

DUAL SURFACE MOUNT SCHOTTKY BARRIER DIODE
Features

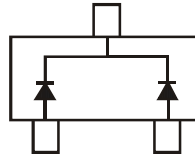
- Low Forward Voltage Drop
- Common Cathode Configuration
- **Lead Free/RoHS Compliant (Note 2)**
- **"Green" Device, (Note 4 and 5)**



Top View

Mechanical Data

- Case: SC-59
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. 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 Copper leadframe).
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	40	V
RMS Reverse Voltage	V _{R(RMS)}	28	V
Forward Continuous Current (Note 1)	I _{FM}	0.4	A
Non-Repetitive Peak Forward Surge Current @ t = 8.3ms	I _{FSM}	2	A

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _D	400	mW
Operating Temperature Range	T _{OP}	-30 to +85	°C
Junction Temperature Range	T _J	-30 to +125	°C
Storage Temperature Range	T _{STG}	-40 to +125	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 3)	V _{(BR)R}	40	—	—	V	I _R = 500μA
Forward Voltage	V _F	—	—	300 500	mV	I _F = 10mA I _F = 200mA
Leakage Current (Note 3)	I _R	—	—	70	μA	V _R = 25V
Total Capacitance	C _T	—	—	100	pF	V _R = 0V, f = 1.0MHz

- Notes:
1. Mounted on FR4 PC Board with recommended pad layout which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. No purposefully added lead.
 3. Short duration pulse test used to minimize self-heating effect.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Product manufactured with Date Code 0627 (week 27, 2006) and newer are built with Green Molding Compound. Product manufactured prior to Date Code 0627 are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

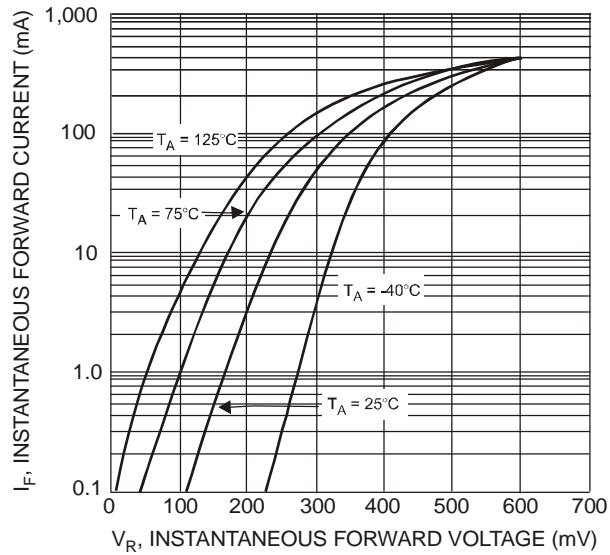


Fig. 1 Typical Forward Characteristics

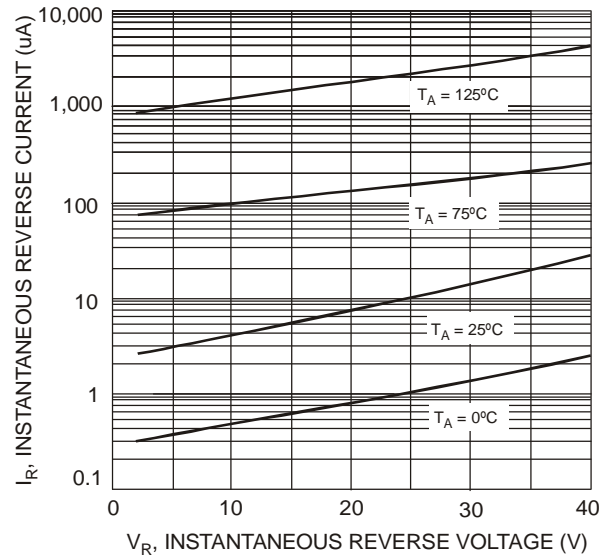


Fig. 2 Typical Reverse Characteristics

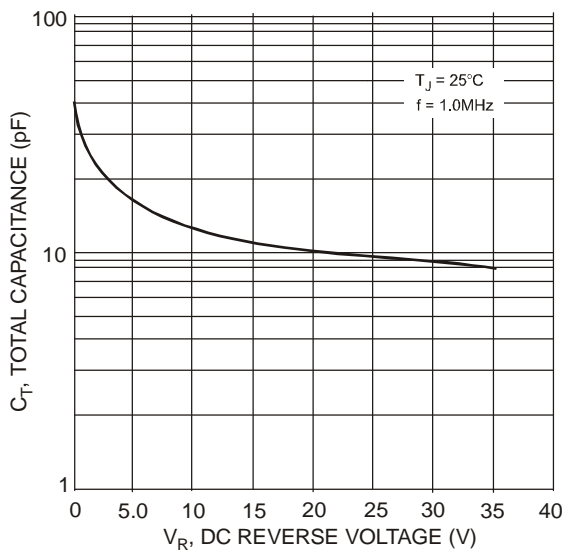


Fig. 3 Total Capacitance vs. Reverse Voltage

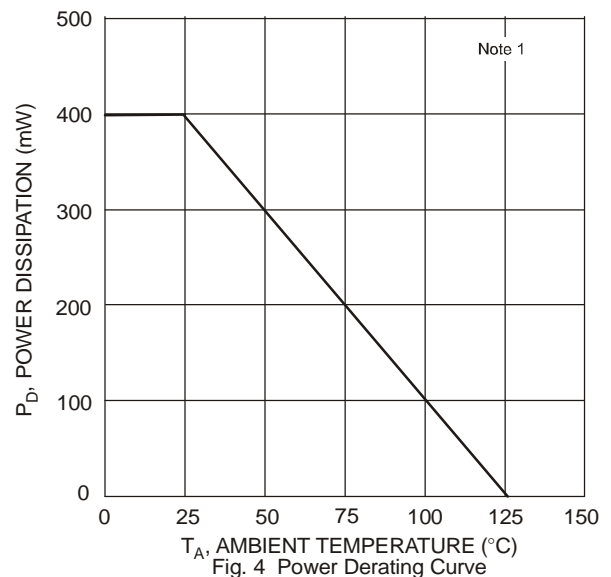


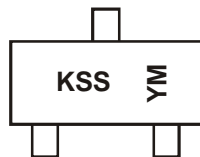
Fig. 4 Power Derating Curve

Ordering Information (Notes 5 and 6)

Part Number	Case	Packaging
SDM20E40C-7-F	SC-59	3000/Tape & Reel

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

Marking Information



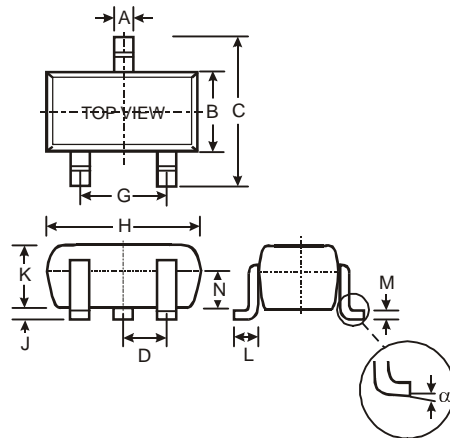
KSS = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	N	P	R	S	T	U	V	W	X	Y	Z	A	B	C

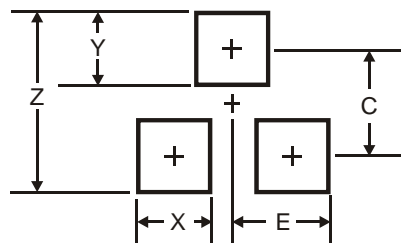
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SC-59			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	-	-	0.95
G	-	-	1.90
H	2.90	3.10	3.00
J	0.013	0.10	0.05
K	1.00	1.30	1.10
L	0.35	0.55	0.40
M	0.10	0.20	0.15
N	0.70	0.80	0.75
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	3.4
X	0.8
Y	1.0
C	2.4
E	1.35

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