

SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAY
Features

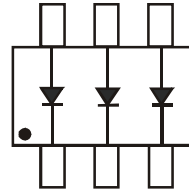
- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Fast Switching
- Low Leakage Current
- Three Fully Isolated Schottky Diodes
- **Lead Free/RoHS Compliant (Note 3)**
- **"Green" Device (Note 5 and 6)**



Top View

Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Polarity: See Diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)



Device Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------|------|
| Peak Repetitive Reverse Voltage | V _{RRM} | 40 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 28 | V |
| Forward Continuous Current (Note 1) | I _{FM} | 350 | mA |
| Average Rectified Current (Note 1) | I _O | 175 | mA |
| Non-Repetitive Peak Forward Surge Current (Note 1) @ t ≤ 10ms | I _{FSM} | 1.0 | A |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Power Dissipation (Note 4) | P _D | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 4) | R _{θJA} | 500 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -55 to +125 | °C |

Electrical Characteristics @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|------|------|------|--|
| Reverse Breakdown Voltage (Note 2) | V _{(BR)R} | 40 | — | — | V | I _{RS} = 100μA (pulsed) |
| Forward Voltage Drop | V _F | — | 0.27 | — | V | I _F = 1mA |
| | | — | 0.32 | — | V | I _F = 5mA |
| | | — | 0.36 | 0.37 | V | I _F = 20mA |
| | | — | 0.44 | 0.50 | V | I _F = 100mA |
| Reverse Current (Note 2) | I _R | — | 0.2 | 2.0 | μA | V _R = 10V |
| | | — | 0.4 | 5.0 | μA | V _R = 30V |
| Total Capacitance | C _T | — | 50 | — | pF | V _R = 0V, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 10 | — | ns | I _F = I _R = 200mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

- Notes:
1. This is the maximum rating of single Diode (D₁ or D₂ or D₃). In the case of using two or three diodes, the maximum ratings per diode are 75% of the ratings for single diode operation.
 2. Short duration pulse test used to minimize self-heating effect.
 3. No purposefully added lead.
 4. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 5. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 6. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb₂O₃ Fire Retardants.

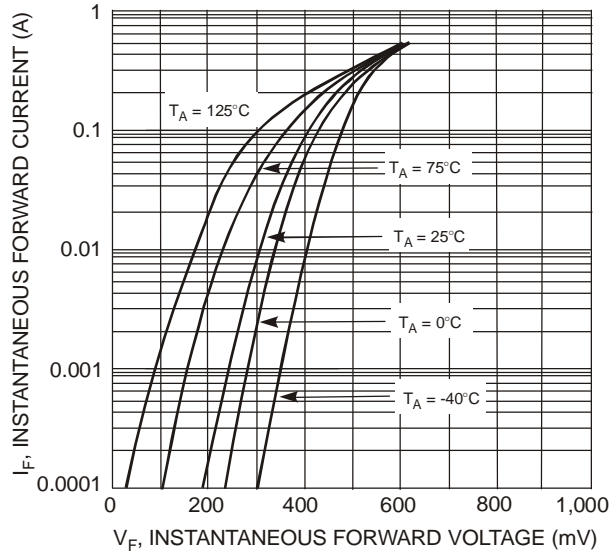


Fig. 1 Typical Forward Characteristics

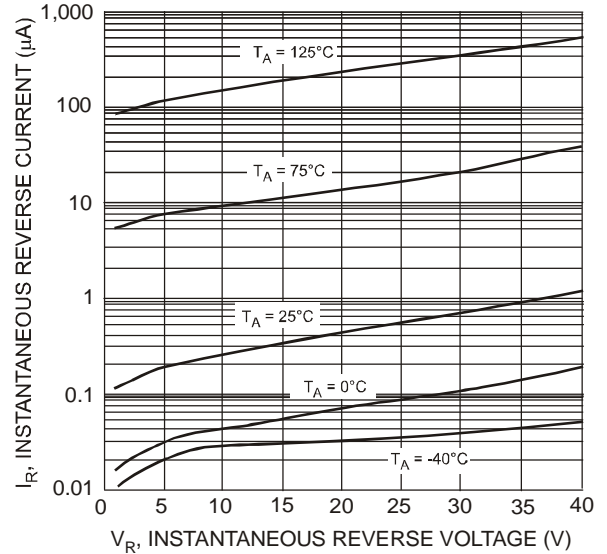


Fig. 2 Typical Reverse Characteristics

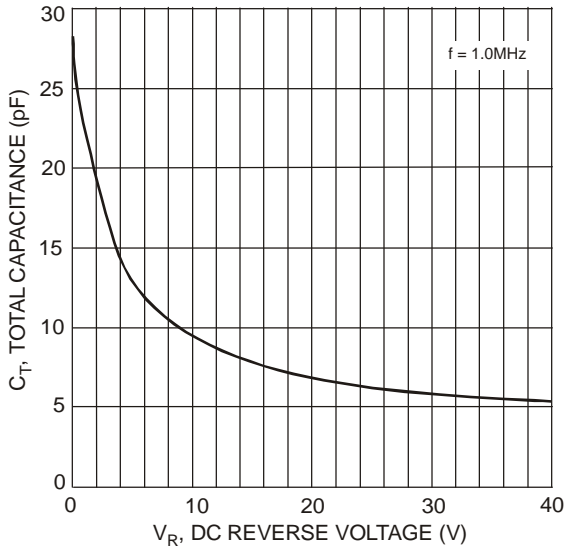


Fig. 3 Total Capacitance vs. Reverse Voltage

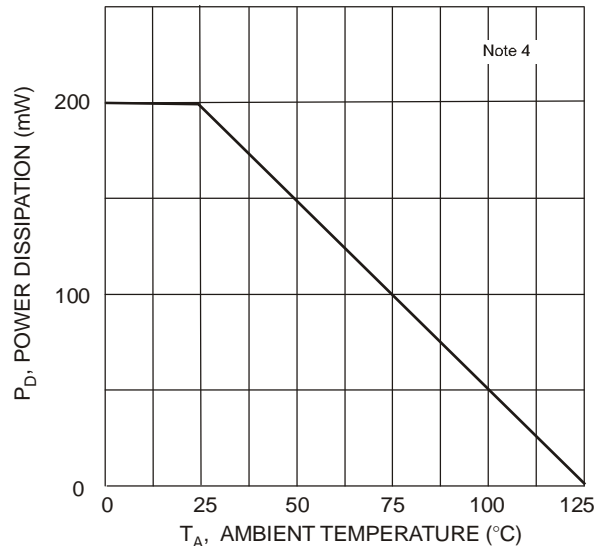


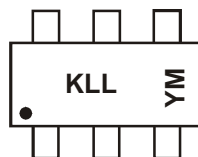
Fig. 4 Power Derating Curve

Ordering Information (Note 7)

| Part Number | Case | Packaging |
|--------------|---------|------------------|
| SD103ATW-7-F | SOT-363 | 3000/Tape & Reel |

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

Marking Information

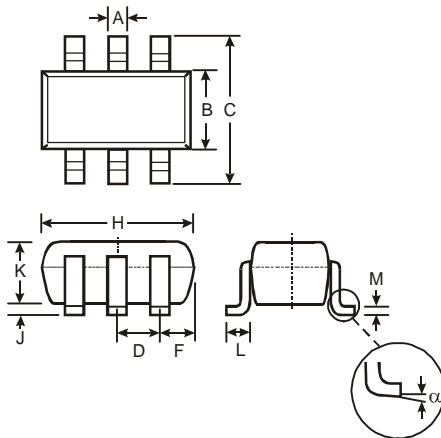


KLL = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

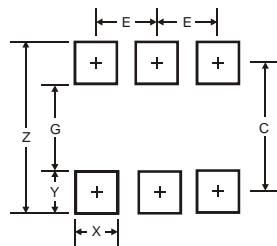
| Year | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | N | P | R | S | T | U | V | W | X | Y | Z | A | B | C |
| Month | Jan | Feb |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



| SOT-363 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 0.10 | 0.30 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.20 |
| D | 0.65 Nominal | |
| F | 0.40 | 0.45 |
| H | 1.80 | 2.20 |
| J | 0 | 0.10 |
| K | 0.90 | 1.00 |
| L | 0.25 | 0.40 |
| M | 0.10 | 0.22 |
| α | 0° | 8° |
| All Dimensions in mm | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.5 |
| G | 1.3 |
| X | 0.42 |
| Y | 0.6 |
| C | 1.9 |
| E | 0.65 |

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