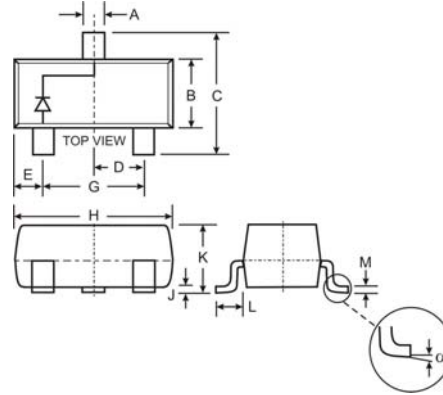


Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking Information: KA6, KA2, K5D; See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
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	V_{RRM}	75	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	$V_{R(RMS)}$	53	V
Forward Continuous Current (Note 1)	I_{FM}	300	mA
Average Rectified Output Current (Note 1)	I_o	200	mA
Non-Repetitive Peak Forward Surge Current	I_{FSM}	2.0	A
		1.0	
Power Dissipation (Note 1)	P_d	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	357	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

Electrical Characteristics @_{T_A} = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	75	—	V	$I_R = 100\mu A$
Forward Voltage	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 2)	I_R	—	1.0 50 30 25	μA μA μA nA	$V_R = 75V$ $V_R = 75V, T_j = 150^\circ C$ $V_R = 25V, T_j = 150^\circ C$ $V_R = 20V$
Total Capacitance	C_T	—	2.0	pF	$V_R = 0, f = 1.0MHz$
Reverse Recovery Time	t_{rr}	—	4.0	ns	$I_F = I_R = 10mA,$ $I_{tr} = 0.1 \times I_R, R_L = 100\Omega$

- Notes:
1. Device mounted on glass epoxy PCB 1.6" x 1.6" x 0.06"; mounting pad for the cathode lead min. 0.93in².
 2. Short duration test pulse used to minimize self-heating effect.
 3. No Purposefully added Lead.

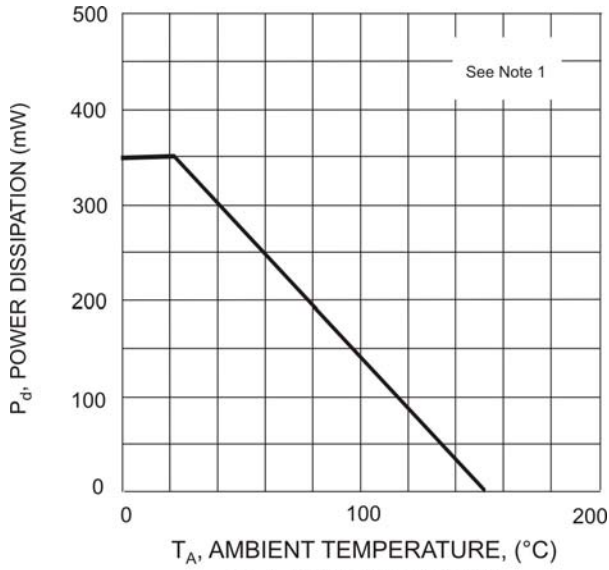


Fig. 1 Power Derating Curve

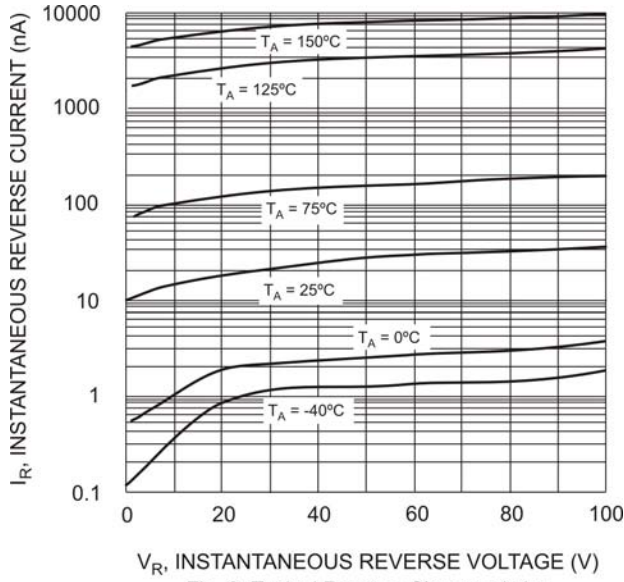


Fig. 3 Typical Reverse Characteristics

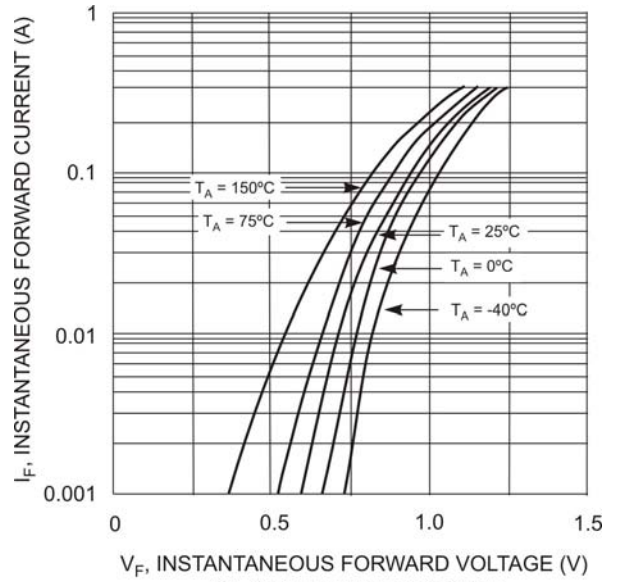


Fig. 2 Forward Characteristics

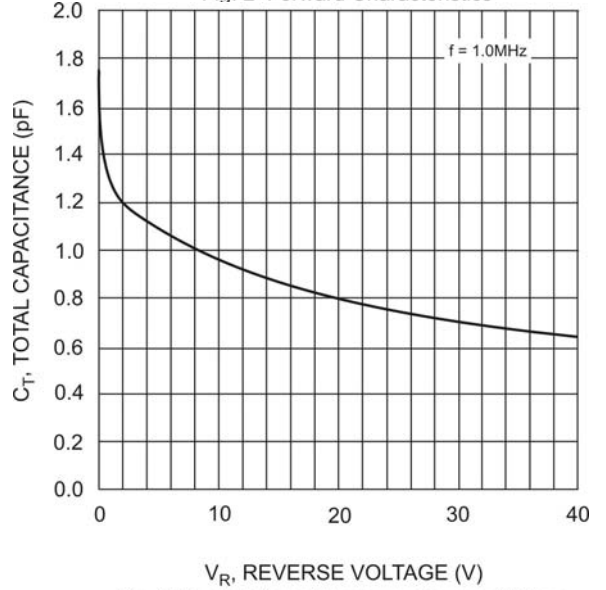


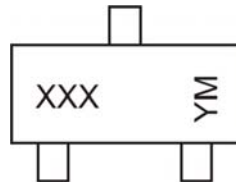
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 4)

Device	Packaging	Shipping
BAS16-7-F	SOT-23	3000/Tape & Reel
MMBD4148-7-F	SOT-23	3000/Tape & Reel
MMBD914-7-F	SOT-23	3000/Tape & Reel

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

Marking Information



XXX = Product Type Marking Code (See Page 1)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	Mar	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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