT152X-800R
TYN0510	ST MICROELECTRONICS	BT151-500R
TYN0512	ST MICROELECTRONICS	BT152-400R, BT151-500R
TYN0516	ST MICROELECTRONICS	BT152-400R
TYN058	ST MICROELECTRONICS	BT151-500R
TYN058G	ST MICROELECTRONICS	BT151-500R
TYN108	ST MICROELECTRONICS	BT151-500R
TYN108G	ST MICROELECTRONICS	BT151-500R
TYN110	ST MICROELECTRONICS	BT151-500R
TYN112	ST MICROELECTRONICS	BT152-400R, BT151-500R
TYN116	ST MICROELECTRONICS	BT152-400R
TYN208	ST MICROELECTRONICS	BT151-500R
TYN208G	ST MICROELECTRONICS	BT151-500R
TYN210	ST MICROELECTRONICS	BT151-500R
TYN212	ST MICROELECTRONICS	BT152-400R, BT151-500R
TYN216	ST MICROELECTRONICS	BT152-400R
TYN225	ST MICROELECTRONICS	BT145-500R
TYN408	ST MICROELECTRONICS	BT151-500R
TYN408G	ST MICROELECTRONICS	BT151-500R
TYN410	ST MICROELECTRONICS	BT151-500R
TYN412	ST MICROELECTRONICS	BT152-400R, BT151-500R
TYN416	ST MICROELECTRONICS	BT152-400R
TYN425	ST MICROELECTRONICS	BT145-500R
TYN604	ST MICROELECTRONICS	BT300-600R
TYN606	ST MICROELECTRONICS	BT300-600R
TYN608	ST MICROELECTRONICS	BT151-650R, BT151-600R
TYN608G	ST MICROELECTRONICS	BT151-650R
TYN610	ST MICROELECTRONICS	BT151-650R
TYN612	ST MICROELECTRONICS	BT152-600R, BT151-650R
TYN616	ST MICROELECTRONICS	BT152-600R
TYN682	ST MICROELECTRONICS	BT145-500R
TYN683	ST MICROELECTRONICS	BT145-500R
TYN685	ST MICROELECTRONICS	BT145-500R
TYN688	ST MICROELECTRONICS	BT145-500R
TYN692	ST MICROELECTRONICS	BT145-800R
TYN808	ST MICROELECTRONICS	BT151-800R,
TYN808G	ST MICROELECTRONICS	BT151-800R
TYN810	ST MICROELECTRONICS	BT151-800R
TYN812	ST MICROELECTRONICS	BT152-800R, BT151-800R
TYN816	ST MICROELECTRONICS	BT152-800R
TYN825	ST MICROELECTRONICS	BT145-800R
TYP1012	ST MICROELECTRONICS	BT145-500R
TYP2012	ST MICROELECTRONICS	BT145-500R
TYP212	ST MICROELECTRONICS	BT145-500R
TYP512	ST MICROELECTRONICS	BT145-500R
U1DL44A	TOSHIBA	BYG80D
U1FWJ44N	TOSHIBA	BYG90-30
U1GU44	TOSHIBA	BYG80G
U1GWJ44	TOSHIBA	BYG90-40
U1JU44	TOSHIBA	BYG80J
U1ZBxx	TOSHIBA	BZG03-Cxx
UES1301	MICROSEMI/MICRO QUALITY	BYV28-50
UES1302	MICROSEMI/MICRO QUALITY	BYV28-100
UES1303	MICROSEMI/MICRO QUALITY	BYV28-150
UES1304	MICROSEMI/MICRO QUALITY	BYV28-200
UES1305	MICROSEMI/MICRO QUALITY	BYV28-400
UES1306	MICROSEMI/MICRO QUALITY	BYV28-400
UF1A	AMOS	BYG80D
UF1B	AMOS	BYG80D
UF1D	AMOS	BYG80D
UF1G	AMOS	BYG80G
UF1J	AMOS	BYG80J
UF203	AMOS	BYV27-200
UF301	AMOS	BYV28-50
UF302	AMOS	BYV28-100
UF303	AMOS	BYV28-200
UF304	AMOS	BYV28-400

Type	Manufacturer	Philips Type
UF305	AMOS	BYV28-600
UF305	MICROSEMI/MICRO QUALITY	BYV28-50
UF310	MICROSEMI/MICRO QUALITY	BYV28-100
UF315	MICROSEMI/MICRO QUALITY	BYV28-150
UF320	MICROSEMI/MICRO QUALITY	BYV28-200
UF330	MICROSEMI/MICRO QUALITY	BYV28-400
UF340	MICROSEMI/MICRO QUALITY	BYV28-400
UF350	MICROSEMI/MICRO QUALITY	BYV28-600
UF360	MICROSEMI/MICRO QUALITY	BYV28-600
UF4006	GENERAL SEMICONDUCTOR	BYV26D
UF4006GP	MICROSEMI/MICRO QUALITY	BYV26D
UF4007	GENERAL SEMICONDUCTOR	BYV26E
UF4007GP	MICROSEMI/MICRO QUALITY	BYV26E
UF5400	GENERAL SEMICONDUCTOR	BYV28-50
UF5400GP	MICROSEMI/MICRO QUALITY	BYV28-50
UF5401	GENERAL SEMICONDUCTOR	BYV28-100
UF5401GP	MICROSEMI/MICRO QUALITY	BYV28-100
UF5402	GENERAL SEMICONDUCTOR	BYV28-200
UF5402GP	MICROSEMI/MICRO QUALITY	BYV28-200
UF5403	GENERAL SEMICONDUCTOR	BYV28-400
UF5404	GENERAL SEMICONDUCTOR	BYV28-400
UF5404GP	MICROSEMI/MICRO QUALITY	BYV28-400
UF5405	GENERAL SEMICONDUCTOR	BYV28-600
UF5406	GENERAL SEMICONDUCTOR	BYV28-600
UF5406GP	MICROSEMI/MICRO QUALITY	BYV28-600
UF5105J	MICROSEMI/MICRO QUALITY	BYG80D
UF5110J	MICROSEMI/MICRO QUALITY	BYG80D
UF5115J	MICROSEMI/MICRO QUALITY	BYG80D
UF5120J	MICROSEMI/MICRO QUALITY	BYG80D
UF5130J	MICROSEMI/MICRO QUALITY	BYG80G
UF5140J	MICROSEMI/MICRO QUALITY	BYG80G
UF5150J	MICROSEMI/MICRO QUALITY	BYG80J
UF5160J	MICROSEMI/MICRO QUALITY	BYG80J
UG2D	GENERAL SEMICONDUCTOR	BYV27-200
UG4A	GENERAL SEMICONDUCTOR	BYV28-50
UG4B	GENERAL SEMICONDUCTOR	BYV28-100
UG4C	GENERAL SEMICONDUCTOR	BYV28-150
UG4D	GENERAL SEMICONDUCTOR	BYV28-200
UHV402	MICROSEMI/MICRO QUALITY	BYV27-200
URSF3J48	TOSHIBA	BT300B-800R
URSF5G48	TOSHIBA	BT151B-500R
URSF5J48	TOSHIBA	BT151B-800R
US1A	GENERAL SEMICONDUCTOR	US1A
US1B	GENERAL SEMICONDUCTOR	US1B
US1D	GENERAL SEMICONDUCTOR	US1D
US1G	GENERAL SEMICONDUCTOR	US1G
US1J	GENERAL SEMICONDUCTOR	US1J
USD645	MICROSEMI/MICRO QUALITY	PBYR745
USD645C	MICROSEMI/MICRO QUALITY	PBYR1545CT
USD745	UNITRODE/MICROSEMI	PBYR745
USD820	UNITRODE/MICROSEMI	PBYR1040
USD835	UNITRODE/MICROSEMI	PBYR1040
USD840	UNITRODE/MICROSEMI	PBYR1040
USD845	UNITRODE/MICROSEMI	PBYR1045
USD945	UNITRODE/MICROSEMI	PBYR1645
USF10G48	TOSHIBA	BT152B-600R
USF10J48	TOSHIBA	BT152B-800R
USF8G48	TOSHIBA	BT152B-600R
USF8J48	TOSHIBA	BT152B-800R
USM12G48	TOSHIBA	BT139B-600F
USM12G48A	TOSHIBA	BT139B-600F
USM12J48	TOSHIBA	BT139B-600F
USM12J48A	TOSHIBA	BT139B-600F
USM16G48	TOSHIBA	BTA140B-600
USM16G48A	TOSHIBA	BTA140B-600
USM16J48	TOSHIBA	BTA140B-600
USM16J48A	TOSHIBA	BTA140B-600
USM3G48	TOSHIBA	BT136B-600F
USM3J48	TOSHIBA	BT136-600/ BT136-600E
USM6G48	TOSHIBA	BT137B-600F
USM6G48A	TOSHIBA	BT137B-600F
USM6J48	TOSHIBA	BT137B-600F
USM6J48A	TOSHIBA	BT137B-600F
USM8G48	TOSHIBA	BT138B-600F
USM8G48A	TOSHIBA	BT138B-600F

Type	Manufacturer	Philips Type
USM8J48	TOSHIBA	BT138B-600F
USM8J48A	TOSHIBA	BT138B-600F
UT2005	MICROSEMI/MICRO QUALITY	1N5059
UT2010	MICROSEMI/MICRO QUALITY	1N5059
UT2020	MICROSEMI/MICRO QUALITY	1N5059
UT2040	MICROSEMI/MICRO QUALITY	1N5060
UT2060	MICROSEMI/MICRO QUALITY	1N5061
UT251	MICROSEMI/MICRO QUALITY	1N5059
UT252	MICROSEMI/MICRO QUALITY	1N5059
UT254	MICROSEMI/MICRO QUALITY	1N5060
UT255	MICROSEMI/MICRO QUALITY	1N5061
UT257	MICROSEMI/MICRO QUALITY	1N5061
UT258	MICROSEMI/MICRO QUALITY	1N5062
UT261	MICROSEMI/MICRO QUALITY	1N5059
UT262	MICROSEMI/MICRO QUALITY	1N5059
UT264	MICROSEMI/MICRO QUALITY	1N5060
UT265	MICROSEMI/MICRO QUALITY	1N5061
UT267	MICROSEMI/MICRO QUALITY	1N5061
UT268	MICROSEMI/MICRO QUALITY	1N5062
UT3005	MICROSEMI/MICRO QUALITY	BYM56A
UT3010	MICROSEMI/MICRO QUALITY	BYM56A
UT3020	MICROSEMI/MICRO QUALITY	BYM56A
UT3040	MICROSEMI/MICRO QUALITY	BYM56B
UT3060	MICROSEMI/MICRO QUALITY	BYM56C
UTR2305	MICROSEMI/MICRO QUALITY	BYW95A
UTR2310	MICROSEMI/MICRO QUALITY	BYW95A
UTR2320	MICROSEMI/MICRO QUALITY	BYW95A
UTR2340	MICROSEMI/MICRO QUALITY	BYW95B
UTR32	MICROSEMI/MICRO QUALITY	BYV95B
UTR3305	MICROSEMI/MICRO QUALITY	BYW95A
UTR3310	MICROSEMI/MICRO QUALITY	BYW95A
UTR3320	MICROSEMI/MICRO QUALITY	BYW95A
UTR3340	MICROSEMI/MICRO QUALITY	BYW95B
UTR42	MICROSEMI/MICRO QUALITY	BYV95B
UTX3120	MICROSEMI/MICRO QUALITY	BYV27-200
UTX4105	MICROSEMI/MICRO QUALITY	BYV28-50
UTX4110	MICROSEMI/MICRO QUALITY	BYV28-100
UTX4115	MICROSEMI/MICRO QUALITY	BYV28-150
UTX4120	MICROSEMI/MICRO QUALITY	BYV28-200
V140X	MICROSEMI/MICRO QUALITY	BYV95B
V322	MICROSEMI/MICRO QUALITY	BYM56A
V324	MICROSEMI/MICRO QUALITY	BYM56B
V326	MICROSEMI/MICRO QUALITY	BYM56C
V328	MICROSEMI/MICRO QUALITY	BYM56D
V330	MICROSEMI/MICRO QUALITY	BYM56A
V330X	MICROSEMI/MICRO QUALITY	BYW95A
V331	MICROSEMI/MICRO QUALITY	BYM56A
V3310	MICROSEMI/MICRO QUALITY	BYM56E
V331X	MICROSEMI/MICRO QUALITY	BYW95A
V332	MICROSEMI/MICRO QUALITY	BYM56A
V332X	MICROSEMI/MICRO QUALITY	BYW95A
V334	MICROSEMI/MICRO QUALITY	BYM56B
V334X	MICROSEMI/MICRO QUALITY	BYW95B
V336	MICROSEMI/MICRO QUALITY	BYM56C
V338	MICROSEMI/MICRO QUALITY	BYM56D
VHE220	MICROSEMI/MICRO QUALITY	BYV27-200
VN820	ST MICROELECTRONICS	BUK202-50Y
VSK1045	MICROSEMI/MICRO QUALITY	PBYR1645
VSK120	MICROSEMI/MICRO QUALITY	1N5817
VSK130	MICROSEMI/MICRO QUALITY	1N5818
VSK140	MICROSEMI/MICRO QUALITY	1N5819
VSK945	MICROSEMI/MICRO QUALITY	PBYR1645
X0402BE	ST MICROELECTRONICS	BT148-400R
X0402BF	ST MICROELECTRONICS	BT148-400R
X0402DE	ST MICROELECTRONICS	BT148-400R
X0402DF	ST MICROELECTRONICS	BT148-400R
X0402ME	ST MICROELECTRONICS	BT148-600R
X0402MF	ST MICROELECTRONICS	BT148-600R
X0402NE	ST MICROELECTRONICS	BT148-600R
X0402NF	ST MICROELECTRONICS	BT148-600R
X0403BE	ST MICROELECTRONICS	BT148-400R
X0403BF	ST MICROELECTRONICS	BT148-400R
X0403DE	ST MICROELECTRONICS	BT148-400R
X0403DF	ST MICROELECTRONICS	BT148-400R
X0403ME	ST MICROELECTRONICS	BT148-600R

Type	Manufacturer	Philips Type
X0403MF	ST MICROELECTRONICS	BT148-600R
X0403NE	ST MICROELECTRONICS	BT148-600R
X0403NF	ST MICROELECTRONICS	BT148-600R
X0405BE	ST MICROELECTRONICS	BT148-400R
X0405BF	ST MICROELECTRONICS	BT148-400R
X0405DE	ST MICROELECTRONICS	BT148-400R
X0405DF	ST MICROELECTRONICS	BT148-400R
X0405ME	ST MICROELECTRONICS	BT148-600R
X0405MF	ST MICROELECTRONICS	BT148-600R
X0405NE	ST MICROELECTRONICS	BT148-600R
X0405NF	ST MICROELECTRONICS	BT148-600R
XHP30L	PHILIPS SEMICONDUCTORS	BSH203
XHP60	PHILIPS SEMICONDUCTORS	BSH201
Z0109DA	ST MICROELECTRONICS	BT132-600D
Z0109DN	ST MICROELECTRONICS	BT134W-600D
Z0109MA	ST MICROELECTRONICS	BT132-600D
Z0109MN	ST MICROELECTRONICS	BT134W-600D
Z0109NN	ST MICROELECTRONICS	BT134W-600D
Z0109SN	ST MICROELECTRONICS	BT134W-600D
Z0110DA	ST MICROELECTRONICS	BT132-600D
Z0110DN	ST MICROELECTRONICS	BT134W-600E
Z0110MA	ST MICROELECTRONICS	BT132-600D
Z0110MN	ST MICROELECTRONICS	BT134W-600E
Z0110NA	ST MICROELECTRONICS	BT132-600D
Z0110NN	ST MICROELECTRONICS	BT134W-600E
Z0110SA	ST MICROELECTRONICS	BT132-600D
Z0110SN	ST MICROELECTRONICS	BT134W-600E
Z0409DE	ST MICROELECTRONICS	BT136-600D
Z0409DF	ST MICROELECTRONICS	BT136-600D
Z0409ME	ST MICROELECTRONICS	BT136-600D
Z0409MF	ST MICROELECTRONICS	BT136-600D
Z0409NE	ST MICROELECTRONICS	BT136-600D
Z0409NF	ST MICROELECTRONICS	BT136-600D
Z0409SE	ST MICROELECTRONICS	BT136-600D
Z0409SF	ST MICROELECTRONICS	BT136-600D
Z0410DE	ST MICROELECTRONICS	BT136-600E
Z0410DF	ST MICROELECTRONICS	BT136-600E
Z0410ME	ST MICROELECTRONICS	BT136-600E
Z0410MF	ST MICROELECTRONICS	BT136-600E
Z0410NE	ST MICROELECTRONICS	BT136-800E
Z0410NF	ST MICROELECTRONICS	BT136-800E
Z0410SE	ST MICROELECTRONICS	BT136-800E
Z0410SF	ST MICROELECTRONICS	BT136-800E
Z1SMAxxx	FAGOR	BZG03-Cxxx
ZGL41-xxx	GENERAL SEMICONDUCTOR	BZD27-Cxxx
ZMUxxx	ITT	BZD27-Cxxx
ZMYxxx	ITT	BZD27-Cxxx
ZPJxxx	ITT	BZD23-Cxxx
ZPYxxx	ITT	BZD23-Cxxx
Zxxx	RECTRON	BZD23-Cxxx
ZYxxx	ITT	BZD23-Cxxx