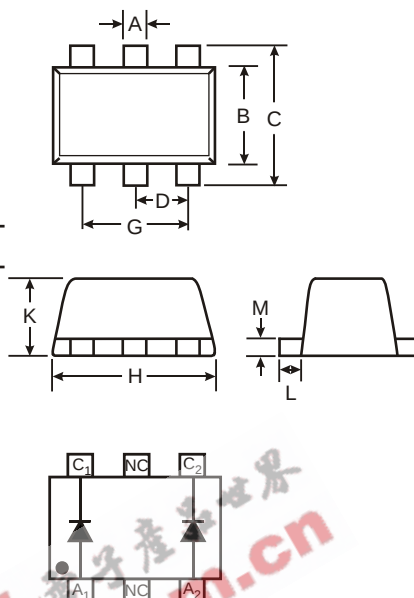


Features

- Σ Low Forward Voltage Drop
- Σ Fast Switching
- Σ Ultra-Small Surface Mount Package
- Σ PN Junction Guard Ring for Transient and ESD Protection
- Σ Lead Free by Design/RoHS Compliant (Note 1)
- Σ "Green" Device (Note 4)

Mechanical Data

- Σ Case: SOT-563
- Σ Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Σ Moisture Sensitivity: Level 1 per J-STD-020C
- Σ Terminal Connections: See Diagram
- Σ Terminals: Finish – Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Σ Ordering: See Page 2
- Σ Marking & Type Code Information: See last page
- Σ Weight: 0.003 grams (approximate)



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	æ
All Dimensions in mm			

Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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) @ $t_p = 10\text{ms}$	I_{FSM}	750	mA
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to +125	$^\circ\text{C}$

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	40	æ	æ	V	$I_R = 100\text{mA}$
Forward Voltage (Note 3)	V_F	æ	æ	330 420 800 1000	mV	$I_F = 2.0\text{mA}$ $I_F = 15\text{mA}$ $I_F = 100\text{mA}$ $I_F = 200\text{mA}$
Reverse Leakage Current (Note 3)	I_R	æ	æ	500	nA	$V_R = 25\text{V}$
Total Capacitance	C_T	æ	æ	10	pF	$V_R = 1.0\text{V}, f = 1.0\text{MHz}$
Reverse Recovery Time	t_{rr}	æ	æ	5.0	ns	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}, R_L = 100\Omega$

Thermal Characteristics @ $T_A = 25^\circ\text{C}$ 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	$^\circ\text{C/W}$

- 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.
 4. Diodes Inc's "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php

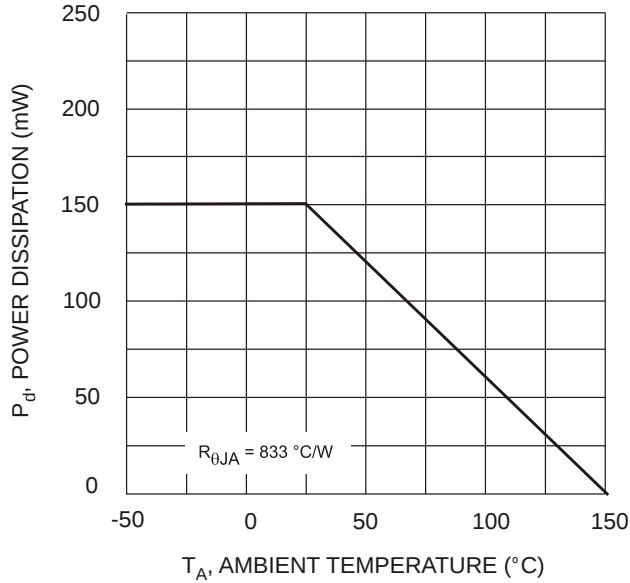


Fig. 1, Derating Curve - Total

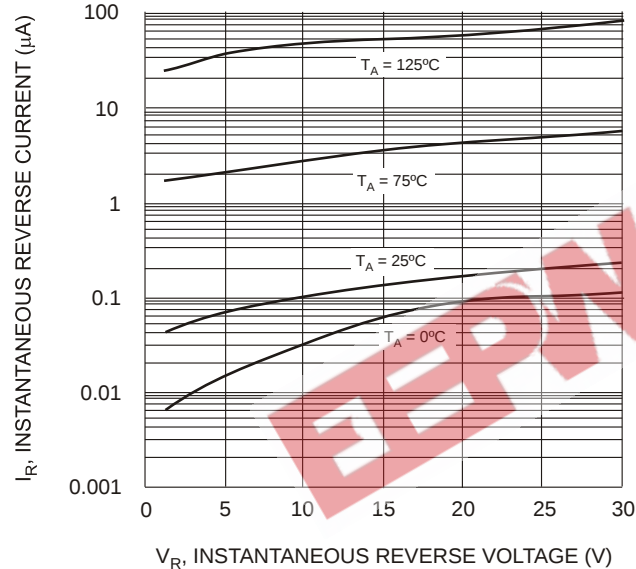


Fig. 3 Typical Reverse Characteristics

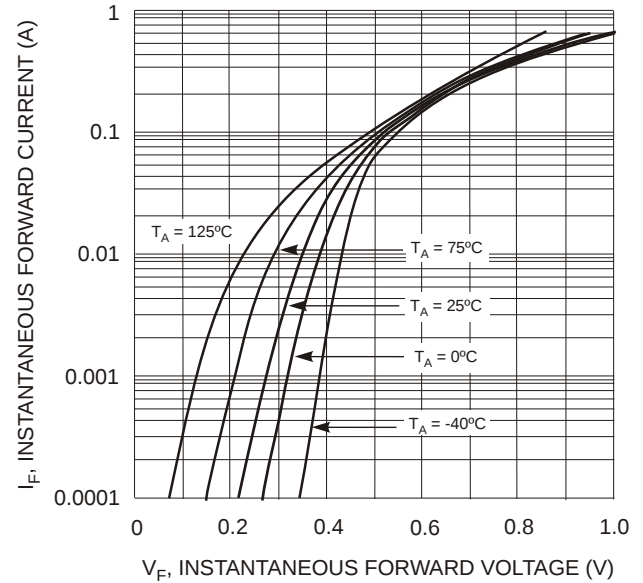


Fig. 2 Forward Characteristics

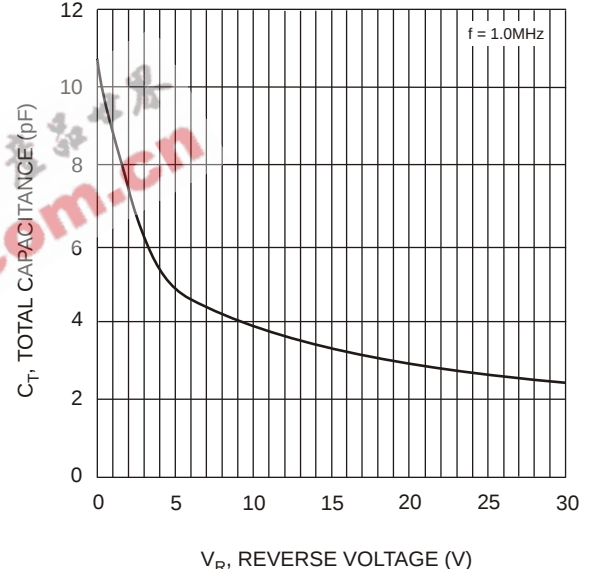


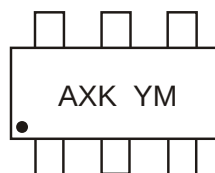
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 5)

Device	Packaging	Shipping
BAT40VC-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



AXK = 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