



SDM10U45

SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Ideal for Low Logic Level Applications
- Low Capacitance
- Lead Free By Design/RoHS Compliant (Note 1)
- Qualified to AEC-Q101 Standards for High Reliability
- "Green" Device, Notes 4 and 5

Mechanical Data

- Case: SOD-523
- Case Material: Molded Plastic, "Green" Molding Compound, • Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D •
- **Terminal Connections: Cathode Band**
- Terminals: Finish Matte Tin annealed over Alloy 42 • leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)



Top View

Maximum Ratings $@T_A = 25^{\circ}C$ 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	Ι _Ο	100	mA	
Maximum (Peak) Forward Current	I _{FM}	300	mA	
Non-Repetitive Peak Forward Surge Current $@ t \le 10ms$	I _{FSM}	1	A	

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	PD	150	mW
Thermal Resistance, Ambient Air (Note 2)	$R_{ extsf{ heta}JA}$	667	°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	Тур	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	V _{(BR)R}	30	_		V	I _R = 100μA
Forward Voltage Drop	VF		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	CT	_	4	15	pF	V _R = 10V, f = 1.0 MHz

Notes: 1. No purposefully added lead.

Part mounted on FR-4 board with recommended pad layout, which can be found on our website at

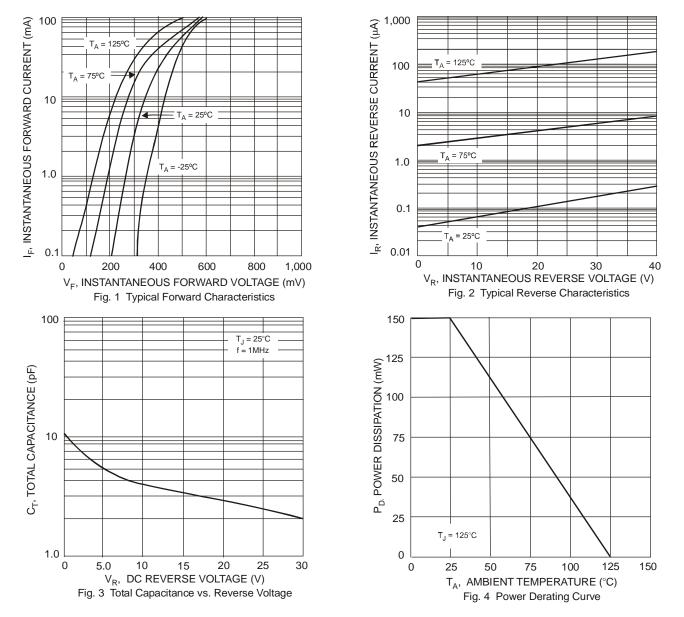
http://www.diodes.com/datasheets/ap02001.pdf. @ $T_A = 25^{\circ}C$. 3. Short duration pulse test used so as to minimize self-heating effect.

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Diodes Inc.'s "Green" Policy can be found on our website at http://www.diodes.com/products/lead_free/index.php. Product manufactured with date code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to date 5. code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.



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Ordering Information (Note 5 & 6)

Part Number	Case	Packaging
SDM10U45-7 (Note 7)	SOD-523	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf. 7. Dispensed in every other cavity of the tape.

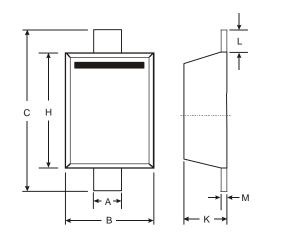
Marking Information





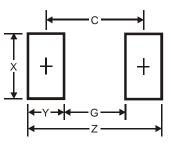
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Package Outline Dimensions



SOD-523				
Dim	Min	Max		
Α	0.25	0.35		
в	0.70	0.90		
С	1.50	1.70		
Н	1.10	1.30		
κ	0.55	0.70		
L	0.10	0.30		
Μ	0.10	0.20		
All Dimensions in mm				

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.3
G	1.1
Х	0.8
Y	0.6
C	1.7

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