SDM10M45SD

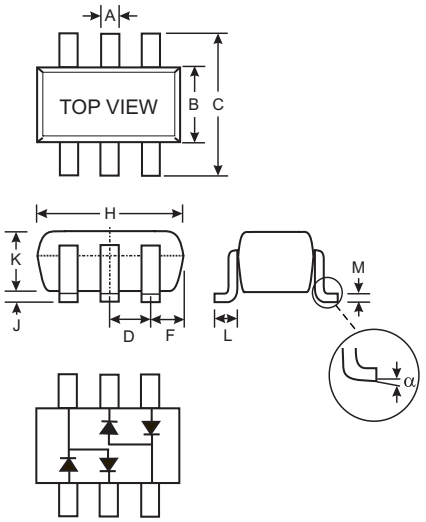
SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- **Lead Free/RoHS Compliant (Note 4)**
- **"Green" Device (Note 5 and 6)**

Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound, Note 6. UL Flammability Classification 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 Copper leadframe).
- Polarity: See Diagram
- Marking: KLG, See Page 2
- Ordering Information: See Below
- Weight: 0.016 grams (approximate)



SOT-26			
Dim	**Min**	**Max**	**Typ**
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
F	—	—	0.55
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
α	0°	8°	—
All Dimensions in mm			

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	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	40	V
Forward Continuous Current (Note 1)	I_{FM}	100	mA
Forward Surge Current @ t < 8.3ms	I_{FSM}	1.0	A
Power Dissipation (Note 1)	P_d	225	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	444	°C/W
Operating and Storage Temperature Range	T_j , T_{STG}	-40 to +125	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

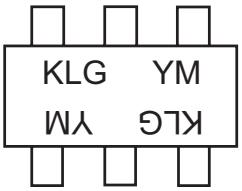
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	45	—	—	—	I_R = 100μA
Forward Voltage	V_F	—	370	450	mV	I_F = 10mA
Reverse Leakage Current (Note 2)	I_R	—	0.07	1.0	μA	V_R = 10V
Total Capacitance	C_T	—	6.0	—	pF	V_R = 10V, f = 1.0MHz

Ordering Information (Note 3 & 6)

Device	Packaging	Shipping
SDM10M45SD-7-F	SOT-26	3000/Tape & Reel

Note:
1. Device mounted on FR-5 PCB 1.0 x 0.75 x 0.062 inch pad layout as shown on Diodes, Inc. suggested pad layout AP02001, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test to minimize self-heating effect.
3. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
4. No purposefully added lead.
5. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
6. Product manufactured with Date Code 0609 (week 9, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0609 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

Marking Information



KLG = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: P = 2003
M = Month ex: 9 = September

Date Code Key

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	P	R	S	T	U	V	W	X	Y	Z

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

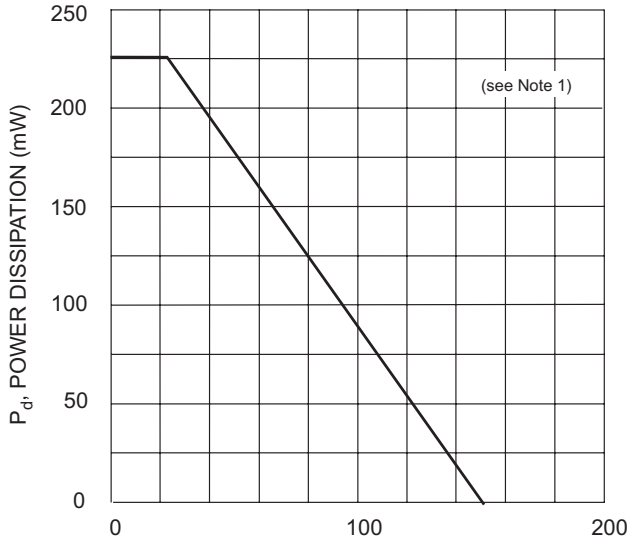


Fig. 1, Power Derating Curve

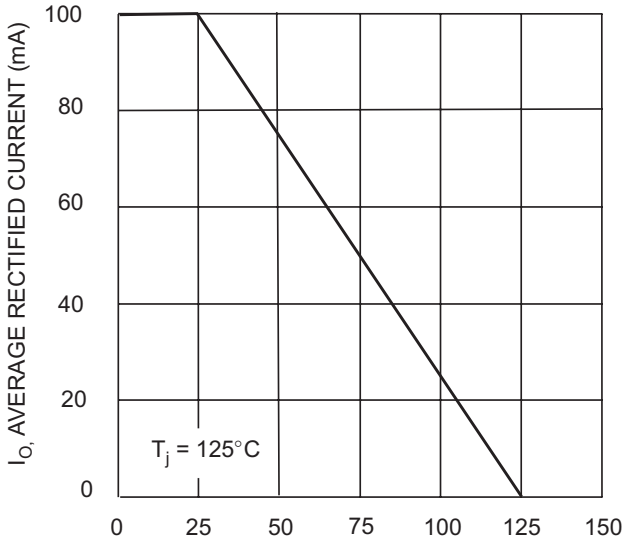


Fig. 2 Forward Current Derating Curve (Per Element)

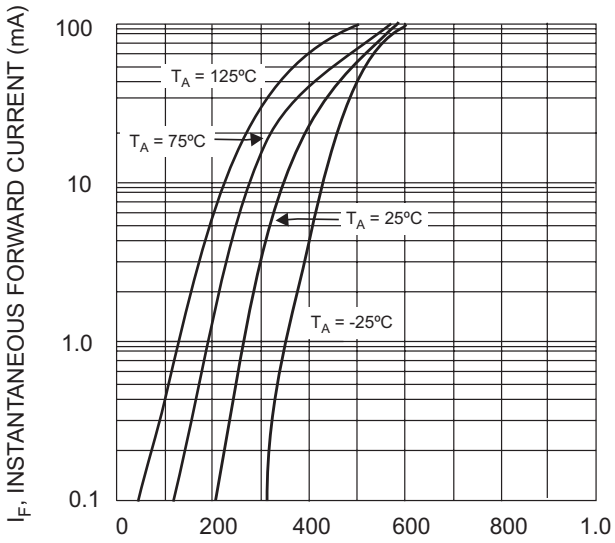


Fig. 3 Typical Forward Characteristics

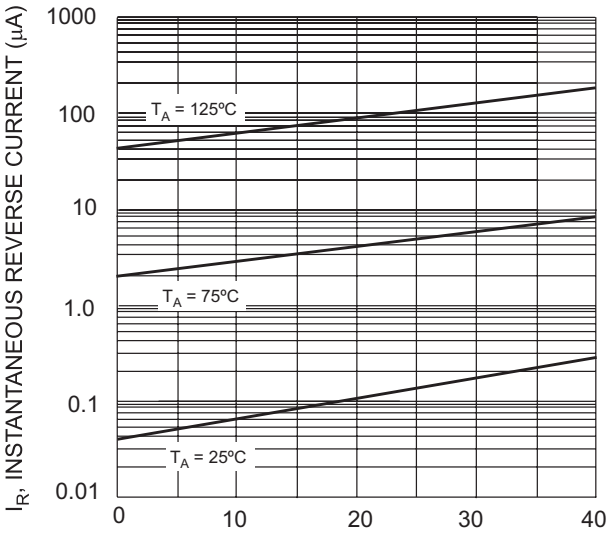


Fig. 4 Typical Reverse Characteristics

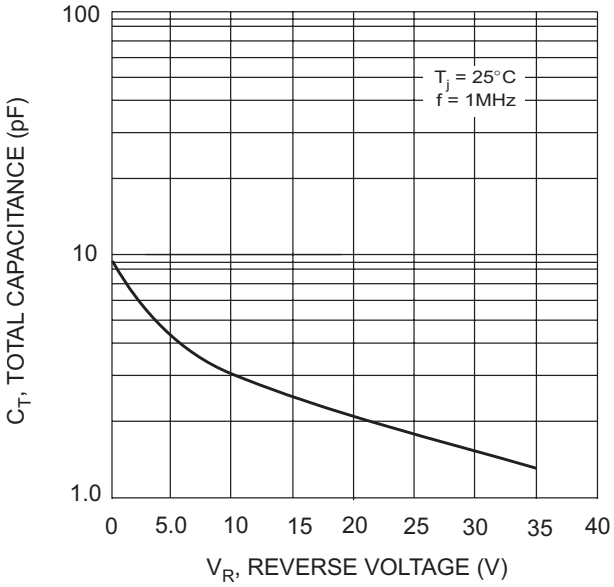


Fig. 5 Total Capacitance vs. Reverse Voltage, Per Element