

#### SURFACE MOUNT SCHOTTKY BARRIER DIODE

## **Features**

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for low logic level applications
- Low Capacitance
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device, Note 4 and 5

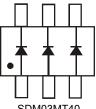
# **Mechanical Data**

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity: See Diagram
- Leads: Matte Tin (Lead Free), Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Copper leadframe).
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.016 grams (approximate)

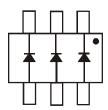




Top View



SDM03MT40
Device Schematic



SDM03MT40A Device Schematic

# Maximum Ratings @TA = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	٧
RMS Reverse Voltage	V <sub>R(RMS)</sub>	28	V
Forward Continuous Current (Note 2)	I <sub>FM</sub>	30	mA
Non-Repetitive Peak Forward Surge Current @8.3ms Single half sine-wave superimposed on rated load (JEDEDC method)	I <sub>FSM</sub>	200	mA

### Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 2)	P <sub>D</sub>	225	mW
Thermal Resistance, Junction to Ambient Air	$R_{ hetaJA}$	444	°C/W
Operating and Storage Temperature Range	T <sub>J,</sub> T <sub>STG</sub>	-40 to +125	°C

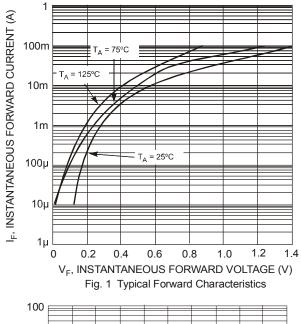
## Electrical Characteristics @TA = 25°C unless otherwise specified

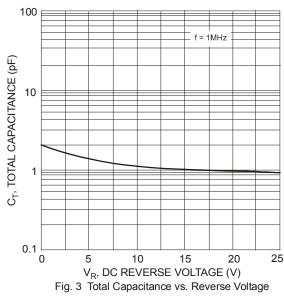
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	40			V	$I_R = 10uA$
Forward Voltage Drop (Note 1)	$V_{F}$	_	_	370	mV	I <sub>F</sub> = 1mA
Leakage Current (Note 1)	$I_R$	_	_	1	μΑ	V <sub>R</sub> = 10V
Total Capacitance	C <sub>T</sub>	_	2		pF	$V_R = 1V f = 1.0 MHz$

Notes:

- 1. Short duration pulse test used to minimize self-heating effect.
- 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.
- 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.
- 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.
- 6. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).







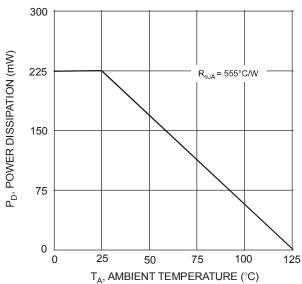
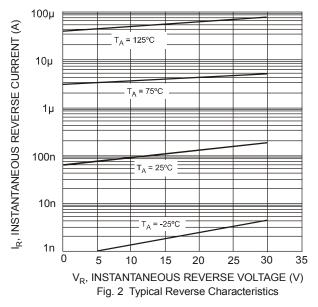


Fig. 5 Power Derating Curve



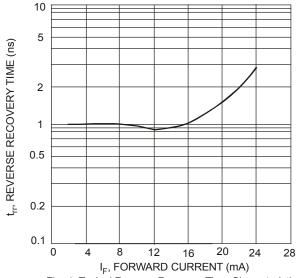


Fig. 4 Typical Reverse Recovery Time Characteristics

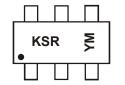


## Ordering Information (Notes 4 & 7)

Part Number	Case	Packaging
SDM03MT40-7-F	SOT-26	3000/Tape & Reel
SDM03MT40A-7-F	SOT-26	3000/Tape & Reel

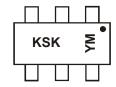
Notes: 7. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



KSR = SDM03MT40 Product Type Marking Code (See Note 6) YM = Date Code Marking

Y = Year ex: T = 2006 M = Month ex: 9 = September



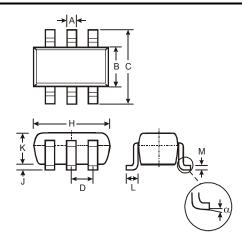
KSK = SDM03MT40A Product Type
Marking Code (See Note 6)

YM = Date Code Marking Y = Year ex: T = 2006 M = Month ex: 9 = September

Date Code Key
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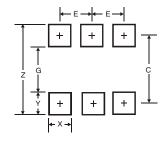
Year	2006	2007	20	08	2009	2010	2011	2012	2 20	013	2014	2015
Code	Т	U	١	/	W	Χ	Y	Z		A	В	С
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D

## **Package Outline Dimensions**



SOT-26						
Dim	Min	Max	Тур			
Α	0.35	0.50	0.38			
В	1.50	1.70	1.60			
O	2.70	3.00	2.80			
D	_		0.95			
Н	2.90	3.10	3.00			
7	0.013	0.10	0.05			
K	1.00	1.30	1.10			
١	0.35	0.55	0.40			
M	0.10	0.20	0.15			
α	0°	8°	_			
All D	All Dimensions in mm					

# **Suggested Pad Layout**



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Υ	0.80
С	2.40
E	0.95

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