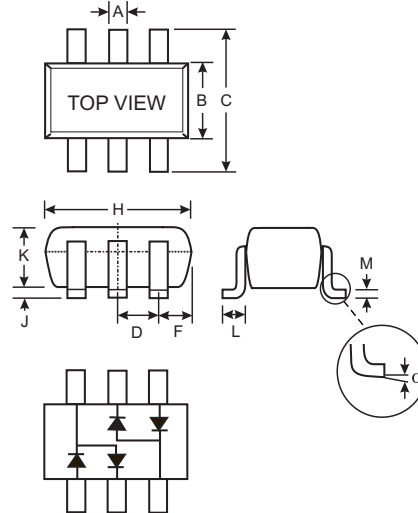


### Features

- 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
$\alpha$	0°	8°	—
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	$V_{RRM}$ $V_{RWM}$ $V_R$	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	40	V
Forward Continuous Current (Note 1)	$I_{FM}$	100	mA
Forward Surge Current @ $t < 8.3\text{ms}$	$I_{FSM}$	1.0	A
Power Dissipation (Note 1)	$P_d$	225	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	444	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-40 to +125	$^\circ\text{C}$

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

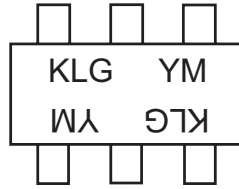
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	45	—	—	—	$I_R = 100\mu\text{A}$
Forward Voltage	$V_F$	—	370	450	mV	$I_F = 10\text{mA}$
Reverse Leakage Current (Note 2)	$I_R$	—	0.07	1.0	$\mu\text{A}$	$V_R = 10\text{V}$
Total Capacitance	$C_T$	—	6.0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

### 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](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**



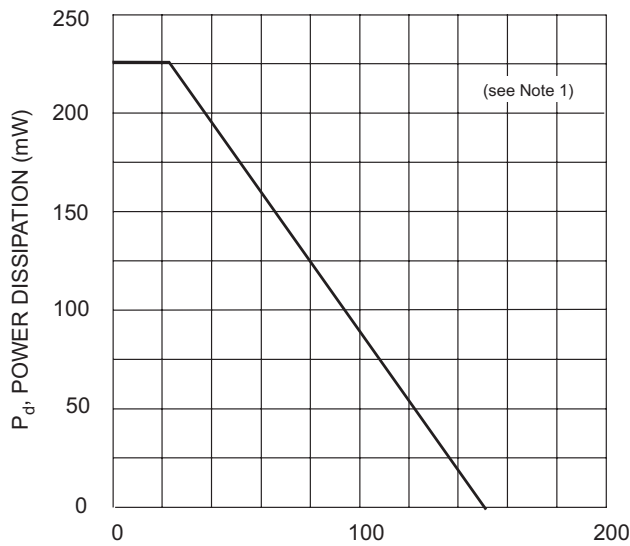
KLG = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: P = 2003  
 M = Month ex: 9 = September

Date Code Key

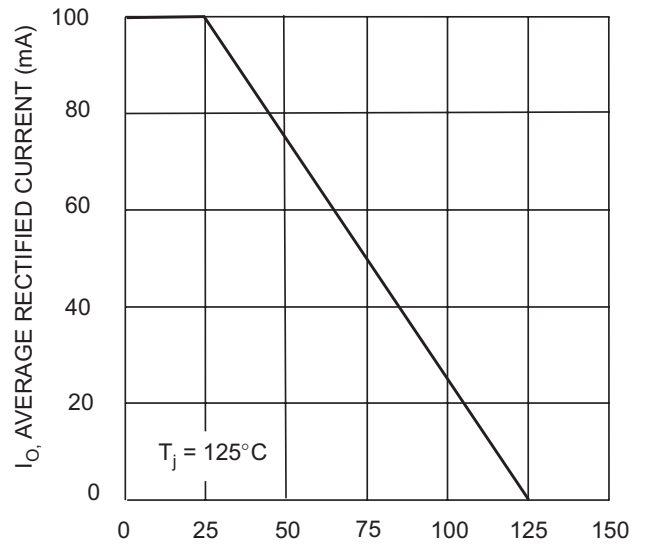
Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	P	R	S	T	U	V	W	X	Y	Z

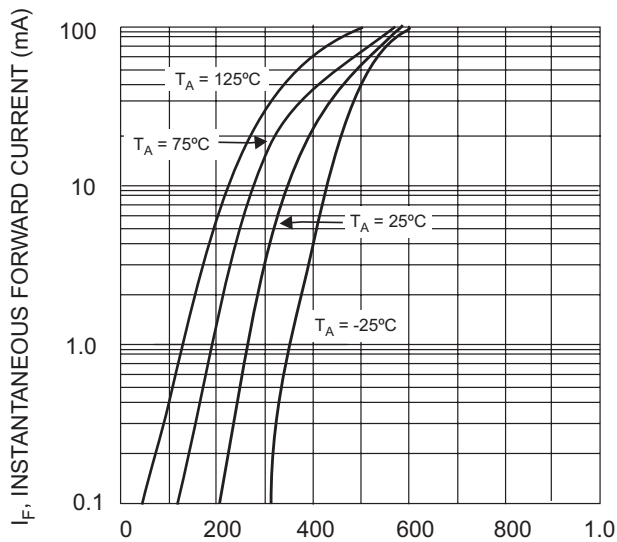
Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



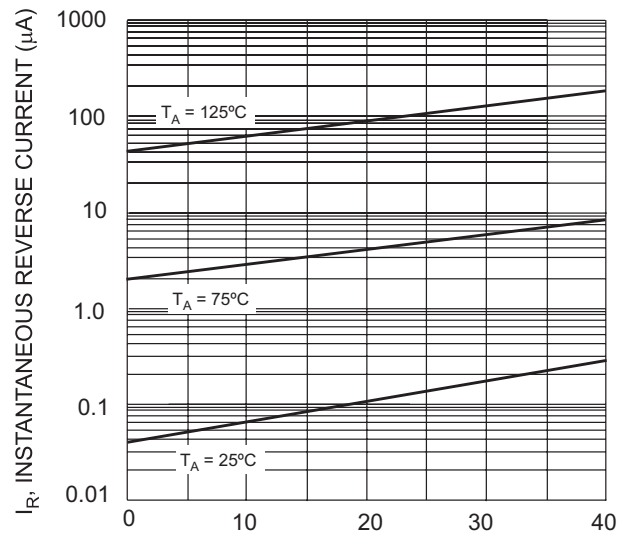
$T_A$ , AMBIENT TEMPERATURE (°C)  
 Fig. 1, Power Derating Curve



$T_A$ , AMBIENT TEMPERATURE (°C)  
 Fig. 2 Forward Current Derating Curve (Per Element)



$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
 Fig. 3 Typical Forward Characteristics



$V_R$ , INSTANTANEOUS REVERSE VOLTAGE (V)  
 Fig. 4 Typical Reverse Characteristics

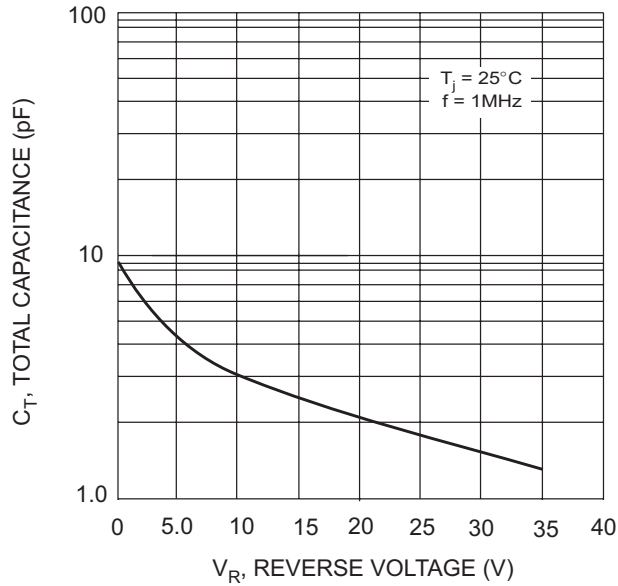


Fig. 5 Total Capacitance vs. Reverse Voltage, Per Element

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