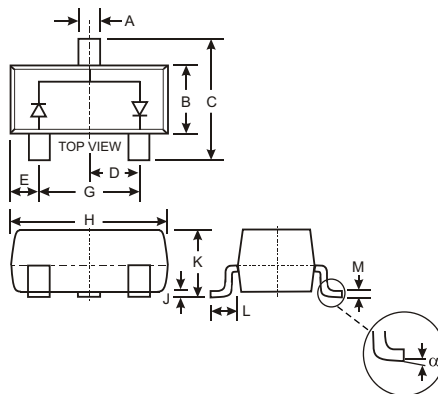


Features

- Very Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- High Conductance

Mechanical Data

- Case: SOT-23, Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Polarity: See Diagram
- Leads: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 5, on Page 3
- Marking: Date Code and Type Code
- Type Code: KSW
- Weight: 0.004 grams (approx.)
- Ordering Information: See Page 3



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

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

Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	20	V
RMS Reverse Voltage	$V_{R(RMS)}$	14	V
Forward Continuous Current (Note 1)	I_{FM}	0.4	A
Non-Repetitive Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	2	A
Power Dissipation (Note 1)	P_d	225	mW
Typical Thermal Resistance Junction to Ambient (Note 1)	$R_{\theta JA}$	444	$^\circ\text{C/W}$
Power Dissipation (Note 2)	P_d	300	mW
Typical Thermal Resistance Junction to Ambient (Note 2)	$R_{\theta JA}$	333	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +125	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
Reverse Breakdown Voltage (Note 3)	$V_{(BR)R}$	20	—	—	V	$I_R = 0.5\text{mA}$
Forward Voltage Drop	V_F	—	—	0.310 0.430	V	$I_F = 0.1\text{A}$ $I_F = 0.5\text{A}$
Leakage Current (Note 3)	I_R	—	—	100 250	μA	$V_R = 10\text{V}$ $V_R = 20\text{V}$
Total Capacitance	C_T	—	170	—	pF	$f = 1\text{MHz}, V_r = 0\text{VDC}$

- Notes:
1. Device mounted on FR-5 1.0 x 0.75 x 0.062 inch PCB 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. Device mounted on Alumina PCB, 0.4 inch x 0.3 inch x 0.024 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 3. Short duration test pulse used to minimize self-heating effect.

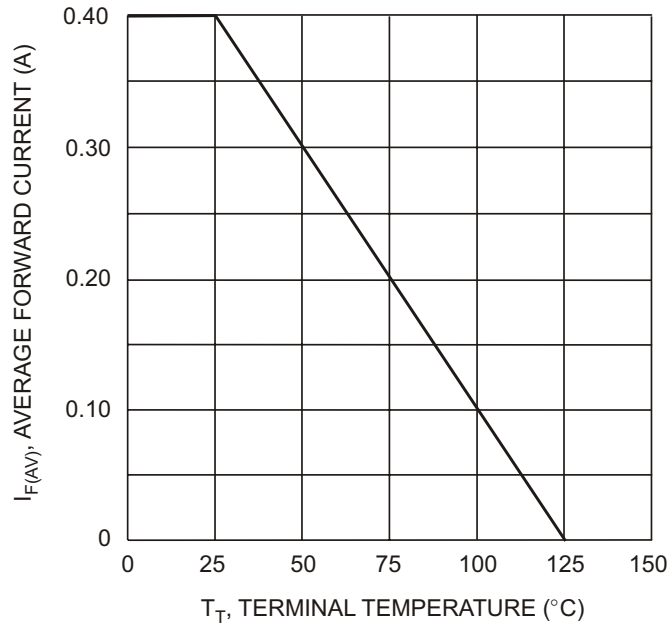


Fig. 1 Forward Current Derating Curve, Per Element

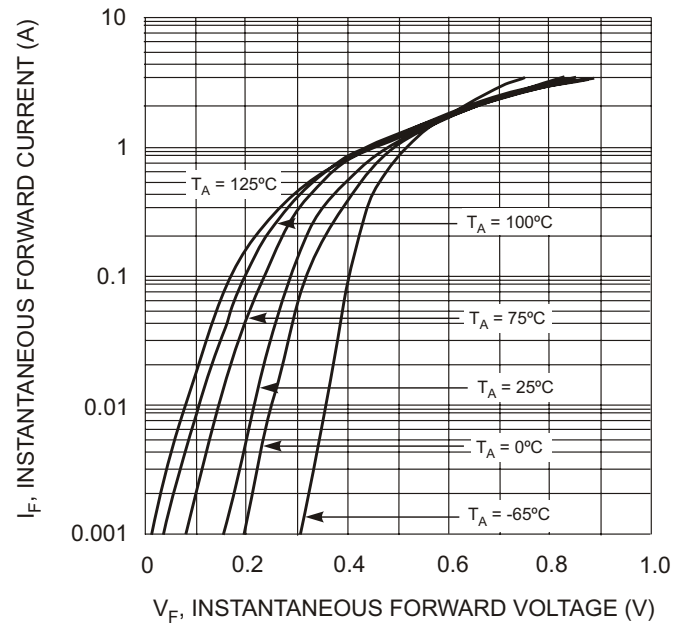


Fig. 2 Typical Forward Characteristics, Per Element

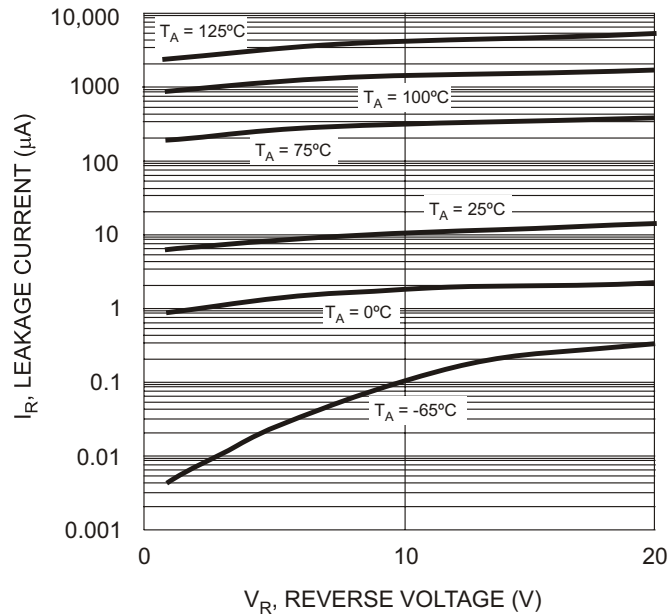


Fig. 3 Typical Reverse Characteristics, Per Element

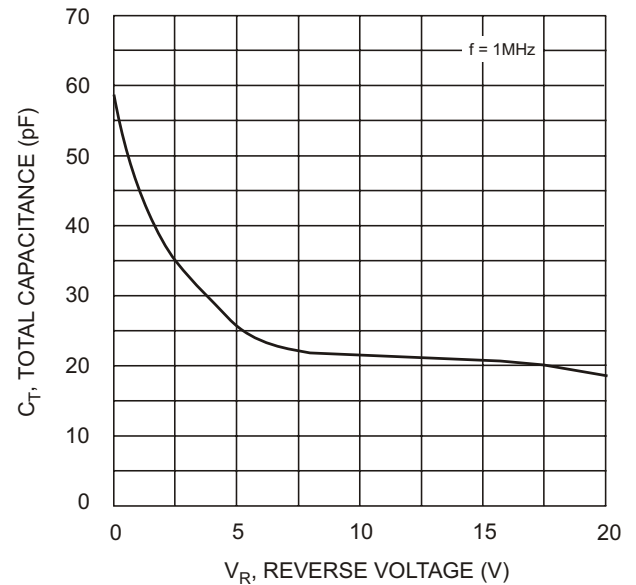


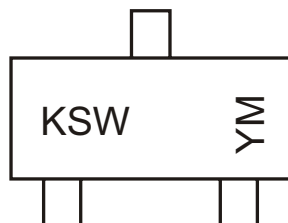
Fig. 4 Typ. Total Capacitance vs Reverse Voltage, Per Element

Ordering Information (Note 4)

Device	Packaging	Shipping
SDM40E20LS-7	SOT-23	3000/Tape & Reel

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
5. For Lead Free terminal plating part number, please add "-F" suffix to part number above.
Example: SDM40E20LS-7-F.

Marking Information



KSW = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: N = 2002
M = Month ex: 9 = September

Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009
Code	M	N	P	R	S	T	U	V	W

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