

DUAL SURFACE MOUNT SCHOTTKY BARRIER DIODE

Features

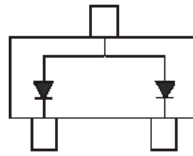
- Low Forward Voltage Drop
- Common Anode Configuration
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/104/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative.**
<https://www.diodes.com/quality/product-definitions/>

Mechanical Data

- Package: SOT23
- Package Material: Molded Plastic. "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish – Matte Tin Plated Leads, Solderable per MIL-STD-202, Method 208 (E3)
- Weight: 0.008 grams (Approximate)



Top View



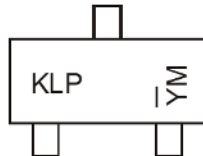
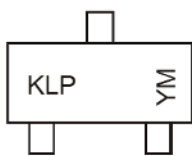
Diagram

Ordering Information (Note 4)

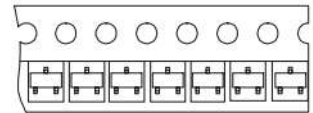
Part Number	Package	Packing	
		Qty.	Carrier
SDM20N40A-7	SOT23 (Standard)	3000	Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

Marking Information



KLP = Product Type Marking Code
 YM & Y̅M = Date Code Marking
 Y & Y̅ = Year (ex: J = 2022)
 M = Month ex: (9 = September)



Date Code Key

Year	2004	...	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Code	R	...	J	K	L	M	N	O	P	R	S	T

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

Maximum Ratings @T_A = +25°C, unless otherwise specified.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse Voltage	V _{RWM}		
DC Blocking Voltage	V _R		
RMS Reverse Voltage	V _{R(RMS)}	28	V
Forward Continuous Current, Per Element	I _{FM}	200	mA
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	1	A

Thermal Characteristics @T_A = +25°C, unless otherwise specified.

Characteristic	Symbol	Value	Unit
Typical Power Dissipation (Note 5)	P _D	200	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 5)	R _{θJA}	500	°C/W
Junction Temperature Range	T _J	-65 to +125	°C
Storage Temperature Range	T _{STG}	-65 to +150	°C

Electrical Characteristics @T_A = +25°C, unless otherwise specified.

Characteristic	Symbol	Min	Typ.	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	V _{(BR)R}	40	—	—	V	I _R = 500μA
Forward Voltage (Note 6)	V _F	—	—	300	mV	I _F = 10mA
		—	—	420		I _F = 100mA
		—	—	550		I _F = 200mA
Leakage Current (Note 6)	I _R	—	—	15	μA	V _R = 30V
		—	—	3		mA
Total Capacitance	C _T	—	23	50	pF	V _R = 0V, f = 1.0MHz

- Notes:
5. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com/package-outlines.html>.
 6. Short duration pulse test used to minimize self-heating effect.

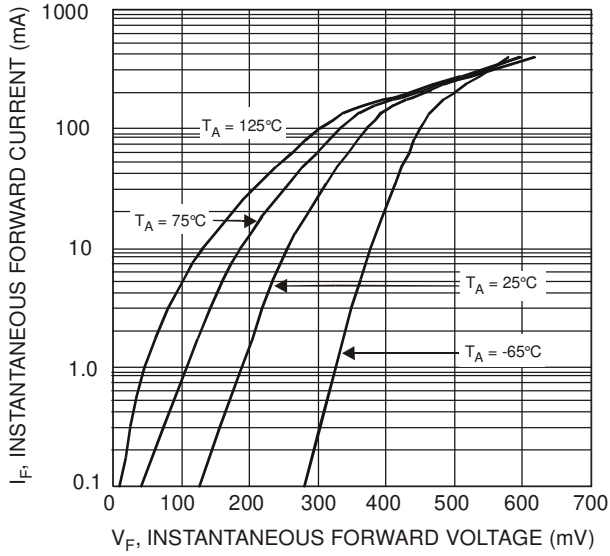


Fig. 1 Typical Forward Characteristics

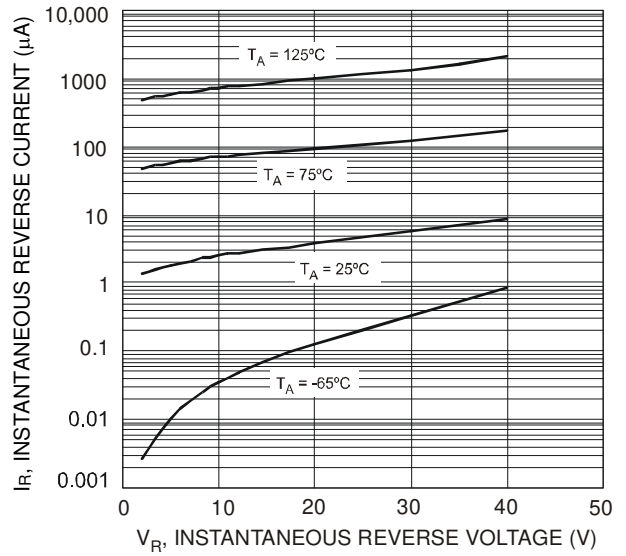


Fig. 2 Typical Reverse Characteristics, per element

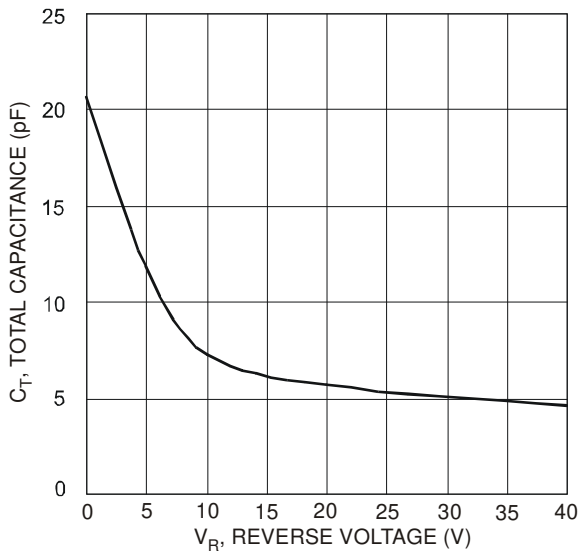


Fig. 3 Typical Total Capacitance

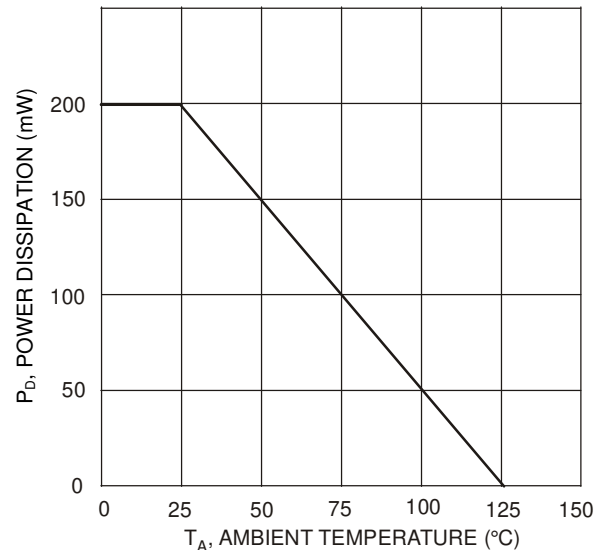
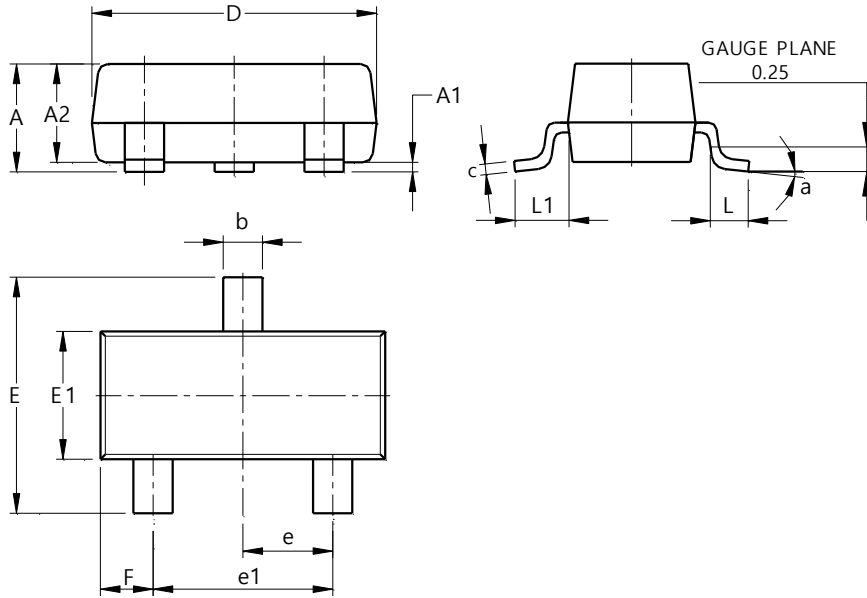


Fig. 4 Power Derating Curve

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23 (Standard)

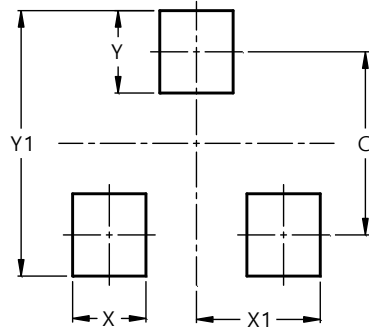


SOT23 (Standard)			
Dim	Min	Max	Typ
A	0.90	1.15	1.025
A1	0.00	0.10	0.05
A2	0.85	1.10	0.975
b	0.30	0.51	0.40
c	0.080	0.202	0.11
D	2.80	3.00	2.90
E	2.25	2.55	2.40
E1	1.20	1.40	1.30
e	0.89	1.03	0.915
e1	1.78	2.05	1.83
F	0.40	0.60	0.535
L1	0.45	0.61	0.55
L	0.25	0.55	0.40
a	0°	8°	--
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT23 (Standard)



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9

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