

Product Summary

| | | | |
|----------------------------|---------------------------|-----------------------------|------------------------------|
| V_{RRM} (V) | I_O (mA) | V_{Fmax} (V) | I_{Rmax} (μA) |
| 40 | 30 | 0.37 | 1 |

Description

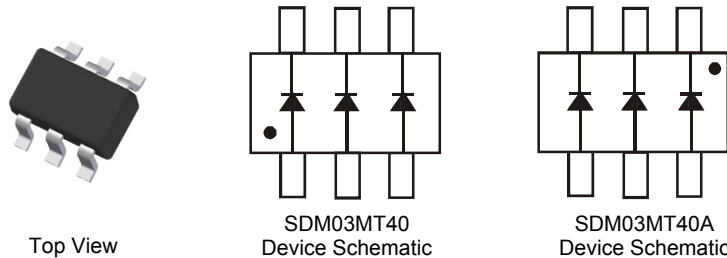
30mA Surface Mount Schottky Barrier Diode in SOT-26 package, offers low capacitance and low forward voltage drop, designed with Guard Ring for Transient Protection. Ideal for low logic level applications.

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)

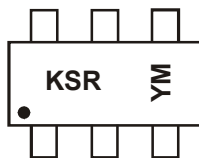


Ordering Information (Note 4)

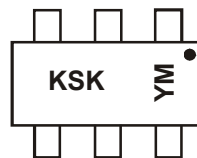
| Part Number | Case | Packaging |
|----------------|-------|------------------|
| SDM03MT40-7-F | SOT26 | 3000/Tape & Reel |
| SDM03MT40A-7-F | SOT26 | 3000/Tape & Reel |

- 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 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°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 _{θJA} | 444 | °C/W |
| Operating and Storage Temperature Range | T _J , 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 6) | V _{(BR)R} | 40 | — | — | V | I _R = 10μA |
| Forward Voltage Drop (Note 6) | V _F | — | — | 370 | mV | I _F = 1mA |
| Leakage Current (Note 6) | I _R | — | — | 1 | μA | V _R = 10V |
| Total Capacitance | C _T | — | 2 | — | pF | V _R = 1V f = 1.0 MHz |

- Notes: 5. 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>
6. Short duration pulse test used to minimize self-heating effect.

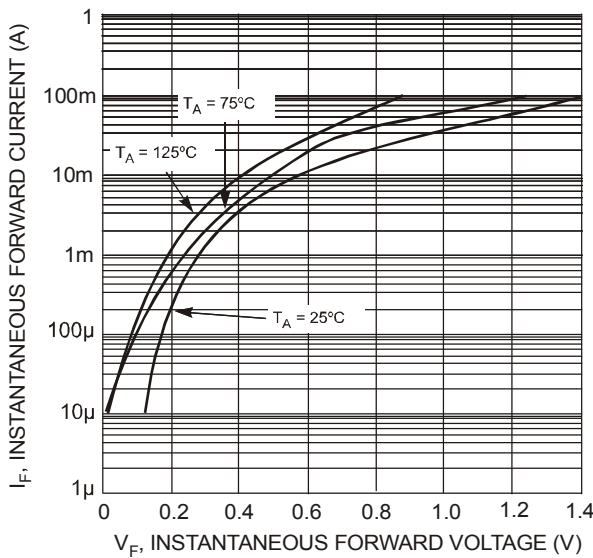


Fig. 1 Typical Forward Characteristics

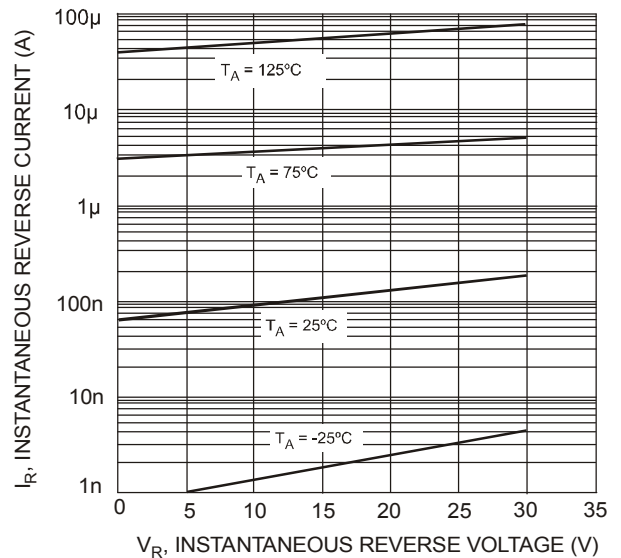


Fig. 2 Typical Reverse Characteristics

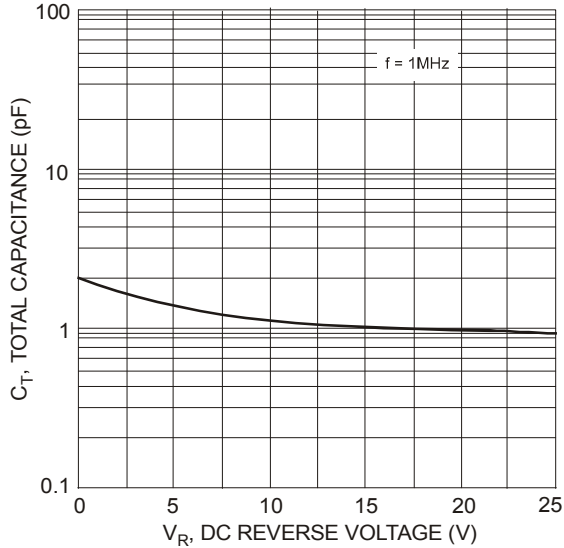


Fig. 3 Total Capacitance vs. Reverse Voltage

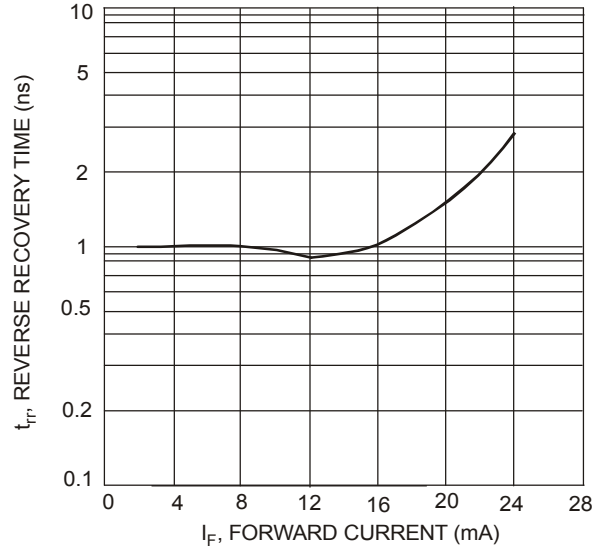


Fig. 4 Typical Reverse Recovery Time Characteristics

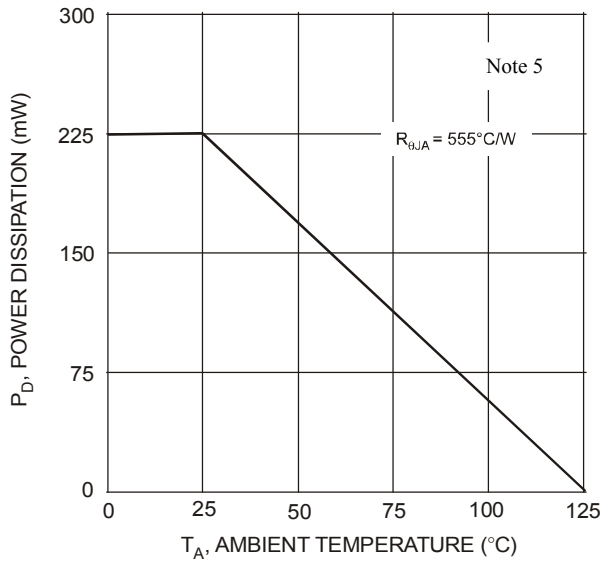
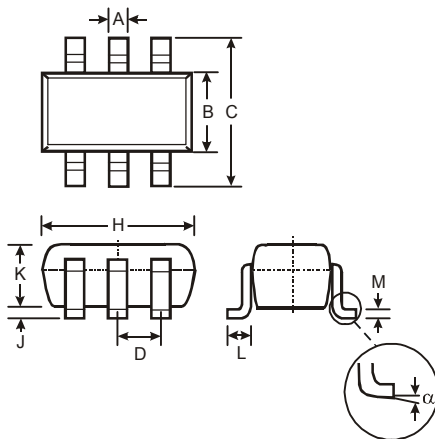


Fig. 5 Power Derating Curve

Package Outline Dimensions

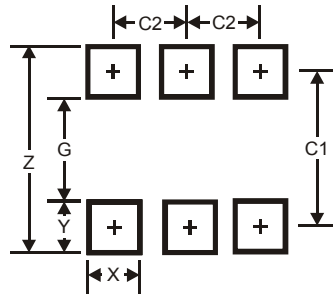
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



| 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° | — |
| All Dimensions in mm | | | |

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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