

## 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

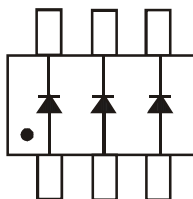
- Low Forward Voltage Drop
- Guard Ring Die Construction for Transient Protection
- Ideal for low logic level applications
- Low Capacitance
- **Totally Lead-Free & Fully RoHS Compliant (Note 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

## Mechanical Data

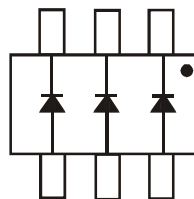
- Case: SOT26
- Case Material: Molded Plastic, "Green" Molding Compound, Note 5. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity: See Diagram
- Leads: Matte Tin (Lead Free), Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Copper leadframe).
- Weight: 0.016 grams (approximate)



Top View



SDM03MT40  
Device Schematic



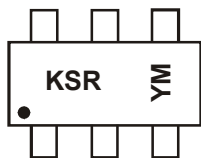
SDM03MT40A  
Device Schematic

## Ordering Information (Note 4)

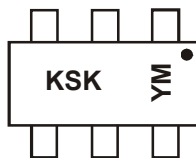
Part Number	Case	Packaging
SDM03MT40-7-F	SOT26	3000/Tape & Reel
SDM03MT40A-7-F	SOT26	3000/Tape & Reel

- 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	$^\circ\text{C/W}$
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.

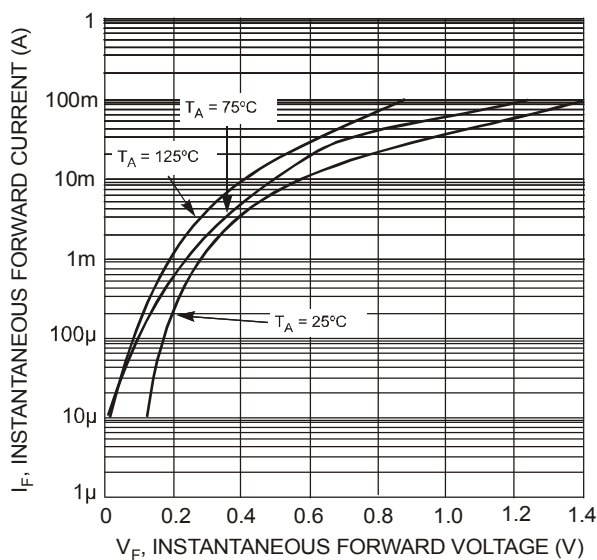


Fig. 1 Typical Forward Characteristics

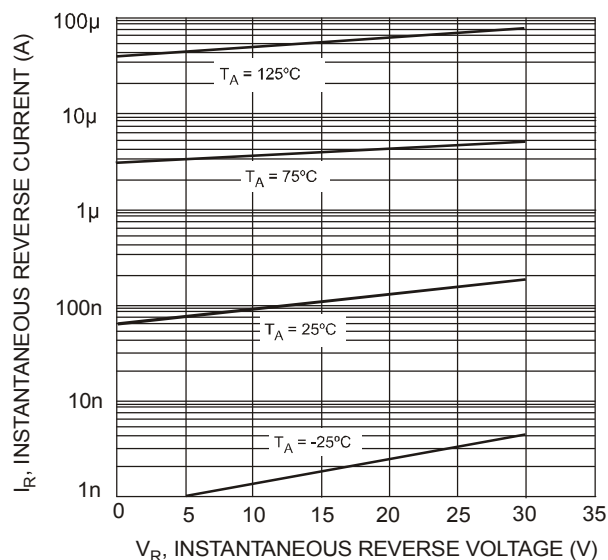


Fig. 2 Typical Reverse Characteristics

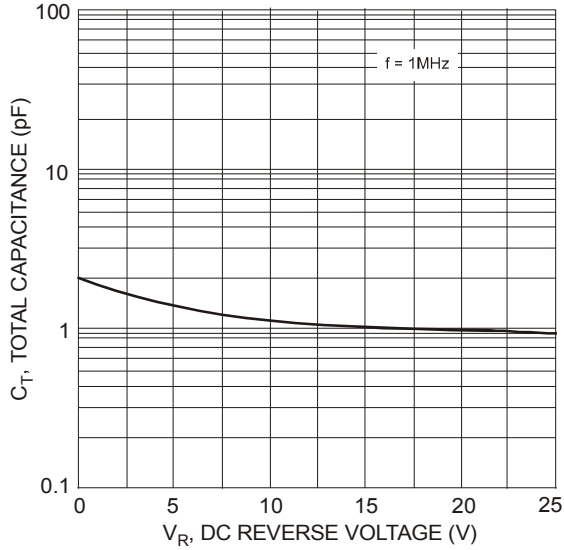


Fig. 3 Total Capacitance vs. Reverse Voltage

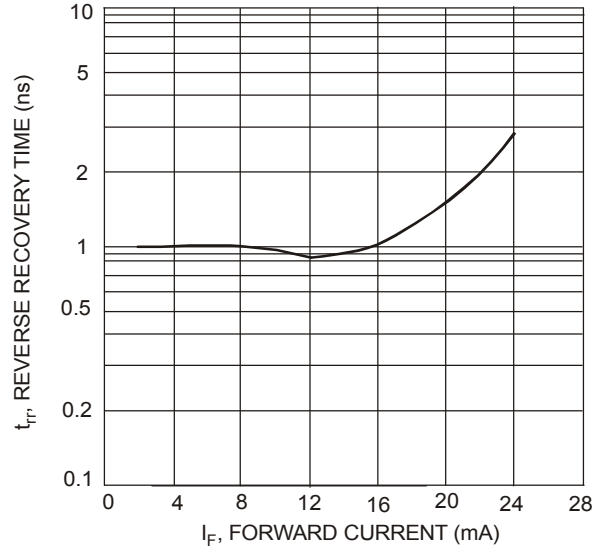


Fig. 4 Typical Reverse Recovery Time Characteristics

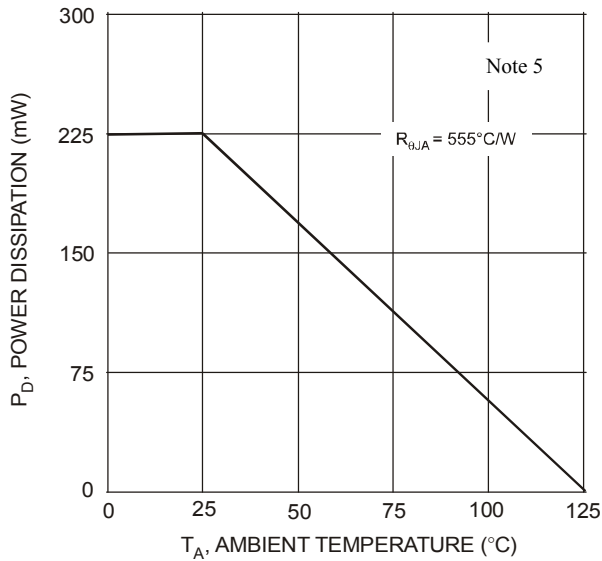
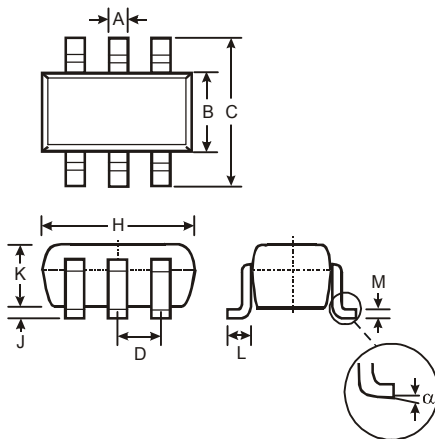


Fig. 5 Power Derating Curve

**Package Outline Dimensions**

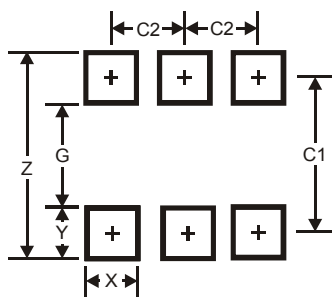
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



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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