



SEMICONDUCTOR

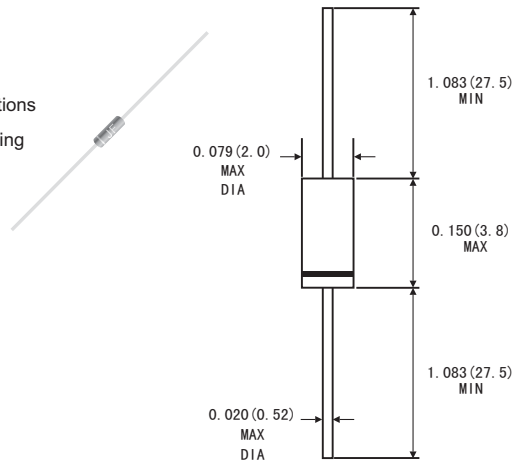
# SD103A THRU SD103C

## SMALL SIGNAL SCHOTTKY DIODES

### FEATURES

- For general purpose applications
- The SD103 series is a Metal-on-silicon junction 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 suppressions, efficient full wavebridges in telephone subsets, and blocking diodes in re chargeable low voltage battery systems.
- These diodes are also available in the MiniMELF case with the type designation LL103A to thru LL103C.
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

### DO-35



Dimensions in inches and (millimeters)

### MECHANICAL DATA

- Case: DO-35 Glass case
- Weight: Approx. 0.13 gram

### ABSOLUTE RATINGS (LIMITING VALUES)

	Symbols	Value	Units
Peak Reverse Voltage	SD103A	$V_{RRM}$	V
	SD103B	$V_{RRM}$	V
	SD103C	$V_{RRM}$	V
Power Dissipation (infinite Heat Sink)	$P_{tot}$	400 <sup>1)</sup>	mW
Maximum Single cycle surge 60Hz sine wave	$I_{FSM}$	15	A
Junction temperature	$T_J$	125	°C
Storage Temperature Range	$T_{STG}$	-55 to +150	°C

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

### ELECTRICAL CHARACTERISTICS

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

	Symbols	Min.	Typ.	Max.	Units
Leakage current at $V_R=30V$	SD103A	$I_R$		5	$\mu A$
	SD103B	$I_R$		5	$\mu A$
	SD103C	$I_R$		5	$\mu A$
Forward voltage drop at $I_F=20mA$ $I_F=200mA$	$V_F$			0.37	V
	$V_F$			0.6	V
Junction Capacitance at $V_R=0V, f=1MHz$	$C_J$		50		pF
Reverse Recovery time at $I_F=I_R=50mA$ , recover to 200mA recover to 0.1 $I_R$	$t_{rr}$		10		ns
Thermal resistance, junction to Ambient	$R_{\theta JA}$			300 <sup>1)</sup>	°C/W

1) Valid provided that electrodes are kept at ambient temperature

# RATINGS AND CHARACTERISTICS CURVES SD103A THRU SD103C

Figure 1. Typical variation of fwd.current vs.fwd. Voltage for primary conduction through the schottky barrier

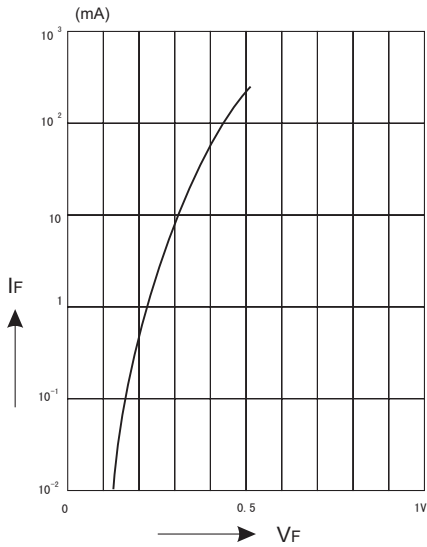


Figure 2. Typical high current forward conduction curve  $t_p=300ms$ ,duty cycle=2%

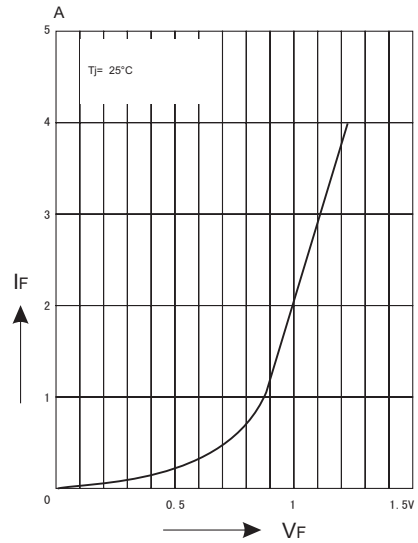


Figure 3. Typical non repetitive forward surge current versus pulse width

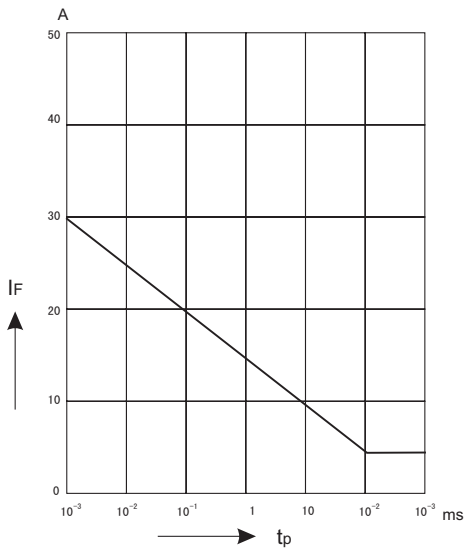
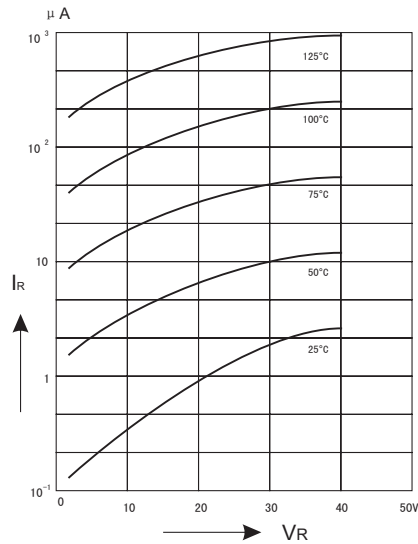


Figure 4. Typical variation of reverse current at various temperatures



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Figure 5. Blocking voltage deration versus temperature at various average forward currents

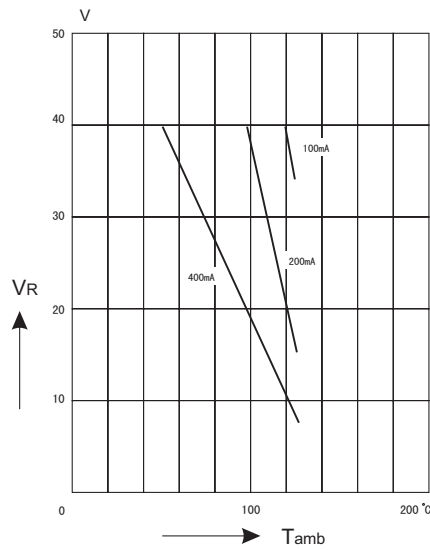


Figure 6. Typical capacitance versus reverse voltage

