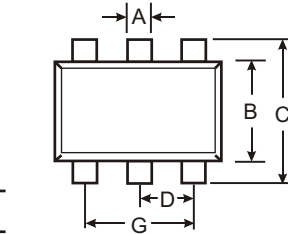


**Features**

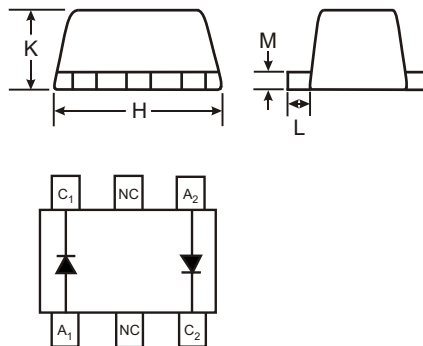
- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free By Design/RoHS Compliant (Note 1)**



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
<b>All Dimensions in mm</b>			

**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.)



**Maximum Ratings** @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	V
Forward Continuous Current (Note 2)	I <sub>FM</sub>	200	mA
Forward Surge Current (Note 2) @ t < 1.0s	I <sub>FSM</sub>	600	mA
Operating Temperature Range	T <sub>j</sub>	-55 to +125	C
Storage Temperature Range	T <sub>STG</sub>	-65 to +150	C

**Thermal Characteristics** @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P <sub>d</sub>	150	mW
Thermal Resistance, Junction to Ambient Air (Note 2)	R <sub>JA</sub>	833	C/W

**Electrical Characteristics** @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	V <sub>(BR)R</sub>	40	—	—	V	I <sub>R</sub> = 10 A
Forward Voltage (Note 3)	V <sub>F</sub>	—	—	380 1000	mV	t <sub>p</sub> < 300 s, I <sub>F</sub> = 1.0mA t <sub>p</sub> < 300 s, I <sub>F</sub> = 40mA
Reverse Leakage Current (Note 3)	I <sub>R</sub>	—	20	200	nA	t <sub>p</sub> < 300 s, V <sub>R</sub> = 30V
Total Capacitance	C <sub>T</sub>	—	4.0	5.0	pF	V <sub>R</sub> = 0V, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>	—	—	5.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100

- Note:
1. No purposefully added lead.
  2. Part mounted on FR-4 board with recommended pad layout, 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.

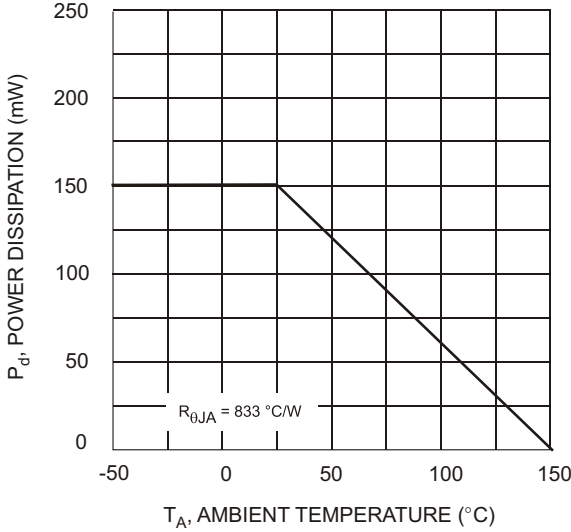


Fig. 1, Derating Curve - Total

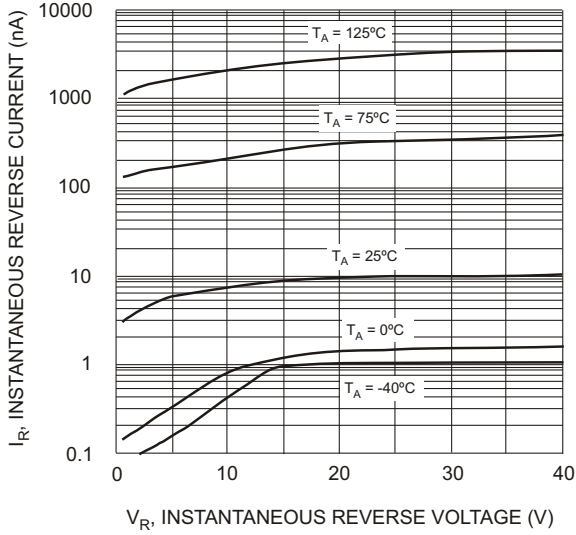


Fig. 3 Typical Reverse Characteristics

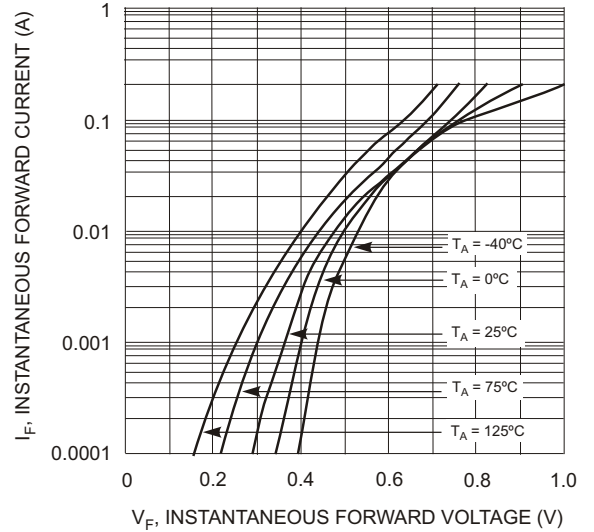


Fig. 2 Typical Forward Voltage

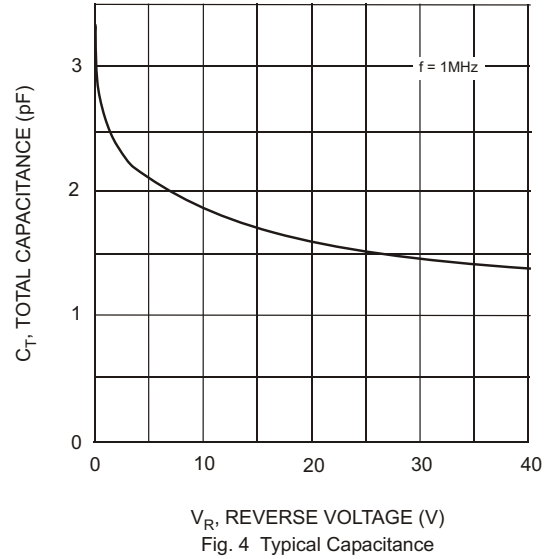


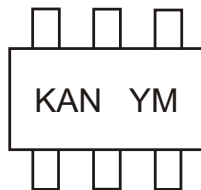
Fig. 4 Typical Capacitance

**Ordering Information** (Note 4)

Device	Packaging	Shipping
BAS40V-7	SOT-563	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



KAN = 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