

SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS
Features

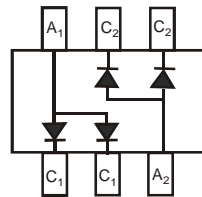
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**

Mechanical Data

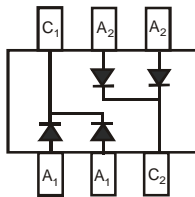
- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagrams Below
- Marking Information: See Page 3
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)



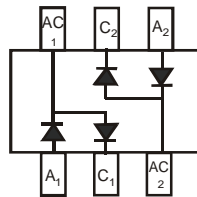
Top View



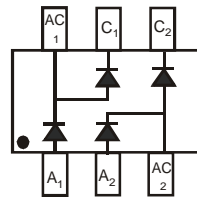
BAT54ADW*



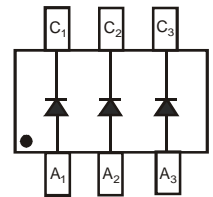
BAT54CDW*



BAT54SDW*



BAT54BRW



BAT54TW

*Symmetrical configuration, no orientation indicator.

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	30	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
Forward Continuous Current (Note 1)	I _F	200	mA
Repetitive Peak Forward Current (Note 1)	I _{FRM}	300	mA
Forward Surge Current (Note 1)	I _{FSM}	600	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	200	mW
Thermal Resistance, Junction to Ambient Air (Note 1)	R _{θJA}	625	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +125	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 5)	V _{(BR)R}	30	—	—	V	I _R = 100μA
Forward Voltage (Note 5)	V _F	—	—	240	mV	I _F = 0.1mA
				320		I _F = 1mA
				400		I _F = 10mA
				500		I _F = 30mA
				1000		I _F = 100mA
Reverse Leakage Current (Note 5)	I _R	—	—	2.0	μA	V _R = 25V
Total Capacitance	C _T	—	—	10	pF	V _R = 1.0V, f = 1.0MHz
Reverse Recovery Time	t _{rr}	—	—	5.0	ns	I _F = 10mA through I _R = 10mA to I _R = 1.0mA, R _L = 100Ω

- Notes:
1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. No purposefully added lead.
 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants
 5. Short duration pulse test used to minimize self-heating effect.

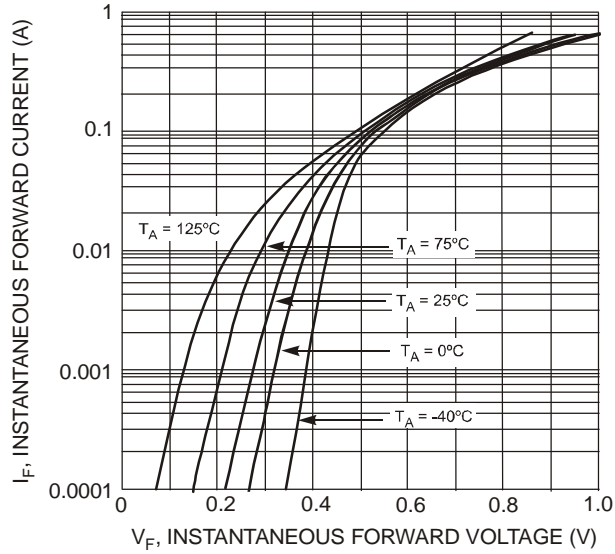


Fig. 1 Typical Forward Characteristics

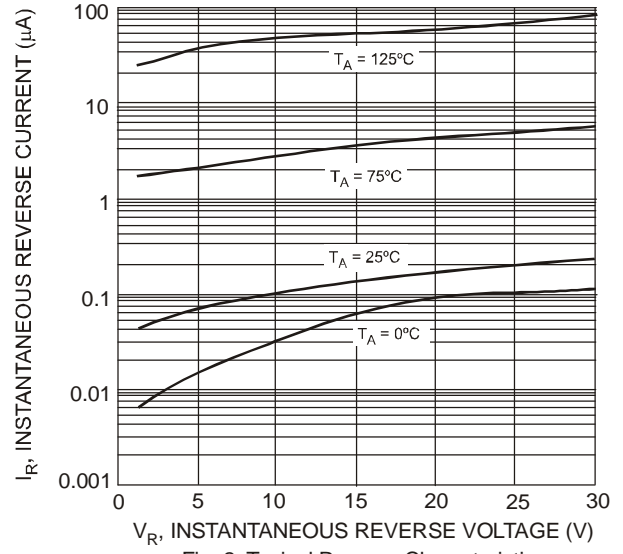


Fig. 2 Typical Reverse Characteristics

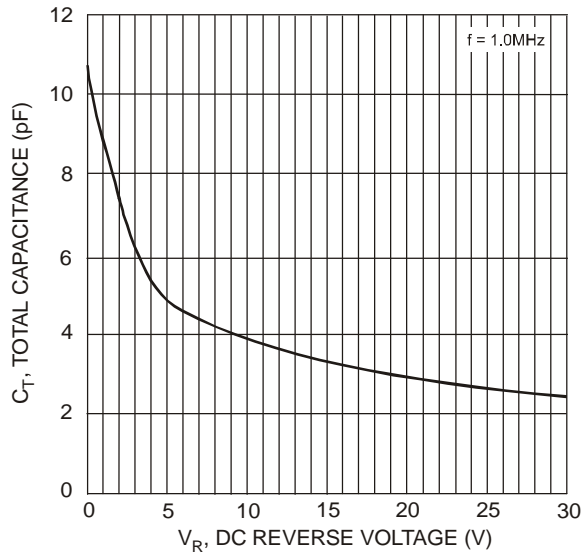


Fig. 3 Total Capacitance vs. Reverse Voltage

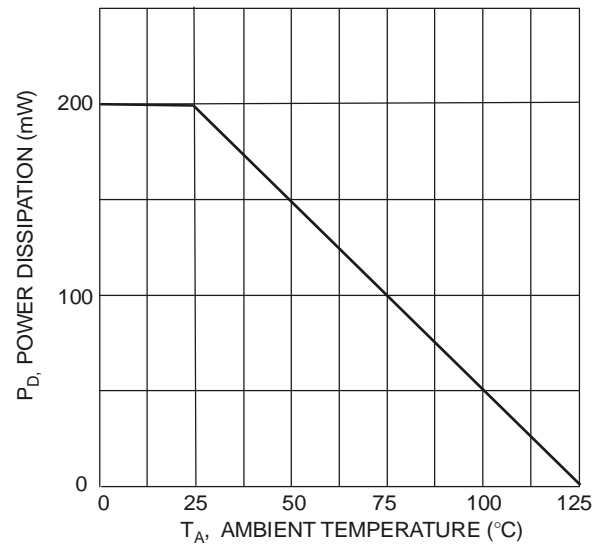


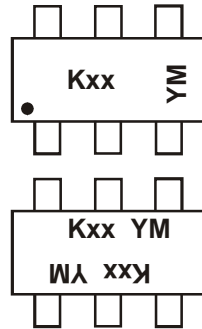
Fig. 4 Power Derating Curve

Ordering Information (Note 6)

Part Number	Case	Packaging
BAT54ADW-7-F	SOT-363	3000/Tape & Reel
BAT54CDW-7-F	SOT-363	3000/Tape & Reel
BAT54SDW-7-F	SOT-363	3000/Tape & Reel
BAT54BRW-7-F	SOT-363	3000/Tape & Reel
BAT54TW-7-F	SOT-363	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



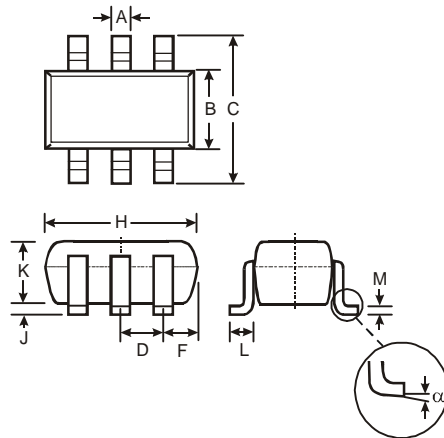
Kxx = Product Type Marking Code
For Symmetrical Configuration, No Orientation Indicator
KL6 = BAT54ADW
KL7 = BAT54CDW
KL8 = BAT54SDW
KLB = BAT54BRW
KLA = BAT54TW
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	M	N	P	R	S	T	U	V	W	X	Y	Z	A	B	C

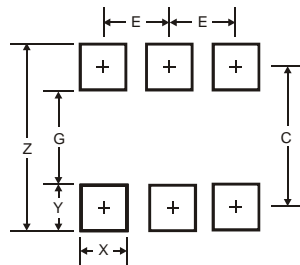
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C	1.9
E	0.65

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