

Schottky Barrier Diode

Features

1. High reliability
2. Low reverse current and low forward voltage

Applications

Low current rectification and high speed switching

Construction

Silicon epitaxial planar

Absolute Maximum Ratings

$T_j=25^{\circ}\text{C}$

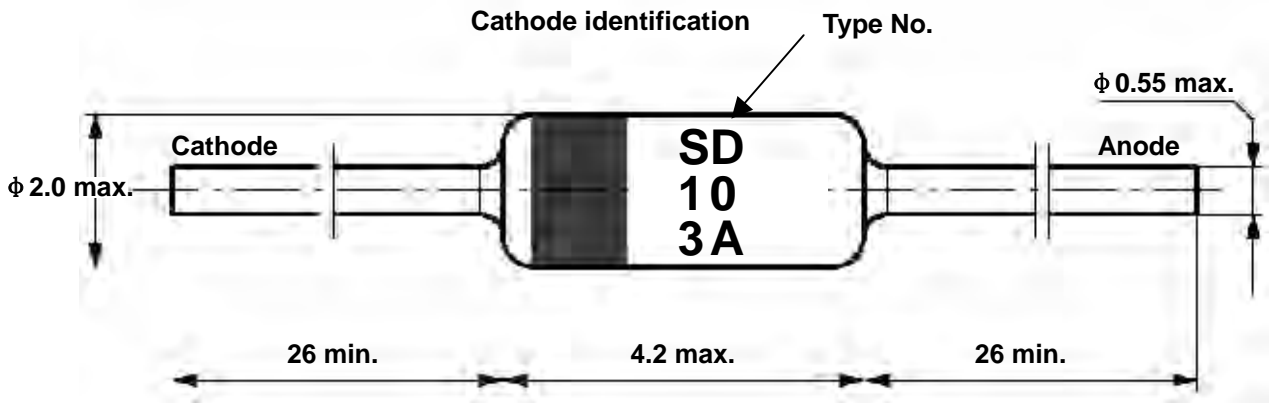
| Parameter | Test Conditions | Type | Symbol | Value | Unit |
|---------------------------------|------------------------------|--------|-----------|----------|--------------------|
| Repetitive peak reverse voltage | | SD103A | V_{RRM} | 40 | V |
| | | SD103B | V_{RRM} | 30 | V |
| | | SD103C | V_{RRM} | 20 | V |
| Repetitive peak forward current | $t_p \leq 1 \text{ s}$ | | I_{FRM} | 1 | A |
| Forward current | | | I_{FM} | 350 | mA |
| Power dissipation | $T_{amb}=25^{\circ}\text{C}$ | | P_V | 400 | mW |
| Storage temperature range | | | T_{stg} | -65~+175 | $^{\circ}\text{C}$ |

Maximum Thermal Resistance

$T_j=25^{\circ}\text{C}$

| Parameter | Test Conditions | Symbol | Value | Unit |
|------------------|-----------------------------|------------|-------|------|
| Junction ambient | on PC board 50mm×50mm×1.6mm | R_{thJA} | 250 | K/W |

Dimensions in mm



Standard Glass Case
JEDEC DO 35

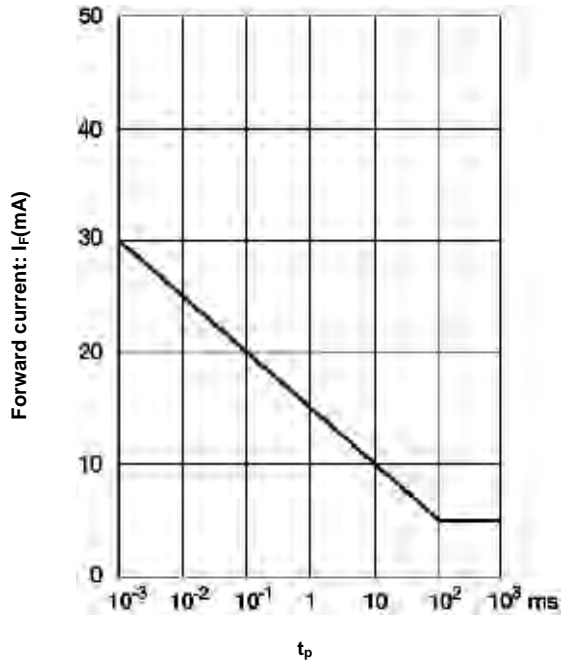


Figure 3. Typical non repetitive forward surge current vs. pulse width

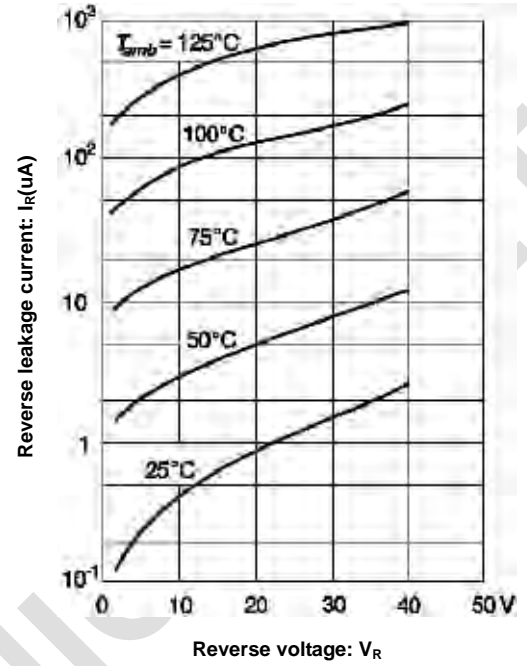


Figure 4. Typical variation of reverse current at various temperatures

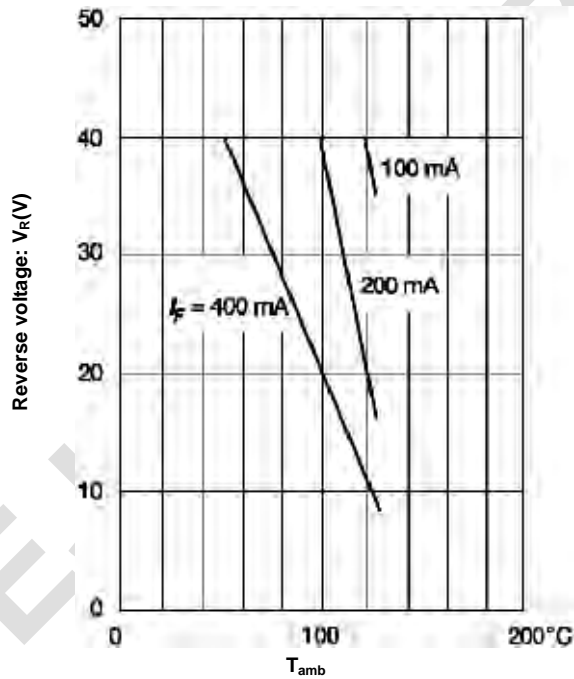


Figure 5. Blocking voltage duration vs. temperature at various average forward current

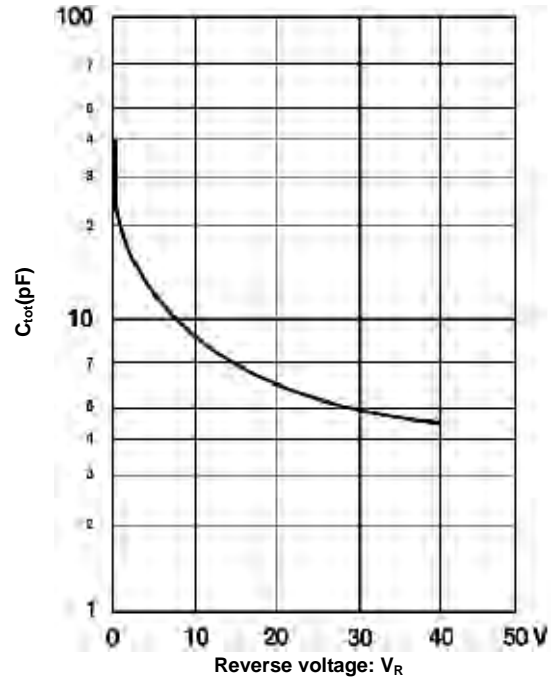


Figure 6. Typical capacitance vs. reverse voltage

Electrical Characteristics

$T_j=25^{\circ}\text{C}$

| Parameter | Test Conditions | Type | Symbol | Min | Typ | Max | Unit |
|-----------------------|---|--------|----------|-----|-----|------|---------------|
| Forward voltage | $I_F=20\text{mA}$ | | V_F | | | 0.37 | V |
| | $I_F=200\text{mA}$ | | V_F | | | 0.6 | V |
| Reverse current | $V_R=30\text{V}$ | SD103A | I_R | | | 5 | μA |
| | $V_R=20\text{V}$ | SD103B | I_R | | | 5 | μA |
| | $V_R=10\text{V}$ | SD103C | I_R | | | 5 | μA |
| Diode capacitance | $V_R=V_F=0, f=1\text{MHz}$ | | C_D | | 50 | | pF |
| Reverse recovery time | $I_F=I_R=200\text{mA to }0.1\text{mA } I_R$ | | t_{rr} | | 10 | | ns |

Characteristics ($T_j=25^{\circ}\text{C}$ unless otherwise specified)

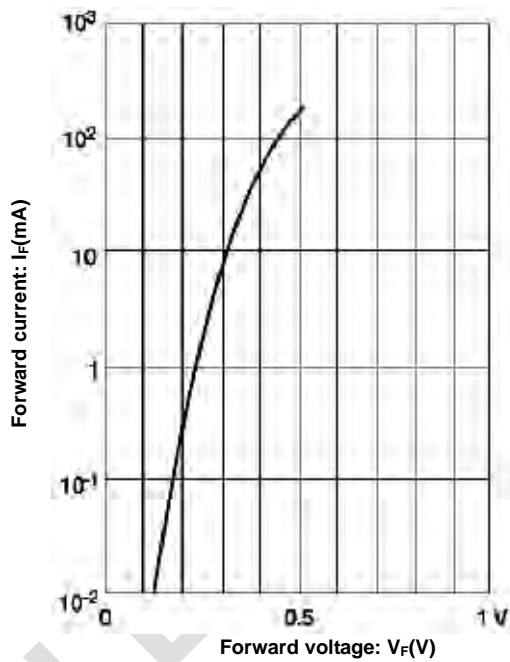


Figure 1. Typical variation of forward current vs. forward voltage for primary conduction through the schottky barrier

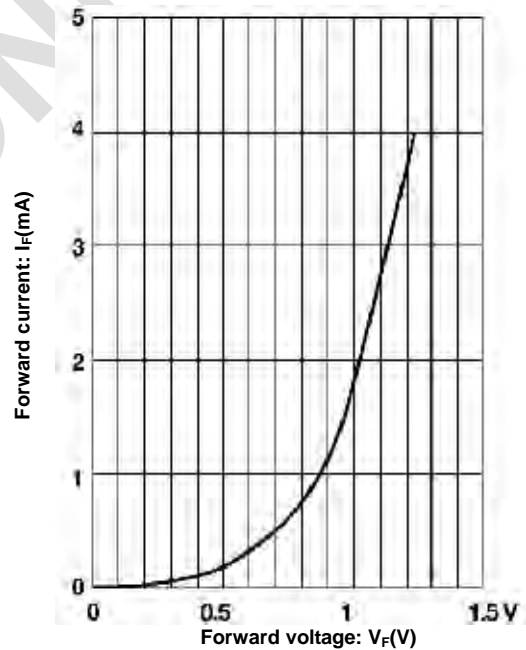


Figure 2. Typical high current forward conduction curve $t_p=300\text{ms}$, duty cycle=2%