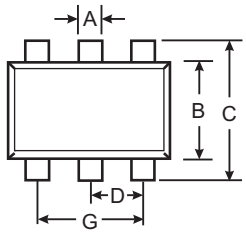
BAT40V

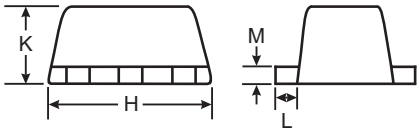
SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS

NEW PRODUCT

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)**
- **Qualified to AEC-Q101 Standards for High Reliability**

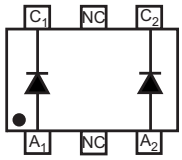




SOT-563			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.25
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D		0.50	
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.56	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

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
- Terminals: Lead bearing terminal plating available. See Ordering information Page 2, Note 5
- Ordering: See Page 2
- Marking & Type Code Information: See last page
- Weight: 0.003 grams (approx.)



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	40	V
Forward Continuous Current (Note 2)	I_F	200	mA
Repetitive Peak Forward Current (Note 2)	I_{FRM}	350	mA
Forward Surge Current (Note 2) @ tp =10ms	I_{FSM}	750	mA
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 3)	$V_{(BR)R}$	40	—	—	V	I_R = 100μA
Forward Voltage (Note 3)	V_F	—	—	330 420 800 1000	mV	I_F = 2.0mA I_F = 15mA I_F = 100mA I_F = 200mA
Reverse Leakage Current (Note 3)	I_R	—	—	500	nA	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

Thermal Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P_d	150	mW
Thermal Resistance, Junction to Ambient Air (Note 3)	$R_{\theta JA}$	833	°C/W

Notes:
1. No purposefully added lead.
2. 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.
3. Short duration test pulse used to minimize self-heating effect.

NEW PRODUCT

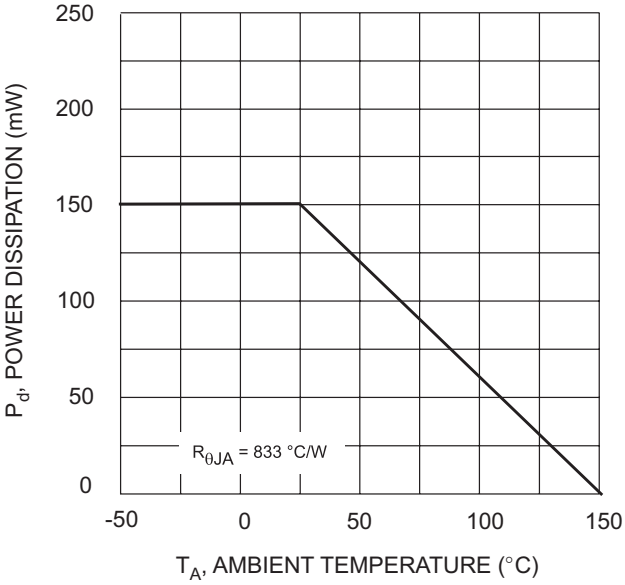


Fig. 1, Derating Curve - Total

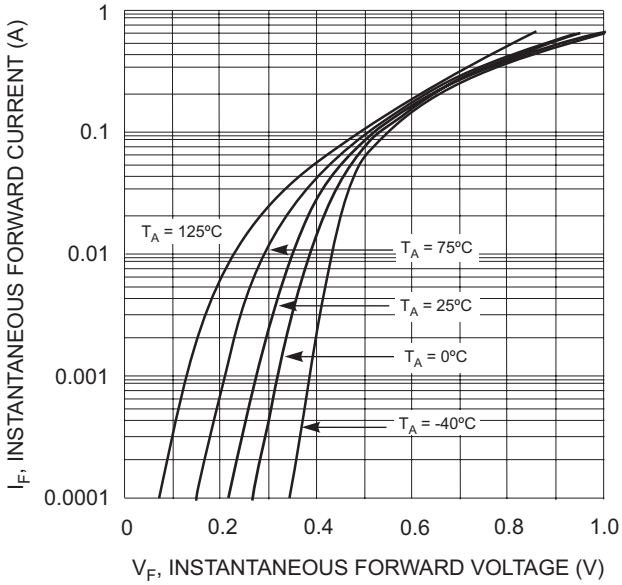


Fig. 2 Forward Characteristics

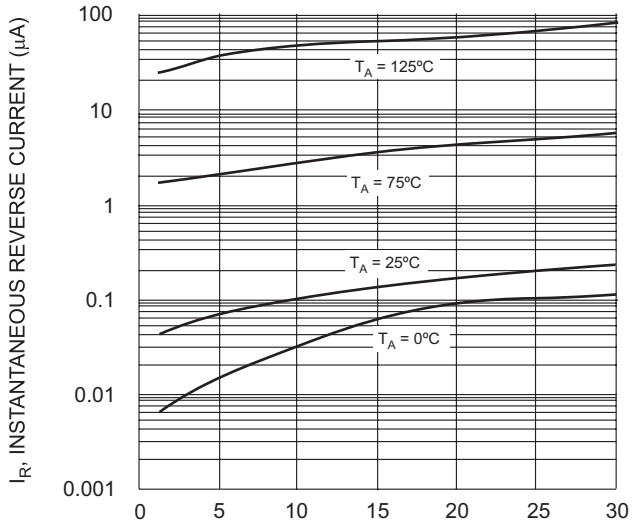


Fig. 3 Typical Reverse Characteristics

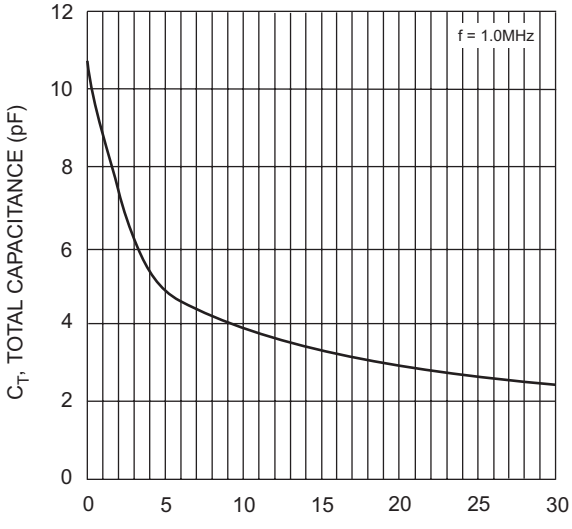


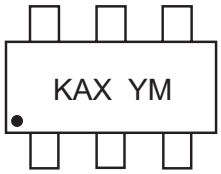
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
BAT40V-7	SOT-563	3000/Tape & Reel
BAT40V-7-L	SOT-563	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
5. "-L" suffix on part number indicates Pb/Sn terminal plating. "-L" version is a Non Lead-Free, Non RoHS-compliant device.

Marking Information



KAX = 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