



SD103A thru SD103C

Small-Signal Diode
Schottky Diodes

Features

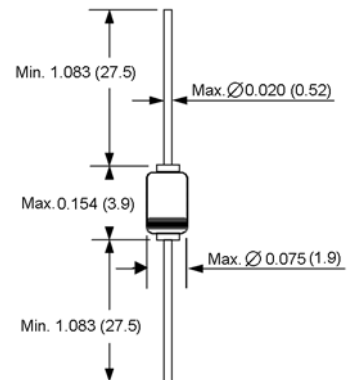
- ◆ For general purpose applications
- ◆ The SD103 series is a Metal-on-silicon Schottky barrier device which is protected by a PN junction guard ring.
- ◆ The low forward voltage drop and fast switching make it ideal for protection of MOS devices, steering, biasing and coupling diodes for fast switching 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.
- ◆ These diodes are also available in the MiniMELF case with type designations LL103A thru LL103C.

Mechanical Data

- ◆ Case: DO-35 Glass Case
- ◆ Weight: approx. 0.13g



DO-204AH (DO-35 Glass)



Dimensions in inches and (millimeters)

Maximum Ratings and Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak inverse voltage	SD103A SD103B SD103C	40 30 20	Volts
Power dissipation (Infinite heatsink)	P_{tot}	400 ⁽¹⁾	mW
Single cycle surge 60 Hz sine wave	I_{FSM}	15	Amps
Thermal resistance junction to ambient air	$R_{\theta JA}$	0.3 ⁽¹⁾	°C/mW
Junction temperature	T_j	125 ⁽¹⁾	°C
Storage temperature range	T_s	-55 to +150 ⁽¹⁾	°C

Notes: 1. Valid provided that leads at a distance of 4mm from case are kept at ambient temperature.

Electrical Characteristics

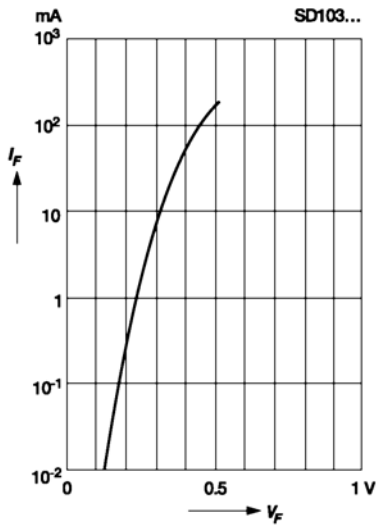
($T_j=25^\circ\text{C}$ unless otherwise noted.)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Leakage current	SD103A SD103B SD103C	I_R	$V_R=30\text{V}$ $V_R=20\text{V}$ $V_R=10\text{V}$	- - -	- - -	5 5 5	μA
Forward voltage drop	V_F	$I_F=20\text{mA}$ $I_F=200\text{mA}$	- -	- -	0.37 0.6	Volt	
Junction capacitance	C_{tot}	$V_R=0\text{V}, f=1\text{MHz}$	-	50	-	pF	
Reverse recovery time	t_{rr}	$I_F=I_R=50\text{mA}$ to 200mA , recover to $0.1I_R$	-	10	-	ns	

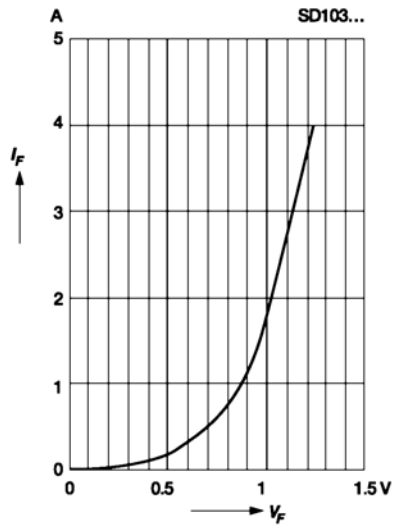
RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

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



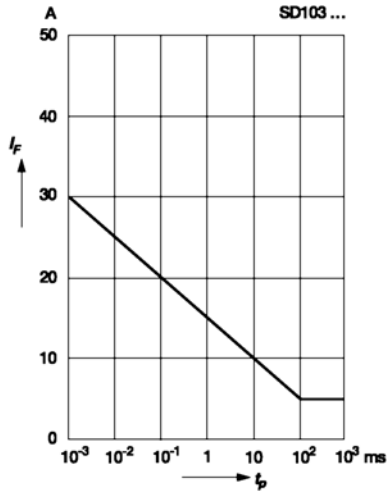
Typical high current forward conduction curve
 $t_p = 300\text{ ms}$, duty cycle = 2%



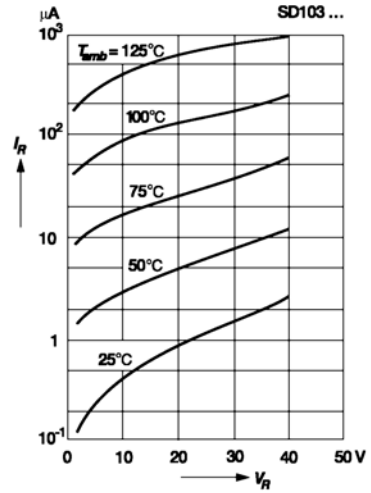
RATINGS AND CHARACTERISTIC CURVES

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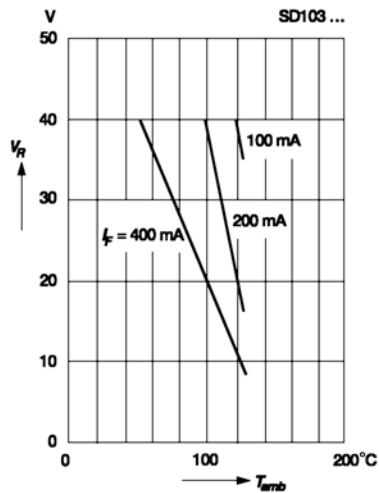
Typical non repetitive forward surge current versus pulse width
Rectangular pulse



Typical variation of reverse current at various temperatures



Blocking voltage deration versus temperature at various average forward currents



Typical capacitance versus reverse voltage

