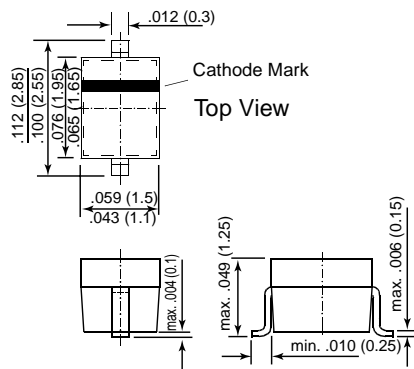


SD103AWS THRU SD103CWS

SCHOTTKY DIODES

SOD-323



Dimensions in inches and (millimeters)

FEATURES

- ◆ For general purpose applications.
- ◆ The SD103 series is a metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring. The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing, and coupling diodes for fast switching and low logic level applications. Other applications are click suppression, efficient full wave bridges in telephone subsets, and blocking diodes in rechargeable low voltage battery systems.
- ◆ This diode is also available in Mini-MELF case with the type designation LL103A ... LL103C, DO-35 case with the type designations SD103A .. SD103C and SOD-123 case with type designations SD103W ... SD103CW.



MECHANICAL DATA

Case: SOD-323 Plastic Package

Weight: approx. 0.004g

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| | | SYMBOL | VALUE | UNIT |
|--|-----------------|-----------------|-----------------------------|---------------|
| Peak Inverse Voltage | SD103AWS | V_{RRM} | 40 | Volts |
| | SD103BWS | V_{RRM} | 30 | Volts |
| | SD103CWS | V_{RRM} | 20 | Volts |
| Power Dissipation at $T_{amb} = 25^{\circ}C$ | | P_{tot} | 150 ⁽¹⁾ | mW |
| Single Cycle Surge 10 μs Square Wave | | I_{FSM} | 2 | Amps |
| Junction Temperature | | T_j | 125 ⁽¹⁾ | $^{\circ}C$ |
| Storage Temperature Range | | T_s | - 55 to +150 ⁽¹⁾ | $^{\circ}C$ |
| Thermal Resistance Junction to Ambient Air | | $R_{\theta JA}$ | 650 | $^{\circ}C/W$ |

NOTES

(1)Valid provided that electrodes are kept at ambient temperature

SD103AWS THRU SD103CWS

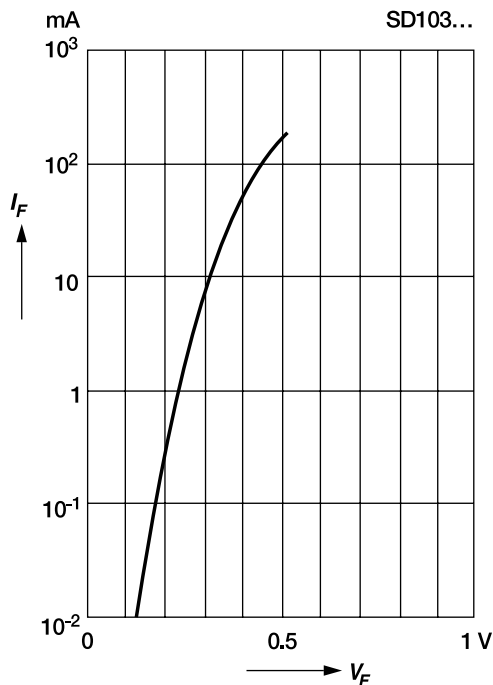
ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

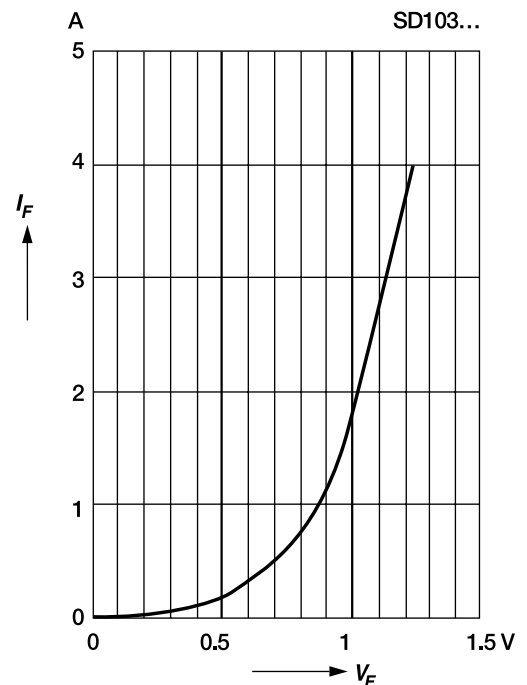
| | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|---|--------------------------|------|------|------|---------|
| Leakage Current at $V_R = 30$ V | SD103AWS I_R | – | – | 5 | μ A |
| at $V_R = 20$ V | SD103BWS I_R | – | – | 5 | μ A |
| at $V_R = 10$ V | SD103CWS I_R | – | – | 5 | μ A |
| Forward Voltage Drop at $I_F = 20$ mA | V_F | – | – | 0.37 | V |
| at $I_F = 200$ mA | V_F | – | – | 0.6 | V |
| Junction Capacitance at $V_R = 0$ V, $f = 1$ MHz | C_{tot} | – | 50 | – | pF |
| Reverse Recovery Time at $I_F = I_R = 50$ mA to 200 mA, recover to $0.1 I_R$ | t_{rr} | – | 10 | – | ns |

RATINGS AND CHARACTERISTICS SD103AWS THRU SD103CAWS

Typical variation of fwd. current vs. fwd. voltage for primary conduction through the Schottky barrier



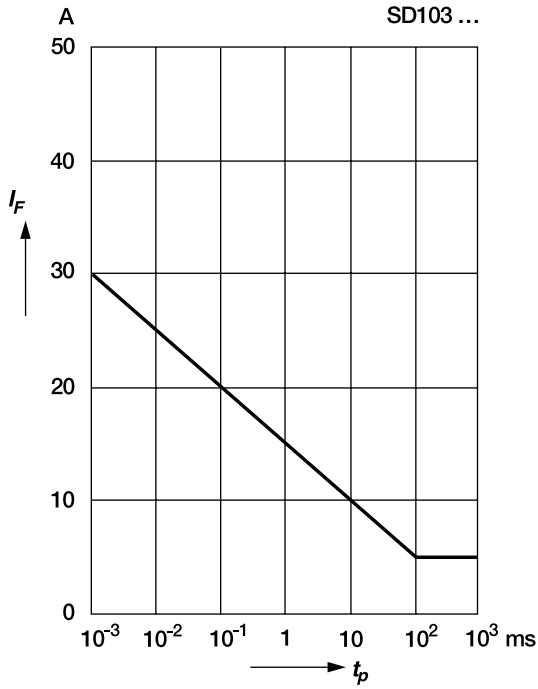
Typical high current forward conduction curve
 $t_p = 300$ ms, duty cycle = 2%



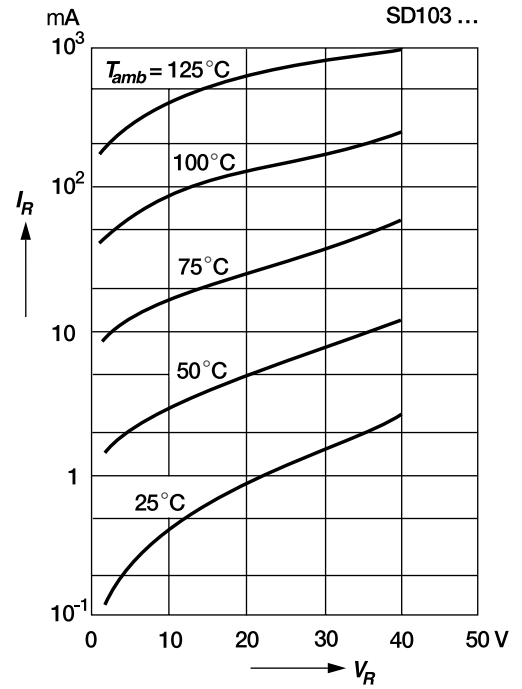
RATINGS AND CHARACTERISTICS SD103AWS THRU SD103CAWS

Typical non repetitive forward surge current versus pulse width

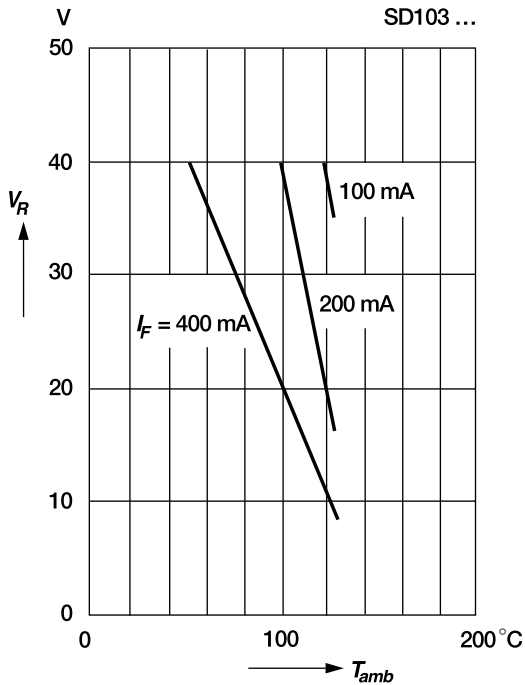
Rectangular pulse



Typical variation of reverse current at various temperatures



Blocking voltage deration versus temperature at various average forward currents



Typical capacitance versus reverse voltage

