



BAT54V

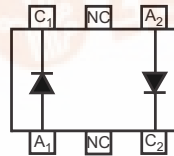
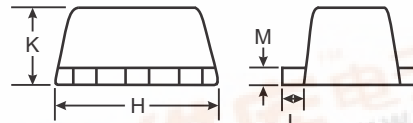
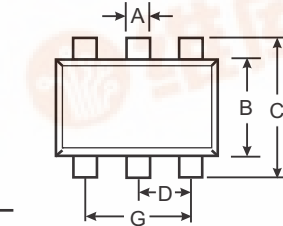
SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS

Features

- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green Device" (Note 2)**

Mechanical Data

- Case: SOT-563, Molded Plastic
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking & Type Code Information: See Last Page
- Ordering Information: See Last Page
- Weight: 0.003 grams (approx.)



SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.25
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	0.50		
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.56	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	30	V
Forward Continuous Current (Note 3)	I_F	200	mA
Repetitive Peak Forward Current (Note 3)	I_{FRM}	300	mA
Forward Surge Current (Note 3) @ t < 1.0s	I_{FSM}	600	mA
Operating and Storage Temperature Range	T _J , T _{STG}	-65 to +125	°C

Thermal Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3)	P _d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	R _{θJA}	833	°C/W

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	V _{(BR)R}	30	—	—	V	I _R = 100μA
Forward Voltage (Note 4)	V _F	—	—	240 320 400 500 1000	mV	I _F = 0.1mA I _F = 1mA I _F = 10mA I _F = 30mA I _F = 100mA
Reverse Leakage Current (Note 4)	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. No purposefully added lead.
 2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 3. 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>.
 4. Short duration test pulse used to minimize self-heating effect.

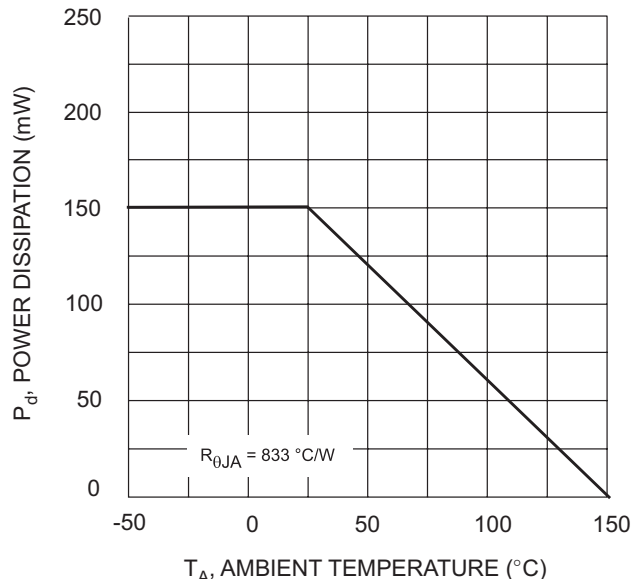


Fig. 1, Derating Curve - Total

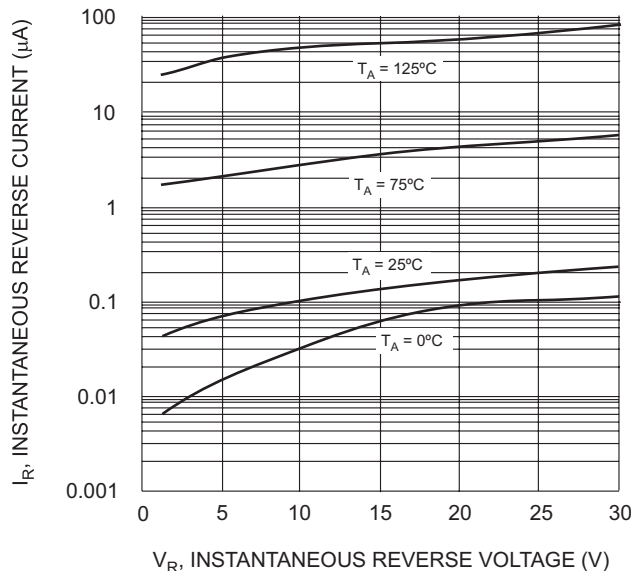


Fig. 3 Typical Reverse Characteristics

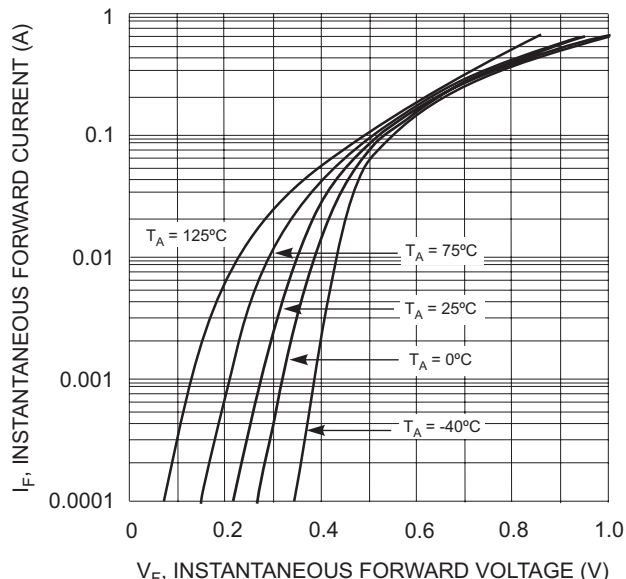


Fig. 2 Forward Characteristics

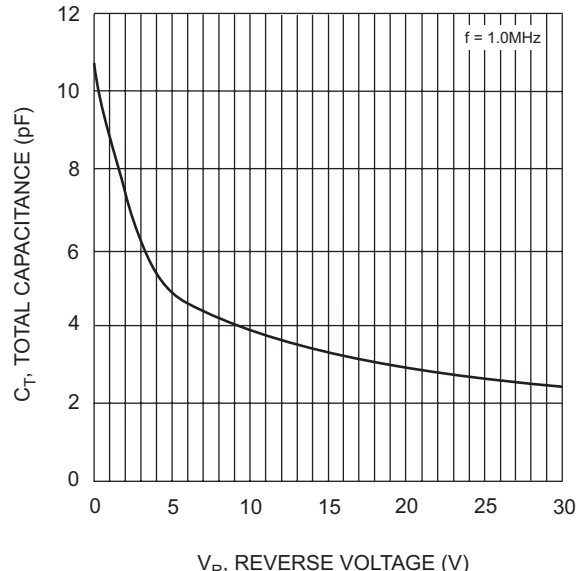


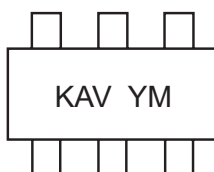
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 5)

Device	Packaging	Shipping
BAT54V-7	SOT-563	3000/Tape & Reel

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



KAV = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: R = 2004
M = Month ex: 9 = September

Date Code Key

Year	2004	2005	2006	2007	2008	2009
Code	R	S	T	U	V	W

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

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