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SD103A THRU SD103C

Small Signal Schottky Diodes

Features

- Low Reverse Recovery Time
- Low Reverse Capacitance
- Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection

Mechanical Data

- Case: DO-35, Glass
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Indicated by Cathode Band

Maximum Ratings @ 25°C Unless Otherwise Specified

| Characteristic | Symbol | SD103A | SD103B | SD103C |
|---|--------------|---------------|--------|--------|
| Peak Repetitive Reverse Voltage | V_{RRM} | | | |
| Working Peak Reverse Voltage | V_{RWM} | 40V | 30V | 20V |
| DC Blocking Voltage | V_R | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 28V | 21V | 14V |
| Maximum single cycle surge 60Hz sine wave | I_{FSM} | 15A | | |
| Power Dissipation(Note 1) | P_d | 400mW | | |
| Thermal Resistance, Junction to Ambient | R | 300K/W | | |
| Junction Temperature | T_j | 125°C | | |
| Operation/Storage Temp. Range | T_{STG} | -55 to +150°C | | |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Characteristic | Symbol | Type | Max | Test Condition |
|------------------------------|----------|-------|----------------|---|
| SD103A Leakage Current | I_R | ----- | 5.0uA | $V_R=30V$ |
| SD103B Leakage Current | I_R | ----- | 5.0uA | $V_R=20V$ |
| SD103C Leakage Current | I_R | ----- | 5.0uA | $V_R=10V$ |
| Maximum Forward Voltage Drop | V_{FM} | ----- | 0.37V 0.60V | $I_F=20mA$ $I_F=200mA$ |
| Junction Capacitance | C_j | 50pF | ----- | $V_R=0V, f=1.0MHz$ |
| Reverse Recovery Time | t_{rr} | 10ns | ----- | $I_F=I_R=50mA, \text{recover to } 200mA/0.1I_R$ |

DO-35

DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | --- | .166 | --- | 4.2 | |
| B | --- | .079 | --- | 2.00 | |
| C | --- | .020 | --- | .52 | |
| D | 1.000 | --- | 25.40 | --- | |

Note: 1. Valid provided that electrodes are kept at ambient temperature

SD103A thru SD103C



Figure 1. Typical variation of forward current vs. Forward Voltage for primary conduction through the schottky barrier

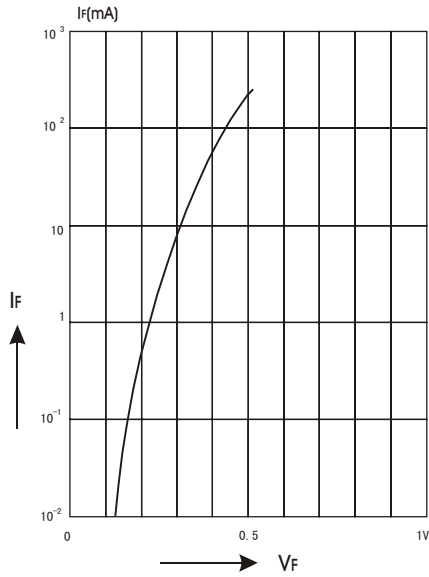


Figure 2. Typical high current forward conduction curve $t_p=300ms$, duty cycle=2%

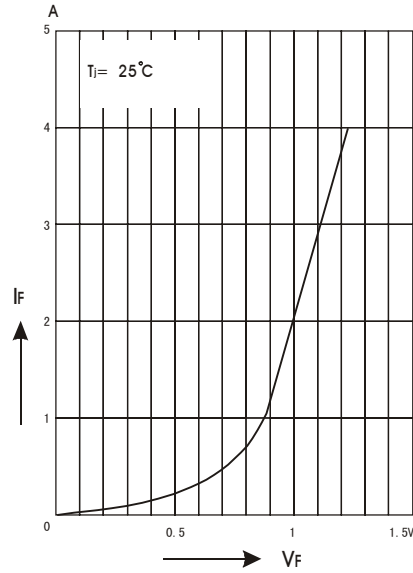


Figure 3. Typical non repetitive forward surge current versus pulse width

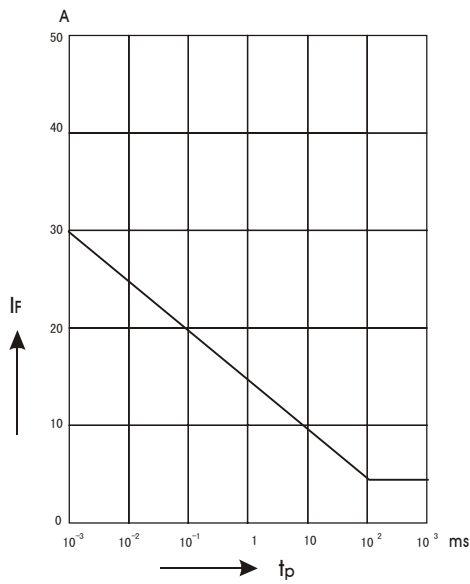


Figure 4. Typical variation of reverse current at various temperatures

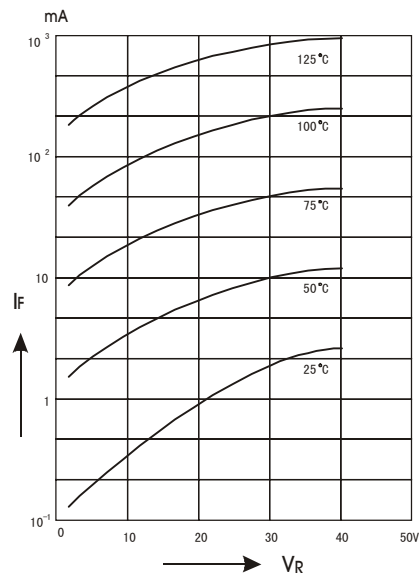


Figure 5. Blocking deration versus temperature at various average forward currents

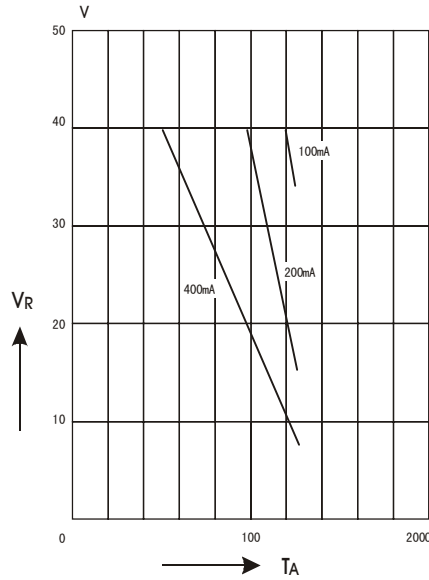


Figure 6. Typical capacitance versus reverse voltage

