

## Product Summary

<b>V<sub>RRM</sub> (V)</b>	<b>I<sub>O</sub> (mA)</b>	<b>V<sub>Fmax</sub> (V)</b>	<b>I<sub>Rmax</sub> (μA)</b>
40	30	0.37	1

## Description

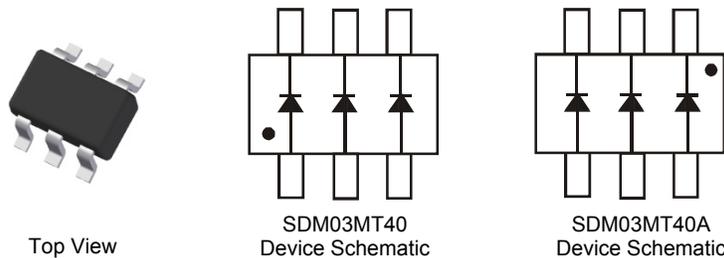
30mA Surface Mount Schottky Barrier Diode in SOT-26 package, offers low capacitance and low forward voltage drop, designed with Guard Ring for Transient Protection. Ideal for low logic level applications.

## Features and Benefits

- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for low logic level applications
- Low Capacitance
- **Totally Lead-Free & Fully RoHS Compliant (Note 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

- Case: SOT26
- 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).
- Weight: 0.016 grams (approximate)

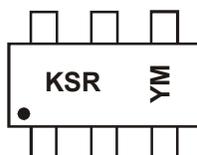


## Ordering Information (Note 4)

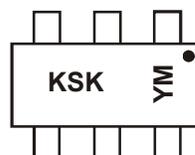
Part Number	Case	Packaging
SDM03MT40-7-F	SOT26	3000/Tape & Reel
SDM03MT40A-7-F	SOT26	3000/Tape & Reel

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
  2. See [http://www.diodes.com/quality/lead\\_free.html](http://www.diodes.com/quality/lead_free.html) 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 <http://www.diodes.com/products/packages.html>

## Marking Information



KSR = SDM03MT40 Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: A = 2013  
 M = Month ex: 9 = September



KSK = SDM03MT40A Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: A = 2013  
 M = Month ex: 9 = September

### Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015		
Code	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

**Maximum Ratings** (@ $T_A = +25^\circ\text{C}$ , 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 6)	$I_{FM}$	30	mA
Non-Repetitive Peak Forward Surge Current @8.3ms Single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	200	mA

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 5)	$P_D$	225	mW
Thermal Resistance, Junction to Ambient Air	$R_{\theta JA}$	444	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-40 to +125	$^\circ\text{C}$

**Electrical Characteristics** (@ $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	40	—	—	V	$I_R = 10\mu\text{A}$
Forward Voltage Drop (Note 6)	$V_F$	—	—	370	mV	$I_F = 1\text{mA}$
Leakage Current (Note 6)	$I_R$	—	—	1	$\mu\text{A}$	$V_R = 10\text{V}$
Total Capacitance	$C_T$	—	2	—	pF	$V_R = 1\text{V}$ $f = 1.0\text{MHz}$

- Notes:
- 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.

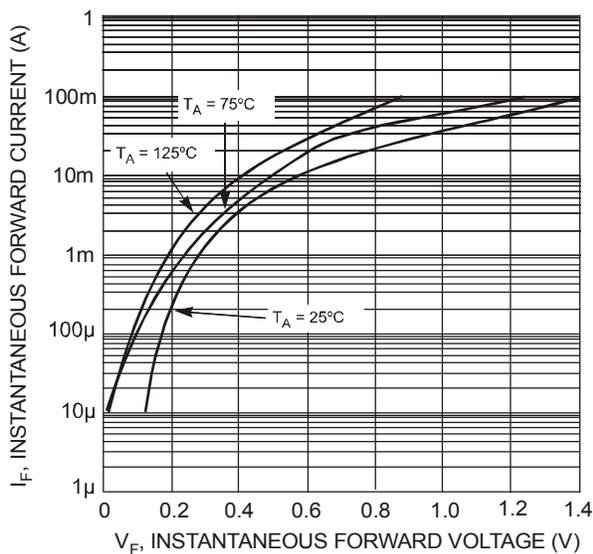


Fig. 1 Typical Forward Characteristics

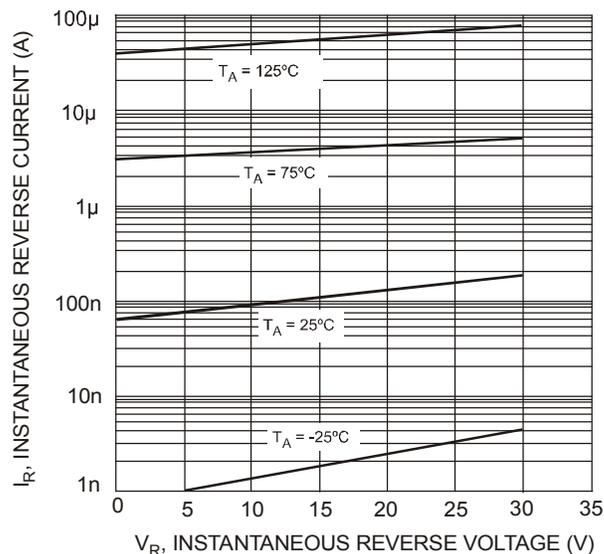


Fig. 2 Typical Reverse Characteristics

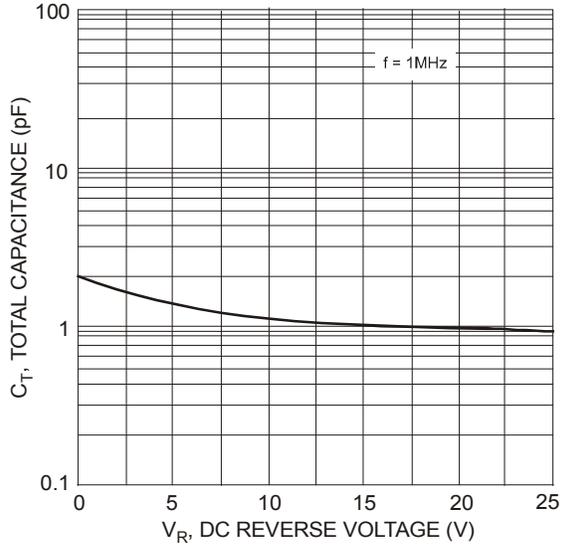


Fig. 3 Total Capacitance vs. Reverse Voltage

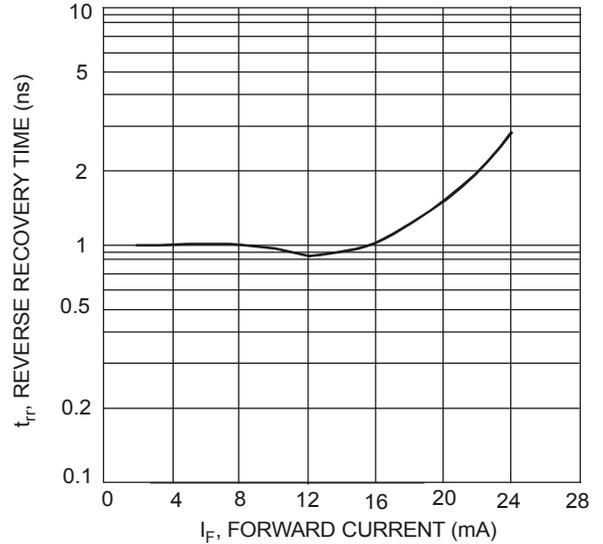


Fig. 4 Typical Reverse Recovery Time Characteristics

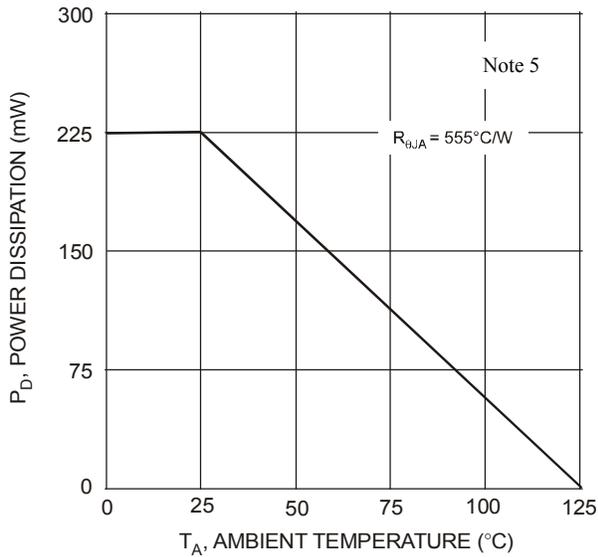
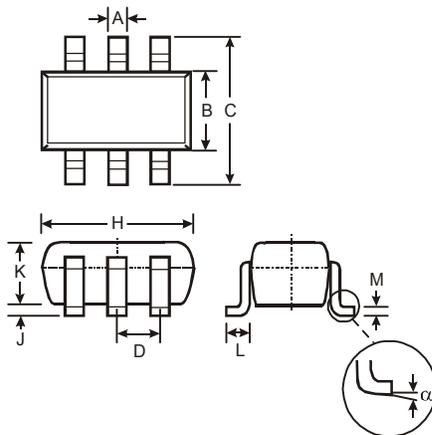


Fig. 5 Power Derating Curve

**Package Outline Dimensions**

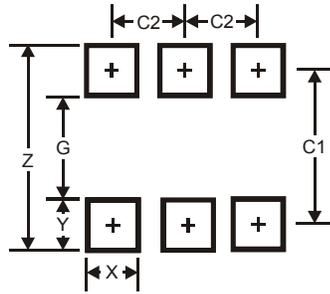
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT26			
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
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
α	0°	8°	—
<b>All Dimensions in mm</b>			

## Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C1	2.40
C2	0.95

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  - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
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