BAS16V

DUAL SURFACE MOUNT SWITCHING DIODE

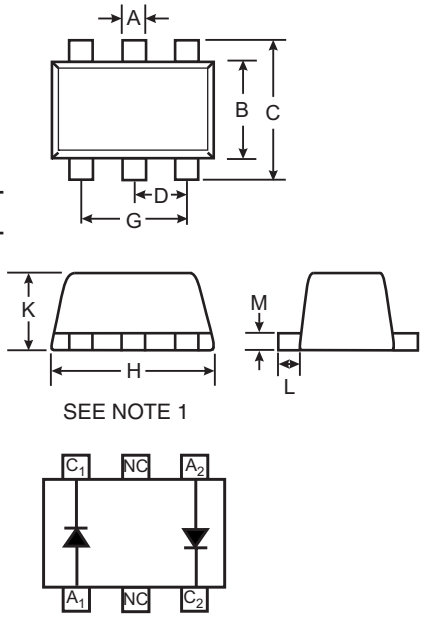
NEW PRODUCT

Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free By Design/RoHS Compliant (Note 3)**

Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking: KAM (See Page 3)
- Weight: 0.003 grams (approx.)
- Ordering & Date Code Information: See Page 3



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
Non-Repetitive Peak Reverse Voltage	V_{RM}	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	75	V
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 2)	I_{FM}	300	mA
Average Rectified Output Current (Note 2)	I_O	200	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s	I_{FSM}	2.0 1.0	A
Power Dissipation (Note 2)	P_d	150	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	833	°C/W
Operating and Storage Temperature Range	T_j , T_{STG}	-65 to +150	°C

Notes:
1. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).
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. No purposefully added lead.

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Electrical Characteristics @ $T_A = 25°C$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 4)	$V_{(BR)R}$	75	—	V	$I_R = 100\mu A$
Forward Voltage (Note 4)	V_F	—	0.715 0.855 1.0 1.25	V	$I_F = 1.0mA$ $I_F = 10mA$ $I_F = 50mA$ $I_F = 150mA$
Leakage Current (Note 4)	I_R	—	1.0 50 30 25	μA μA μA nA	$V_R = 75V$ $V_R = 75V$, $T_j = 150°C$ $V_R = 25V$, $T_j = 150°C$ $V_R = 20V$
Total Capacitance	C_T	—	2.0	pF	$V_R = 0$, f = 1.0MHz
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10mA$, $I_{rr} = 0.1 \times I_R$, $R_L = 100\Omega$

Notes: 4. Short duration pulse test used to minimize self-heating effect.

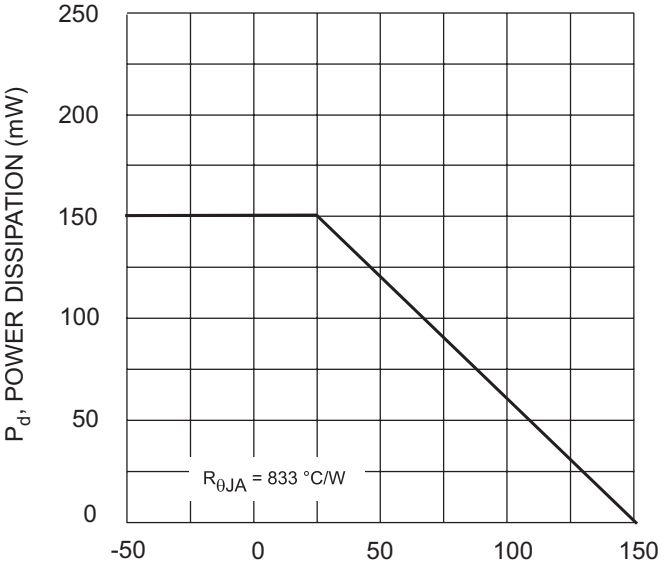


Fig. 1, Derating Curve - Total

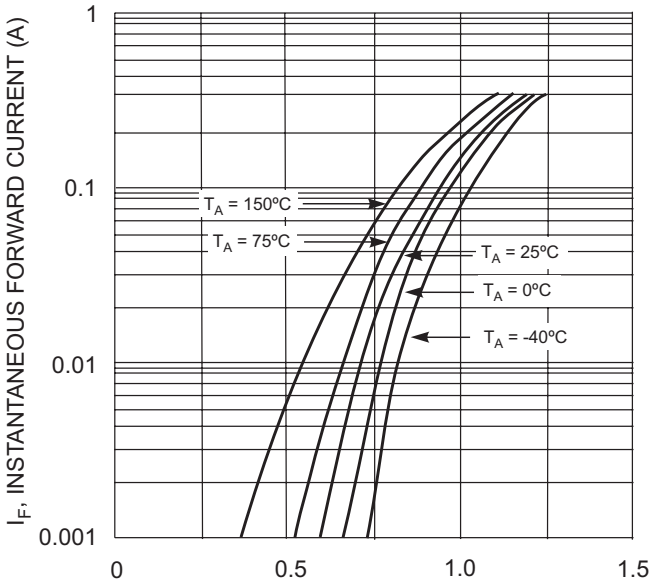


Fig. 2 Forward Characteristics

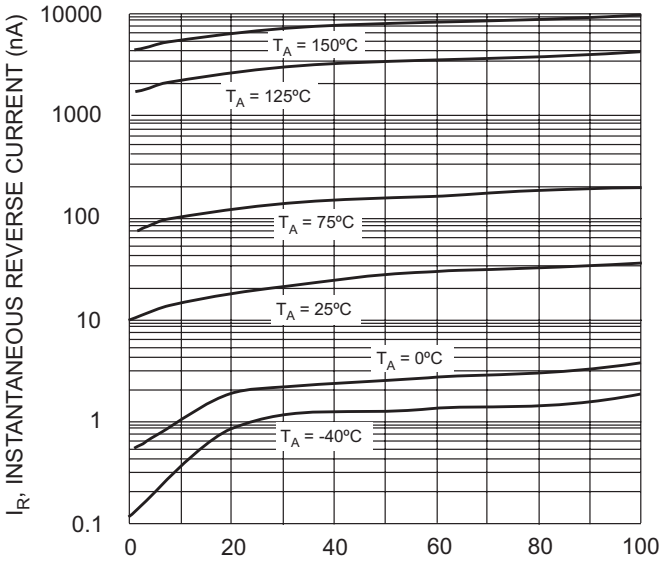


Fig. 3 Typical Reverse Characteristics

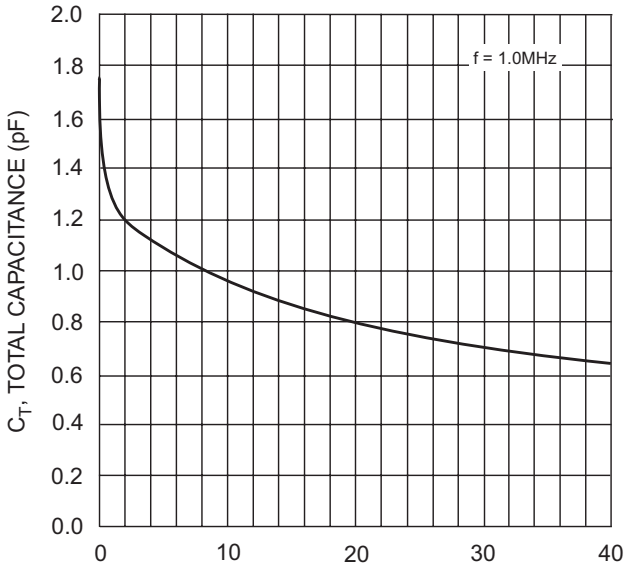


Fig. 4 Typical Capacitance vs. Reverse Voltage

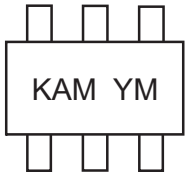
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Ordering Information (Note 5)

Device	Packaging	Shipping
BAS16V-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



KAM = 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