

SD103A ... SD103C

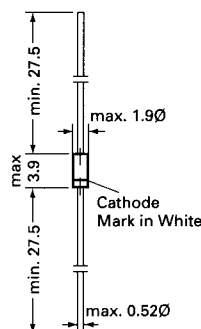
Silicon Schottky Barrier Diodes

for general purpose applications

The SD103A, B, C 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 uses are for click suppression, efficient full wave bridges in telephone subsets, and as blocking diodes in rechargeable low voltage battery system.

This diode is also available in MiniMELF case with type designation LL103A, B, C.

These diodes are delivered taped.
Details see "Taping".



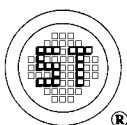
Glass case JEDEC DO-35
54 A 2 according to DIN 41880

Weight approx. 0.13g
Dimensions in mm

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

	Symbol	Value	Unit
Peak Reverse Voltage	SD103A V_{RRM} SD103B V_{RRM} SD103C V_{RRM}	40 30 20	V V V
Power Dissipation (Infinite Heatsink) $T_c = 3/8$ " from body derates at 4 mW/°C to 0 at 125 °C	P_{tot}	400 ¹⁾	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_s	-55 to + 175	°C
Single Cycle Surge 60 Hz sinewave	I_{FSM}	15	A

¹⁾ Valid provided that leads direct at the case are kept at ambient temperature



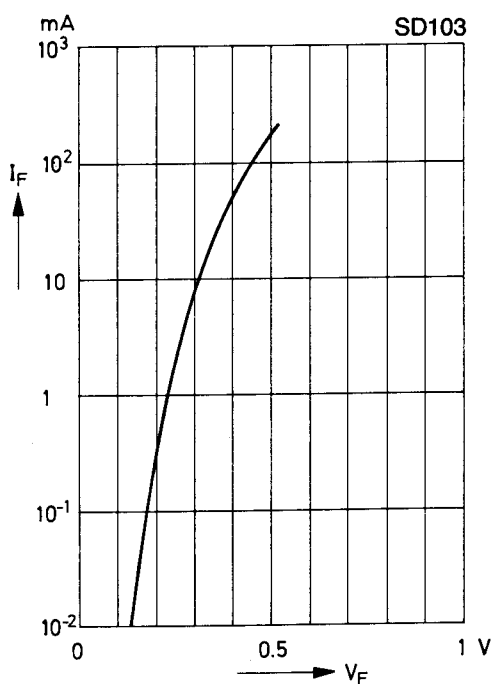
SEMTECH ELECTRONICS LTD.
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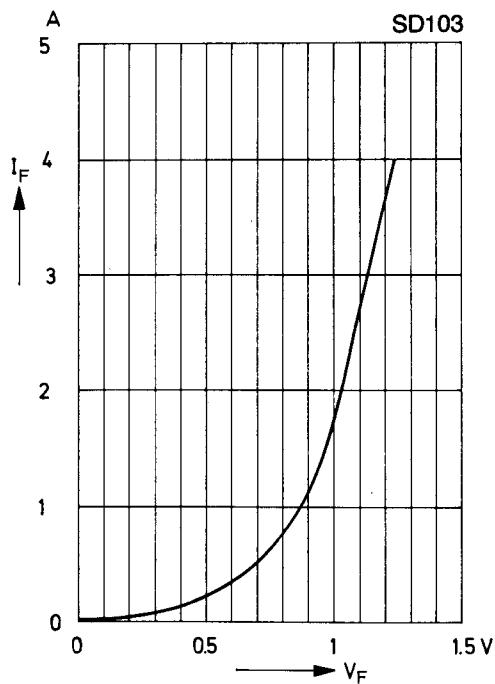
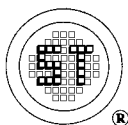
Characteristics at $T_{amb} = 25^{\circ}\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Leakage Current					
at $V_R = 30\text{ V}$ SD103A	I_R	-	-	5	μA
at $V_R = 20\text{ V}$ SD103B	I_R	-	-	5	μA
at $V_R = 10\text{ V}$ SD103C	I_R	-	-	5	μA
Forward Voltage Drop					
at $I_F = 20\text{ mA}$	V_F	-	-	0.37	V
at $I_F = 200\text{ mA}$	V_F	-	-	0.6	V
Junction Capacitance	C_{tot}	-	50	-	pF
at $V_R = 0\text{ V}$, $f = 1\text{ MHz}$					
Reverse Recovery Time	t_{rr}	-	10	-	ns
at $I_F = I_R = 5\text{ mA}$ to 200 mA , recover to $0.1 I_R$					

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



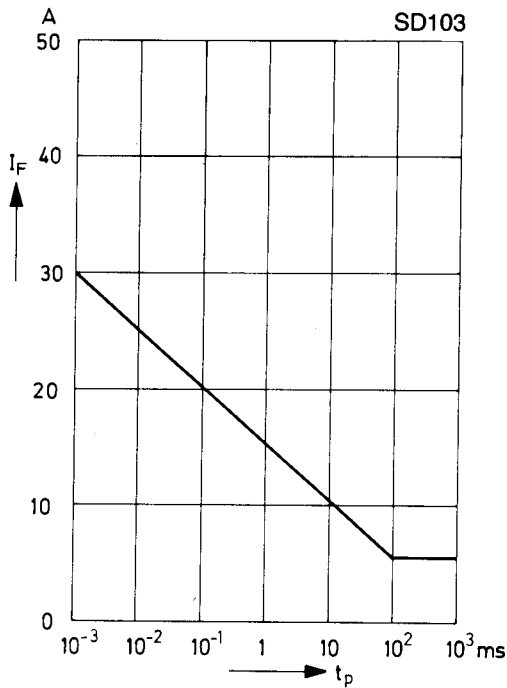
Typical high current forward conduction curve
 $t_p = 300\text{ }\mu\text{s}$, duty cycle = 2%



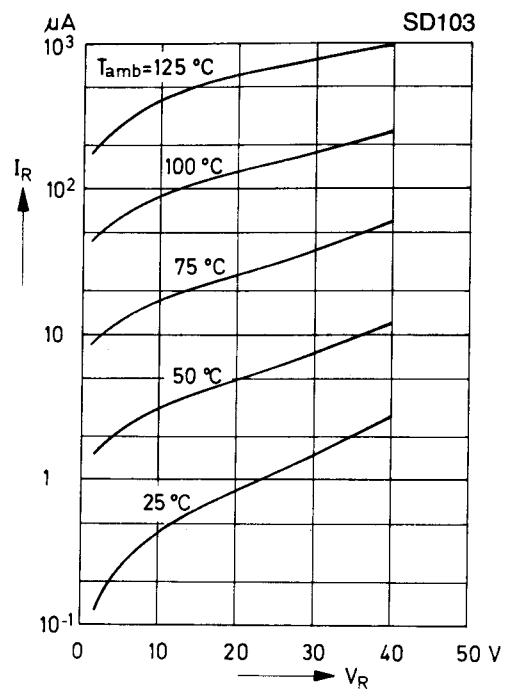
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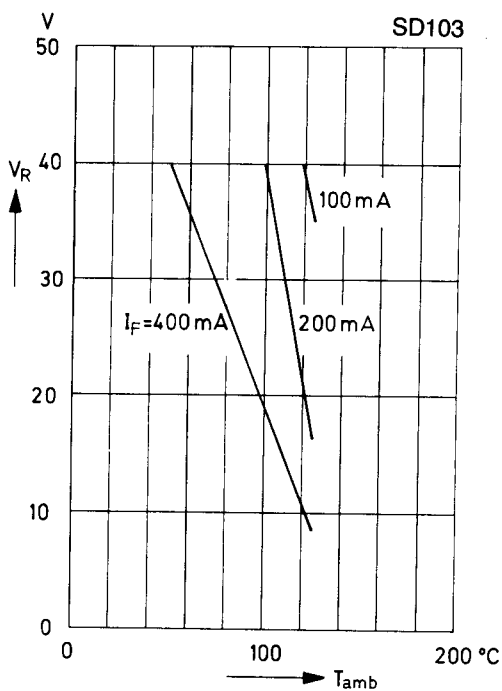
Typical non repetitive forward surge current versus pulse width
Rectangular pulse



Typical variation of reverse current at various temperatures



Blocking voltage deration versus temperature at various average forward currents



Typical capacitance versus reverse voltage

