

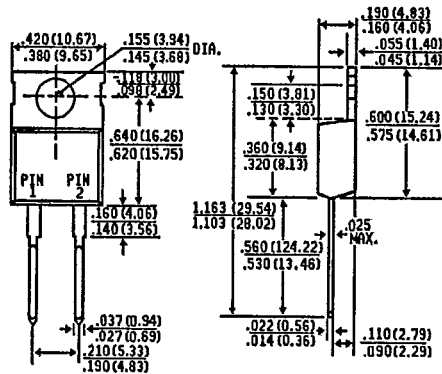
SBL530 AND SBL540

SCHOTTKY RECTIFIER

VOLTAGE RANGE - 30 and 40 Volts CURRENT - 5.0 Amperes

FEATURES

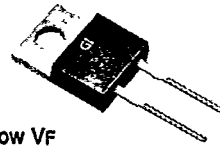
TO-220



(CASE POSITIVE) STANDARD POLARITY
 PIN 1 +
 PIN 2 - CASE

Dimensions in Inches and (millimeters)

- ◆ Plastic package has Underwriters Laboratory Flammability Classifications 94V-O.
- ◆ Metal to silicon rectifier, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ High current capability, low V_F
- ◆ High surge capacity
- ◆ Epitaxial construction
- ◆ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ◆ High temperature soldering guaranteed: 250°C/10 seconds/.25", (6.35mm) from case
- ◆ Guard Ring for transient protection



MECHANICAL DATA

Case: TO-220 Molded Plastic
Terminals: Solderable per MIL-STD-202, Method 208
Polarity: As marked
Mounting Position: Any
Weight: .08 ounces, 2.24 gram

CROSS REFERENCE GUIDE

GI	FUJI	SHINDENGEN
SBL530	---	S5S3M
SBL540	ERC80-004	S5S4M

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Resistive or inductive load. For capacitive or inductive load, derate current by 20%.

	SYMBOLS	SBL530	SBL540	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	30	40	Volts
Maximum RMS Voltage	V _{RMS}	21	28	Volts
Maximum DC Blocking Voltage	V _{DC}	30	40	Volts
Maximum Average Forward Rectified Current at T _c = 114°C	I _(AV)	5.0		Amps
Peak Forward Surge Current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	175		Amps
Maximum Instantaneous Forward Voltage at 5.0A, T _c = 25°C (Note 2)	V _F	.55		Volts
Maximum Average Reverse Current at T _c = 25°C	I _R	0.5		mA
Rated Peak Reverse Voltage (Note 3) T _c = 100°C	I _R	33.0		mA
Typical Thermal Resistance (Note 1)	R _{θJC}	3.0		°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-40 to +125		°C

NOTES:

1. Thermal Resistance from Junction to Case.
2. 300 μs Pulse Width, 2% Duty Factor.

RATINGS AND CHARACTERISTIC CURVES SBL530 AND SBL540

FIG. 1 — FORWARD CURRENT DERATING CURVE

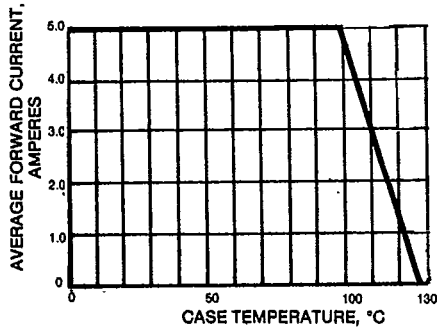


FIG. 2 — TYPICAL REVERSE CHARACTERISTICS

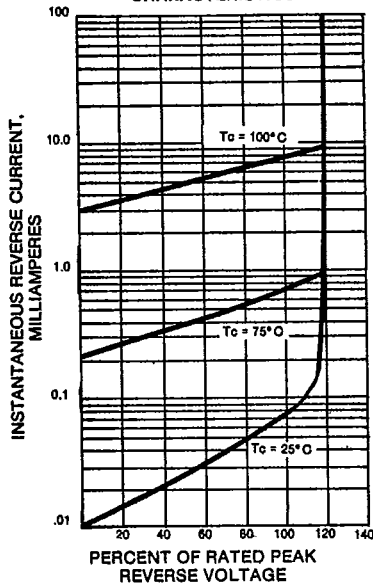


FIG. 3 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

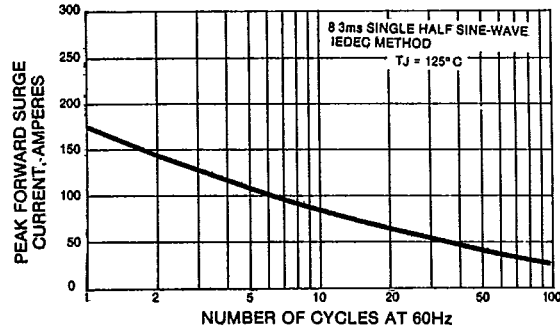


FIG. 4 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

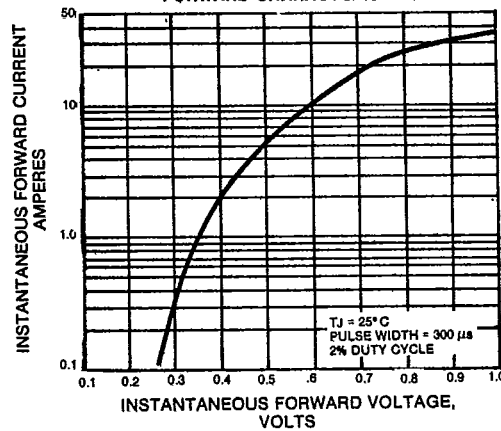
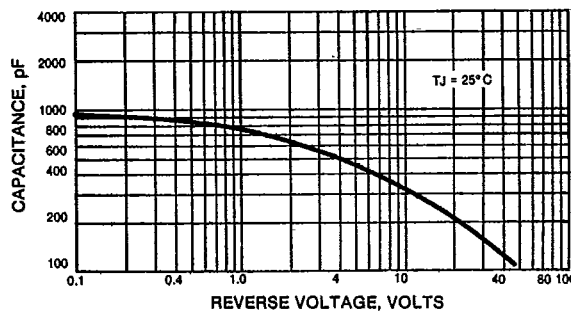


FIG. 5 — TYPICAL JUNCTION CAPACITANCE



GENERAL INSTRUMENT

PACKAGING CODES

PKG. CODE	PACKAGING DESCRIPTION
1 . . . . .	. Bulk
3 . . . . .	. 26MM Horizontal Taping and Ammo Packing
4 . . . . .	. Standard Horizontal Reel, Class 1 (Metric 52.4MM)
6 . . . . .	. Avisert, Cathode Up, Cathode First Off Reel
8 . . . . .	. Avisert, Cathode Up, Cathode First Off Ammo Pack
10 . . . . .	. Avisert, Cathode Down, Anode First Off Reel
12 . . . . .	. Avisert, Cathode Down, Anode First Off Ammo Pack
14 . . . . .	. Panasert, Cathode Up, Cathode First Off Reel
15 . . . . .	. Panasert, Cathode Up, Anode Off First, Ammo Pack
16 . . . . .	. Panasert, Cathode Up, Cathode First Off Ammo Pack
18 . . . . .	. Panasert, Cathode Down, Anode First Off Reel
20 . . . . .	. Panasert, Cathode Down, Anode First Off Ammo Pack
22 . . . . .	. Bulk Pack for Special Axial-Leaded Formed Devices
23 . . . . .	. Standard Horizontal Ammo Pack, Class I (Metric 52.4mm)
25 . . . . .	. GL41 SMD 12MM Tape, 7" Diameter Paper Reel
26 . . . . .	. GL41 SMD 12MM Tape, 13" Diameter Paper Reel
27 . . . . .	. SMD, 16 MM Tape, 7" Diameter Reel
28 . . . . .	. Special Carton Packing method for Tube Packaging Products
32 . . . . .	. GL34 SMD, 8MM Tape, 7" Diameter Paper Reel
33 . . . . .	. GL34 SMD, 8MM Tape, 13" Diameter Paper Reel
34 . . . . .	. Tab Mounted EFR8 Chip, 16MM, 13" Diameter Reel
35 . . . . .	. Bulk, Axial-Leaded Conductive Packaging
36 . . . . .	. Standard Horizontal Reel, Class 1 (Metric 52.4MM) Conductive Packaging
37 . . . . .	. Bulk, TO-220, TO3P Conductive Tubes
38 . . . . .	. Bulk, Conductive Packaging for Bridge Rectifier
39 . . . . .	. Miscellaneous Non-Standard T&R Packaging
40 . . . . .	. Euroform, Reel, Cathode First Off Reel, Lead Coated
42 . . . . .	. Euroform, Reel, Cathode Last Off Reel, Lead Coated
44 . . . . .	. Standard Horizontal Reel (Metric) 5MM Component Spacing for DO-201 Packages
45 . . . . .	. Tube Packaging for TO-220, TO-3P, and In Line Bridge Rectifier
46 . . . . .	. GL41 SMD 12MM Tape, 7" Diameter Plastic Reels
47 . . . . .	. GL41 SMD 12MM Tape, 13" Diameter Plastic Reels
48 . . . . .	. GL34 SMD 8MM Tape, 7 " Diameter Plastic Reels
49 . . . . .	. GL34 SMD 8MM Tape, 13" Diameter Plastic Reels

Also available for all packaging Electro-Static-Protection by adding the number "50" to the existing codes. For example, "51" would be Bulk, Electro-Static Packaging. "54" would be T/R, Electro-Static Packaging.

**GENERAL
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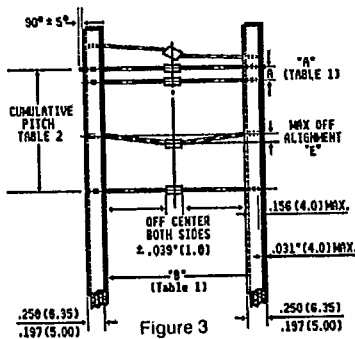
REEL PACKAGING

Axial leaded devices are packed in accordance with EIA Standard RS-296-E and the diagrams given below which refer to these specifications.

COMPONENT CASE TYPE	UNITS PER REEL	COMPONENT SPACING "A" FIG. 1		Table 1 TAPE SPACING "B" FIG. 1		REEL DIMENSION "D" FIG. 2		MAX. OFF ALIGNMENT "E" FIG. 1		GROSS WEIGHT PER REEL	
		ea.	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg.
1.5KA (PAR)	2000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	7.1	3.2
DO15	3500	.200	5.0	2.06	52.4	12.0	305	.047	1.2	4.00	1.81
DO201AD	1200	.395	10.0	2.06	52.4	12.0	305	.047	1.2	3.60	1.63
DO204AP	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	5.80	2.60
DO204MB	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.74	1.70
DO41	5000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	4.80	2.20
G3/G4	1500	.395	10.0	2.06	52.4	12.0	305	.047	1.2	4.80/4.40	2.20/2.00
GL34 Surface Mount	2500/7000	.157	4.0	—	—	7/13	178/330	See Fig. 6		.471/1.49	.214/68
GL41 Surface Mount	1500/5000	.157	4.0	—	—	7/13	178/330	See Fig. 6		.471/1.49	.214/68
GP10E Vertical	2000	.500	12.7	—	—	12.0	305	.079	2.0	2.29	1.04
GP10E Horizontal	4000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.04	1.38
GP20	1200	.395	10.0	2.06	52.4	12.0	305	.047	1.2	4.40	2.00
MPG06	5000	.200	5.0	2.06	52.4	12.0	305	.047	1.2	3.74	1.70
P600	700	.395	10.0	2.06	52.4	12.0	305	.047	1.2	5.00	2.30

**Table 2
Metric Spec**

Component Body Diameter	Components Spacing "A" (Lead to Lead)	Inside Tape Spacing "B"	Cumulative Pitch Tolerance
0mm to 5mm (0" to .197")	5.0mm+0.5mm (.197"+.020")	26mm+0.75mm (1.024"+.030")	Not to
0mm to 5mm (0" to .197")	5.0mm+0.5mm (.197"+.020")	52.4mm+1.5mm (2.062"+.059")	Exceed 1.5mm (.059") over
5.01mm to 10mm (.197" to .394")	10mm+0.5mm (.394" ± .020")	52.4mm+1.5mm (2.062"±.059")	6 Consecutive



Dimensions in inches and (millimeters)

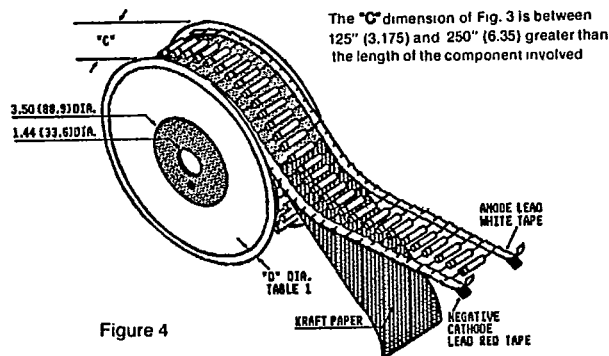


Figure 4

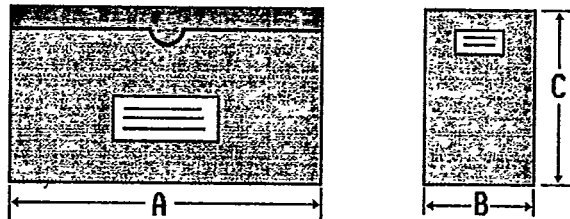
GENERAL INSTRUMENT

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NEW BULK PACKAGES

DEVICE TYPE	BOX SIZE		QUANTITY	GROSS WEIGHT		
	INCHES	CM		EA.	LBS.	KG
GL34 SURFACE MOUNT	8.0 x 3.5 x 1.0	20.3 x 8.8 x 2.54	8000	0.55	0.25	
GL41 SURFACE MOUNT	8.0 x 3.5 x 1.0	20.3 x 8.8 x 2.54	4000	1.03	0.47	
DO15	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	4000	3.85	1.75	
DO201AD	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	1500	4.41	2.0	
DO204AP	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	4000	3.75	1.7	
DO204MB	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	5000	3.15	1.45	
DO41/MPG06	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	5000	2.38/2.20	1.09/1.0	
G4/G3	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	3000/2000	5.07 / 5.29	2.32/2.4	
GP20	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	1500	3.75	1.7	
J, JTX1N483B, 1N645, 1N645-1	8.0 x 3.5 x 1.0	20.3 x 8.8 x 2.54	1000	0.77	0.35	
J, JTX1N3611, 1N4245, 1N5614	8.0 x 3.5 x 1.0	20.3 x 8.8 x 2.54	500	0.55	0.25	
J, JTX1N4942, 1N5615, 1N5802	8.0 x 3.5 x 1.0	20.3 x 8.8 x 2.54	500	0.55	0.25	
J, JTX1N5415, 1N5550, 1N5625, 1N5807	12.0 x 3.6 x 2.5	30.4 x 9.1 x 6.3	1000	2.50	1.1	
P600	11.75 x 5.125 x 2.5	29.8 x 13.0 x 6.3	750	3.72	1.69	
P6KE	11.75 x 3.5 x 1.0	29.8 x 8.8 x 2.54	2000	1.93	0.87	
DF-WDF-S	ANTI-STATIC PLASTIC TUBES	19.0 LENGTH	48.2 LENGTH	50	0.12	0.05
TO-220, CT	ANTI-STATIC PLASTIC TUBES	20.5 LENGTH	52.0 LENGTH	50	0.306	0.14
TO3P	ANTI-STATIC PLASTIC TUBES	20.5 LENGTH	52.0 LENGTH	30	0.572	0.26
KBPM/2KBPM	ANTI-STATIC PLASTIC TUBES	18.5 LENGTH	47.0 LENGTH	30	0.21	0.09
AR,ARS	PLASTIC BAGS			200	0.84	0.38
WM, WG	PLASTIC BAGS			100	0.37	0.17
GPP1, EFR1, 3, 5	CHIP TRAY	2.0 x 2.0 x .35	5.1 x 5.1 x 0.9	100	0.042	0.019
GPP5, EFR8	CHIP TRAY	2.0 x 2.0 x .35	5.1 x 5.1 x 0.9	100	0.044	0.020
BC	PAPER BOX	9.2 x 5.0 x 2.5	23.4 x 12.7 x 6.3	100	3.08	1.4
KBU4, 6, 8	PVC TRAY	12.2 x 6.1 x 1.5	30.9 x 15.5 x 3.8	250	4.63	2.1
KBL	PVC TRAY	12.2 x 6.1 x 1.5	30.9 x 15.5 x 3.8	300	4.19	1.9
KBPC1035W	PVC TRAY	12.4 x 12.4 x 1.4	31.4 x 31.4 x 3.6	100	5.07	2.3
KBPC8	PVC TRAY	12.4 x 12.4 x 1.1	31.4 x 31.4 x 2.9	200	3.31	1.5
KBPC1, KBPC6	PVC TRAY	12.4 x 12.4 x .88	31.4 x 31.4 x 2.2	250	1.94/2.64	.88/1.2
KBPC 10/35	PVC TRAY	12.4 x 12.4 x 1.4	31.4 x 31.4 x 3.6	100	5.29	2.4

AMMO BOX PACKAGING



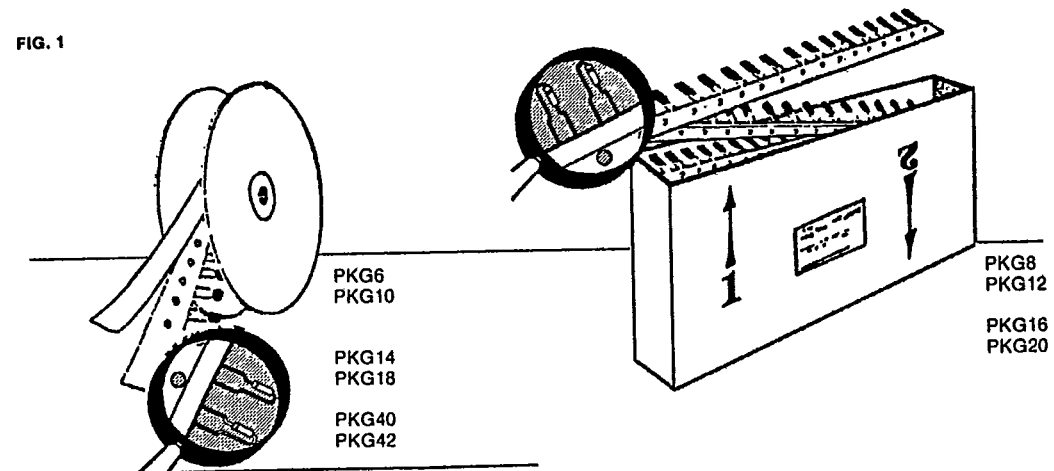
Packaging	Available Product Outlines	Packaging Codes	Dimension "A"	Dimension "B"	Dimension "C"	Quantity Box
26MM Horizontal Ammo Pack	DO-41 GI, DO-15	PKG 3	9.7" (247MM)	1.7" (44MM)	3.7" (95MM)	3K 1.5K
52MM Horizontal Ammo Pack	G1, DO-41 DO15 DO201AD, G3 P600	PKG 23	10.0" (254MM)	3.1" (79MM)	4.3" (110MM)	3K 2K 1K 3K
Vertical (Avisert, Panasert) Ammo Pack	GP10-E, RGP10-E 0.25" (0.65MM) Lead Diameter Only	PKG 8, 9 12, 13, 16 17, 20, 21	12.9" (328MM)	1.7" (42MM)	7.9" (200MM)	2K

GENERAL INSTRUMENT

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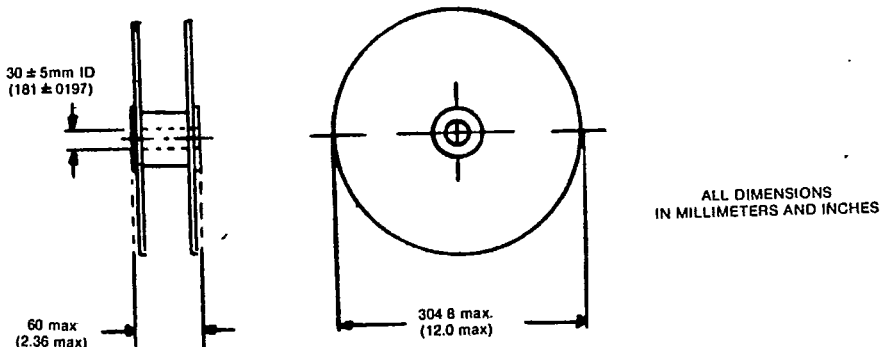
PACKAGING METHODS FOR VERTICLE TAPING

FIG. 1



Avisert: PKG6	Panasert: PKG14	Euroform: PKG40
PKG8	PKG16	PKG41
PKG10	PKG18	PKG42
PKG12	PKG20	PKG43

FIG. 2



Package per EIA JEDEC standard RS-468 Available on reels or fan fold box (ammo pack)

Available only for DO41 case style products utilizing 0.65mm (.025") or 0.76mm (.30") diameter leads for Panasert and Avisert Tape and Reeling.

Available only for GP10 products only utilizing 0.65mm (.025") diameter leads for Euroform Tape and Reeling by adding suffix "E" (GP10GE, 1N4004GPE)

**GENERAL
INSTRUMENT**

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VERTICLE REEL PACKAGING

ALL DIMENSIONS
IN MILLIMETERS AND (INCHES)

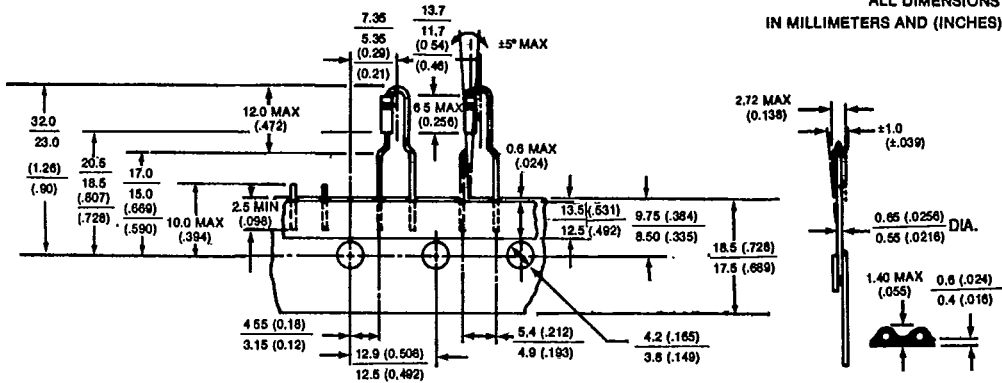


FIG. 3 - EURO FORM

Available only for GP10 products utilizing 0.65mm (.025) diameter leads for Euroform Tape and Reeling by adding suffix "E" (GP10GE, 1N4004GPE). Lead coating is standard.

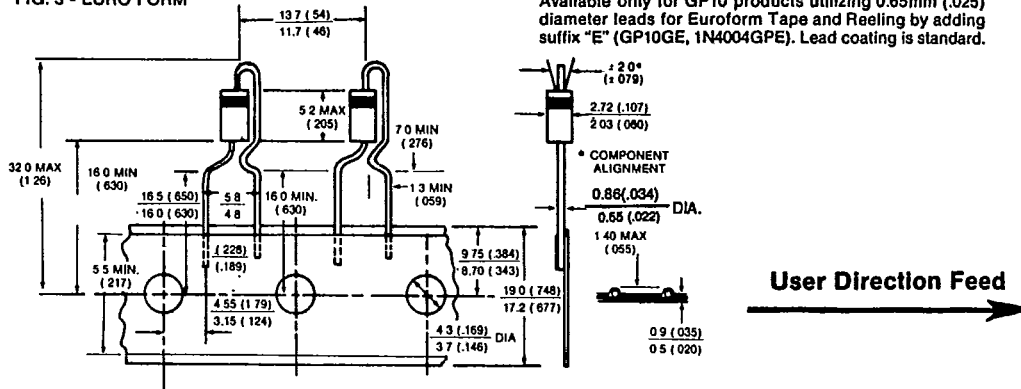


FIG. 4 - PANASERT

Available only for DO41 case style products utilizing 0.65mm (.025) or 0.76mm (.30) diameter leads for Panasert and Avisert Tape and Reeling. Lead coating is not available.

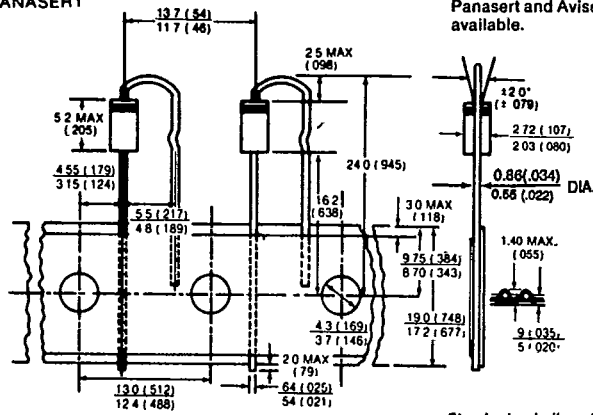


FIG. 5 - AVISERT

Standard polarity cathode oriented away from sprocket holes
(Optional polarity cathode oriented toward sprocket holes)

GENERAL
INSTRUMENT

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SURFACE MOUNT PACKAGING

Packed per EIA/JEDEC Standard RS-481

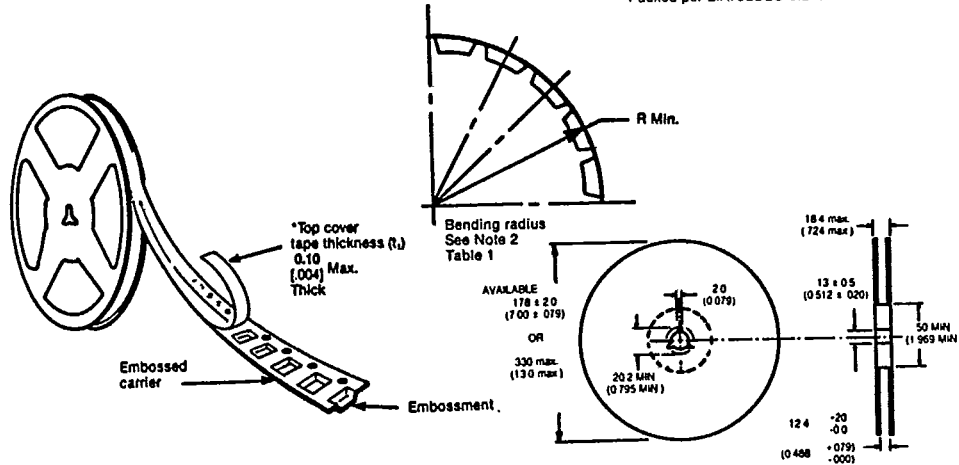


Table 1

8, 12, 16. MM Embossed Tape							All Dimensions in Millimeters and (Inches)			
Tape Size	D	E	Po	t	Ao Bo Ko					Constant Dimensions
8, 12, MM	1.5 (.059)	1.75 ± 0.10 (.069 ± .004)	$4.0 \pm .10$ (.157 ± .004)	0.400 (.018)	See Note 1 Table 2					
Product Type	Tape Size	Max. B'	Min. D'	F	Max. K	P2	Min. R	W	P	Variable Dimensions
3L34	8MM	4.2 (.165)	1.0 (.039)	3.5 ± 0.05 (.138 ± .002)	2.4 (.094)	2.0 ± 0.05 (.079 ± .002)	25 (.984)	$8.0 \pm .30$ (.315 ± .012)	$4.0 \pm .10$	
3L41	12MM	8.2 (.323)	1.5 (.059)	5.5 ± 0.05 (.217 ± .002)	4.5 (.177)		30 (1.181)	$12.0 \pm .30$ (.472 ± .012)		

99: Ao Bo Ko are determined by component size. The clearance between the component and the cavity must be within 0.05 min. to 0.5 max. for 8MM tape and 1 min to 0.650 max. for 12 MM tape. In addition the components cannot rotate more than 20° within the determined cavity. Tape and components will pass around radius "R" without damage.

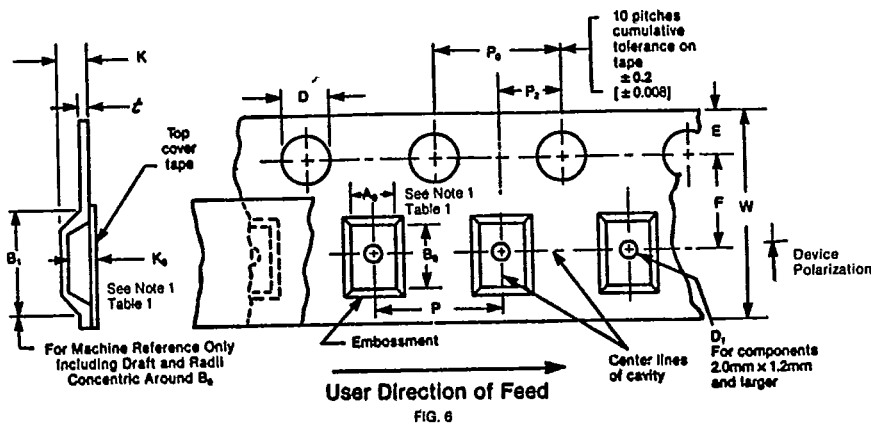


FIG. 6

GENERAL INSTRUMENT