

# SD103A - SD103C

## SCHOTTKY BARRIER DIODES

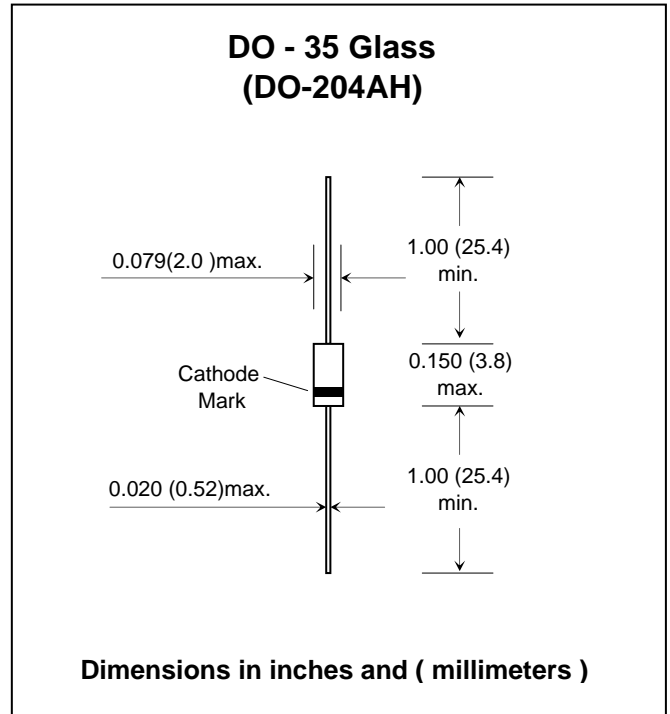
### FEATURES :

- 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.
- **Pb / RoHS Free**

### MECHANICAL DATA :

**Case:** DO-35 Glass Case

**Weight:** approx. 0.13g



### Maximum Ratings and Thermal Characteristics (Rating at 25 °C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	SD103A	40	V
	SD103B	30	
	SD103C	20	
Single Cycle Surge 60 Hz Sine Wave	$I_{FSM}$	15	A
Power Dissipation (Infinite Heatsink)	$P_D$	400 <sup>(1)</sup>	mW
Thermal Resistance Junction to Ambient Air	$R_{\theta JA}$	0.25 <sup>(1)</sup>	°C/mW
Junction Temperature	$T_J$	125 <sup>(1)</sup>	°C
Storage temperature range	$T_S$	-55 to + 150 <sup>(1)</sup>	°C

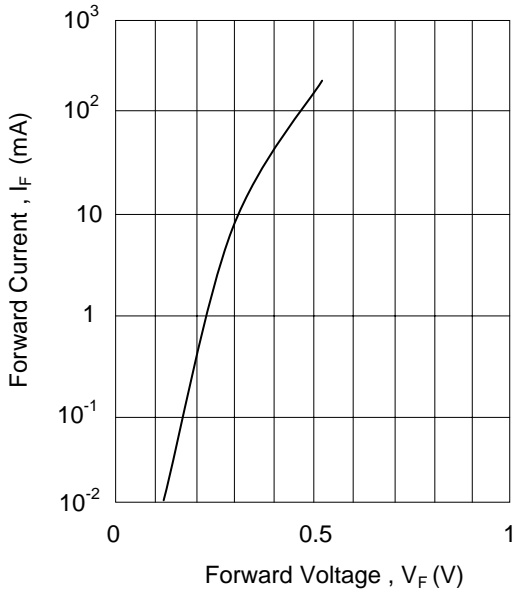
Note: (1) Valid provided that leads at a distance of 4mm from case are kept at ambient temperature.

### Electrical Characteristics ( $T_J = 25\text{ °C}$ unless otherwise noted)

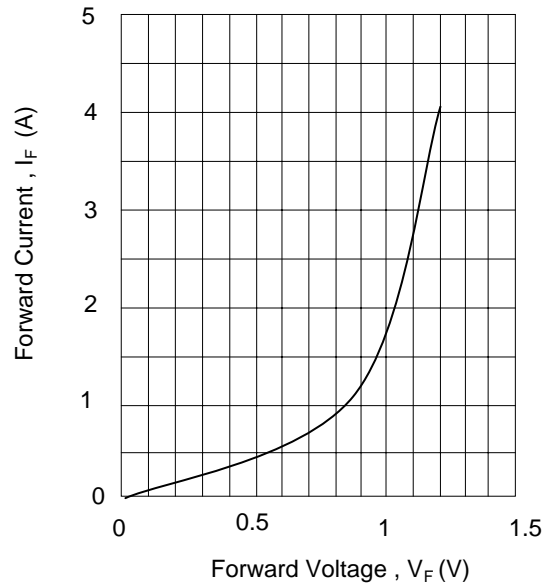
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Current	SD103A	$V_R = 30\text{ V}$	-	-	5	$\mu\text{A}$
	SD103B	$V_R = 20\text{ V}$	-	-	-	
	SD103C	$V_R = 10\text{ V}$	-	-	-	
Forward Voltage Drop	$V_F$	$I_F = 20\text{mA}$	-	-	0.37	V
		$I_F = 100\text{mA}$	-	-	0.6	
Junction Capacitance	$C_{tot}$	$V_R = 0\text{ V}, f = 1\text{MHz}$	-	50	-	pF
Reverse Recovery Time	$T_{rr}$	$I_F = I_R = 50\text{mA to } 200\text{mA}$ recover to $0.1I_R$	-	10	-	ns

**RATING AND CHARACTERISTIC CURVES ( SD103A - SD103C )**

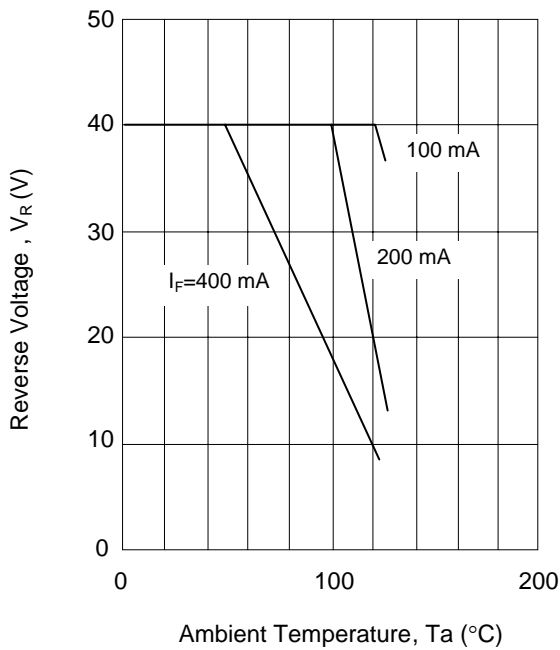
**Typical variation of forward current and forward voltage for primary conduction through the schottky barrier**



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



**Blocking voltage deration versus temperature at various average forward currents**



**Typical variation of reverse current at various temperatures**

