



SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

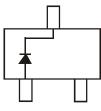
- Ultra-Small Surface Mount Package
- Low Forward Voltage Drop
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability
- "Green" Device (Notes 4 and 5)

Mechanical Data

- Case: SOT-523
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.002 grams (approximate)



Top View



Device Schematics

Maximum Ratings $@T_A = 25^{\circ}C$ unless otherwise specified

Characteristic		Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage		V _{RRM} V _{RWM} VR	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	А

Thermal Characteristics

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 1)	PD	120	mW
Thermal Resistance Junction to Ambient Air	(Note 1)	$R_{ ext{ heta}JA}$	833	°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 Condition	
Reverse Breakdown Voltage	(Note 2)	V _{(BR)R}	45	_	_		I _R = 100μA
Forward Voltage		VF		370 470	450 600	mV	I _F = 10mA I _F = 50mA
Reverse Leakage Current	(Note 2)	I _R		0.07	1.0	μA	V _R = 10V
Total Capacitance		CT	_	6.0		pF	V _R = 10V, f = 1.0MHz

Notes: 1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at

http://www.diodes.com/datasheets/ap02001.pdf.

Short duration pulse test used to minimize self-heating effect. 2.

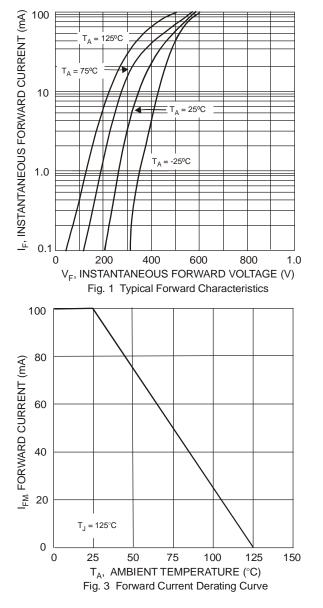
3. No purposefully added lead.

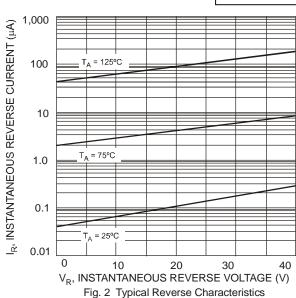
4.

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 UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date 5. Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.







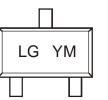


Ordering Information (Note 6)

Part Number	Case	Packaging
SDM10P45-7-F	SOT-523	3000/Tape & Reel

Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

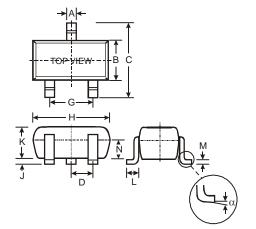


LG = Product Type Marking Code YM = Date Code Marking Y =Year (ex: T = 2006) M = Month (ex: 9 = September)

Date Code K	Key													
Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	Ν	Р	R	S	Т	U	V	W	Х	Y	Z	А	В	С
Month	Jan	Feb	M	ar	Apr	Мау	Jun	Jul	Aug	Se	ep (Oct	Nov	Dec
Code	1	2	3	3	4	5	6	7	8	9)	0	Ν	D

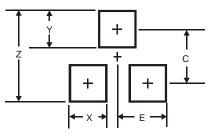


Package Outline Dimensions



SOT-523							
Dim	Min	Max	Тур				
Α	0.15	0.30	0.22				
В	0.75	0.85	0.80				
С	1.45	1.75	1.60				
D	_	_	0.50				
G	0.90	1.10	1.00				
Н	1.50	1.70	1.60				
J	0.00	0.10	0.05				
κ	0.60	0.80	0.75				
L	0.10	0.30	0.22				
М	0.10	0.20	0.12				
Ν	0.45	0.65	0.50				
α	0°	8°	_				
All	All Dimensions in mm						

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.8
Х	0.4
Y	0.51
С	1.3
E	0.7

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