SDM10U45LP

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Low Capacitance
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: DFN1006-2
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminal Connections: Dot Denotes Cathode Side
- Terminals: Finish — NiPdAu annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.001 grams (approximate)

Top View

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Maximum Peak Reverse Voltage	V_{RM}	45	V
Reverse Voltage	V_R	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Forward Current	I_O	100	mA
Maximum (Peak) Forward Current	I_{FM}	300	mA
Non-Repetitive Peak Forward Surge Current @ t ≤ 10ms	I_{FSM}	1	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation	P_D	250	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	400	°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 Conditions
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	30	—	—	V	$I_{R = 100\mu A}$
Forward Voltage Drop	V_F	—	280 360 470 580	— — 550 800	mV	I_F = 1.0mA I_F = 15mA I_F = 50mA I_F = 100mA
Reverse Current (Note 3)	I_R	—	—	1.0	μA	V_R = 25V
Total Capacitance	C_T	—	7	15	pF	V_R = 10V, f = 1.0 MHz

Notes:
1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Short duration pulse test used to minimize self-heating effect.

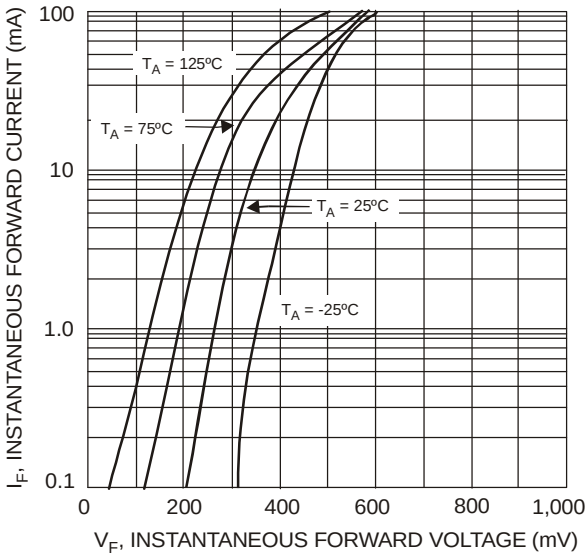


Fig. 1 Typical Forward Characteristics

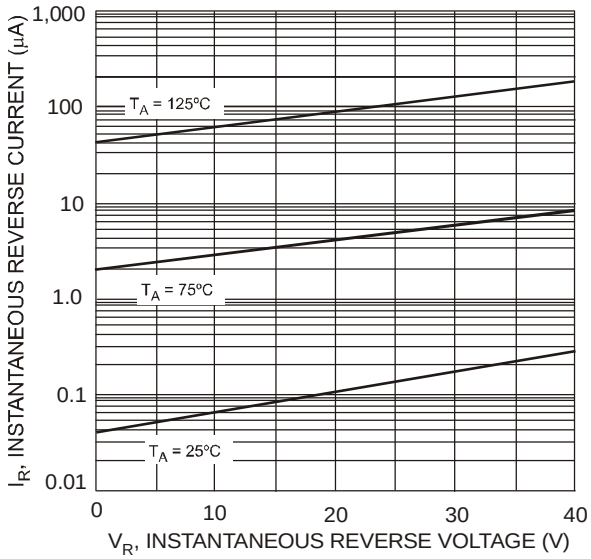


Fig. 2 Typical Reverse Characteristics

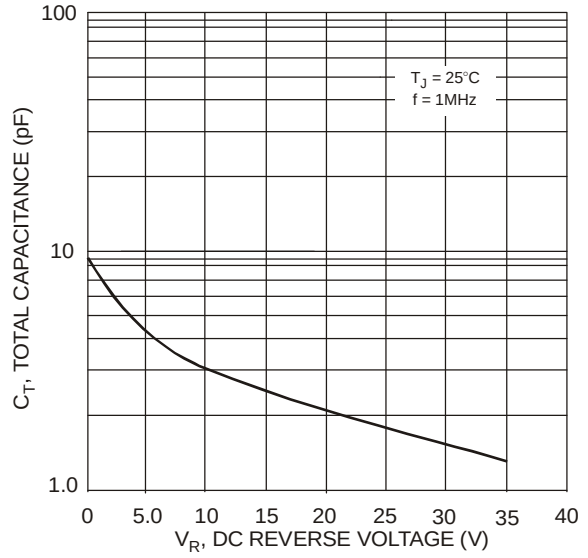


Fig. 3 Total Capacitance vs. Reverse Voltage

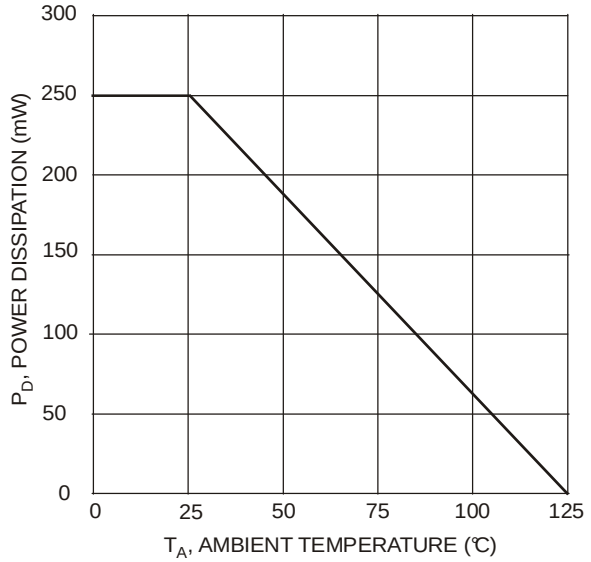


Fig. 4 Power Derating Curve

Ordering Information (Note 4)

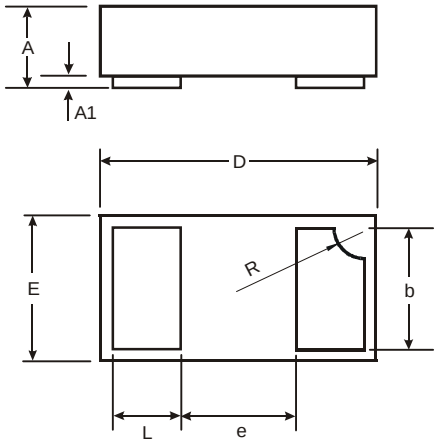
Part Number	Case	Packaging
SDM10U45LP-7	DFN1006-2	3000/Tape & Reel

Notes: 4. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

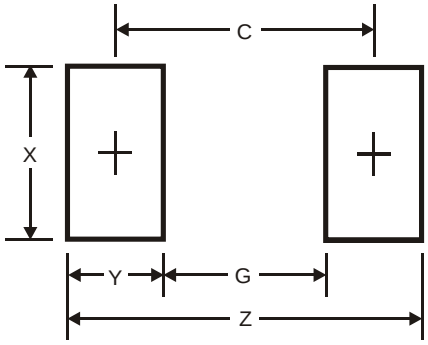
LJ = Product Type Marking Code, Dot Denotes Cathode Side

Package Outline Dimensions



DFN1006-2			
Dim	**Min**	**Max**	**Typ**
A	0.47	0.53	0.50
A1	0	0.05	0.03
b	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	-	-	0.40
L	0.20	0.30	0.25
R	0.05	0.15	0.10
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.1
G	0.3
X	0.7
Y	0.4
C	0.7