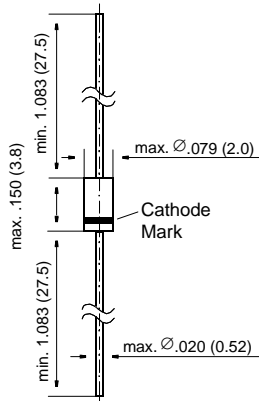


# SD103A THRU SD103C

## Schottky Diodes

### DO-35



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 MiniMELF case with the type designation LL103A ... LL103C and SOD-123 case with the type designations SD103AW .. SD103CW.



### MECHANICAL DATA

Case: DO-35 Glass Case

Weight: approx. 0.13 g

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Peak Inverse Voltage	<b>SD103A</b> <b>SD103B</b> <b>SD103C</b>	$V_{RRM}$ 40 $V_{RRM}$ 30 $V_{RRM}$ 20	V V V
Power Dissipation (Infinite Heat Sink)	$P_{tot}$	400 <sup>1)</sup>	mW
Single Cycle Surge 60 Hz Sine Wave	$I_{FSM}$	15	A
Junction Temperature	$T_j$	125 <sup>1)</sup>	°C
Storage Temperature Range	$T_s$	-55 to +150 <sup>1)</sup>	°C

<sup>1)</sup> Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature

# SD103A THRU SD103C

## ELECTRICAL CHARACTERISTICS

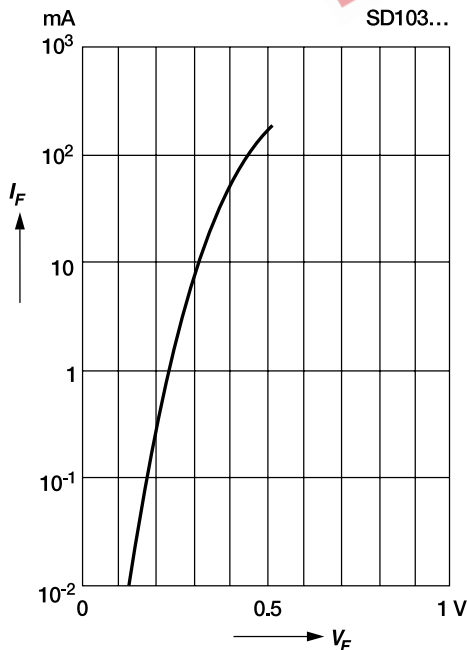
Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Leakage Current at $V_R = 30$ V at $V_R = 20$ V at $V_R = 10$ V	<b>SD103A</b> $I_R$	—	—	5	$\mu$ A
	<b>SD103B</b> $I_R$	—	—	5	$\mu$ A
	<b>SD103C</b> $I_R$	—	—	5	$\mu$ A
Forward Voltage Drop at $I_F = 20$ mA at $I_F = 200$ mA	$V_F$	—	—	0.37	V
	$V_F$	—	—	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
Thermal Resistance Junction to Ambient Air	$R_{thJA}$	—	—	0.3 <sup>1)</sup>	K/mW

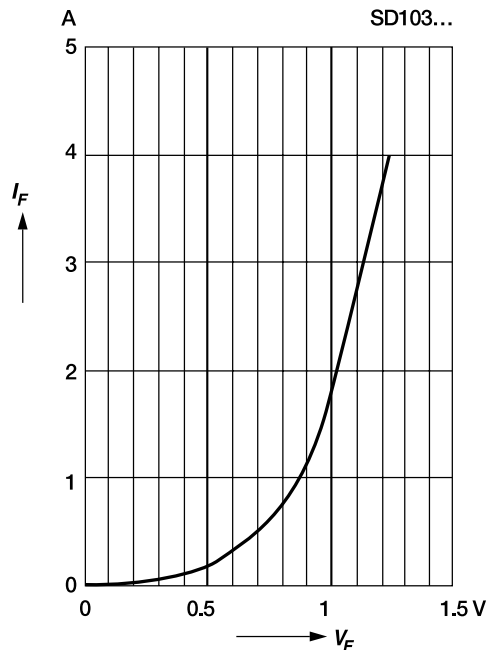
<sup>1)</sup> Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature (DO-35)

## RATINGS AND CHARACTERISTIC CURVES SD103A THRU SD103C

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



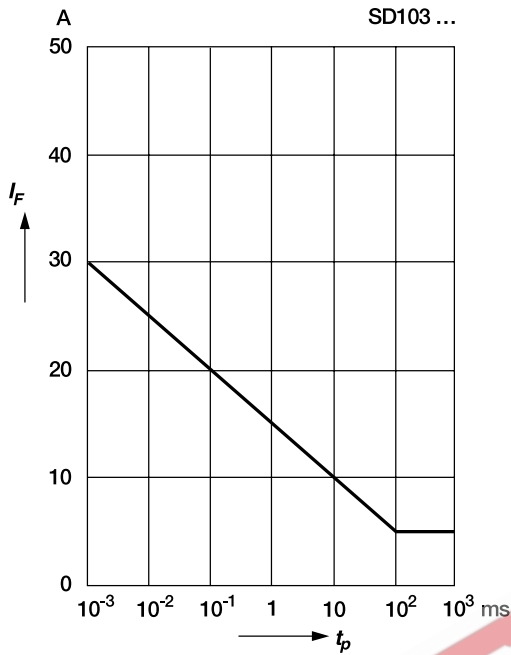
Typical high current forward conduction curve  
 $t_p = 300$  ms, duty cycle = 2%



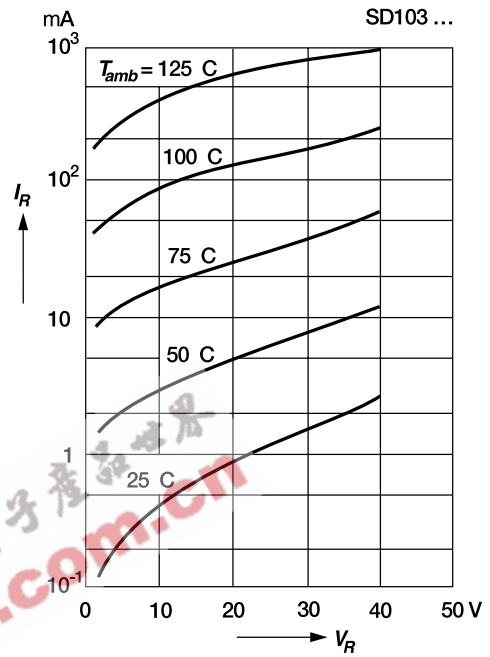
# RATINGS AND CHARACTERISTIC CURVES SD103A THRU SD103C

Typical non repetitive forward surge current versus pulse width

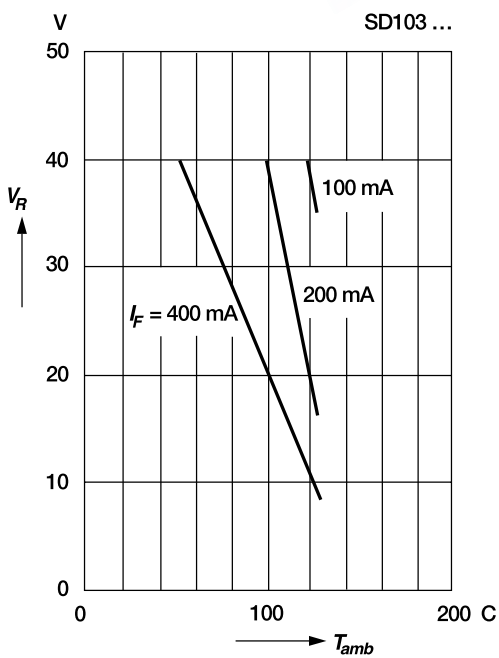
Rectangular pulse



Typical variation of reverse current at various temperatures



Blocking voltage deration versus temperature at various average forward currents



Typical capacitance versus reverse voltage

