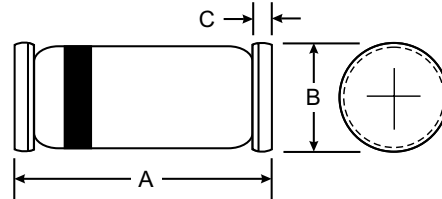


## Features

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



SOD-80		
Dim	Min	Max
A	3.30	3.70
B	1.30	1.60
C	0.28	0.50
All Dimensions in mm		

## Mechanical Data

- **Case:** SOD-80 Glass case
- **Weight:** approx. 12 mg
- **Cathode Band Color:** Black
- **Packaging Codes/Options:**  
 TR3 / 10 k per 13" reel (8 mm tape), 10 k/box  
 TR / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

## Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit		
Reverse voltage		MCL103A	V <sub>R</sub>	40	V		
		MCL103B	V <sub>R</sub>	30	V		
		MCL103C	V <sub>R</sub>	20	V		
Forward continuous current			I <sub>F</sub>	200	mA		
Peak forward surge current	t <sub>p</sub> = 300 μs, square pulse		I <sub>FSM</sub>	15	A		
Power dissipation	l = 4 mm, T <sub>L</sub> = constant		P <sub>tot</sub>	400	mW		
Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	I <sub>R</sub> = 10 μA	MCL103A	V <sub>(BR)R</sub>	40			V
		MCL103B	V <sub>(BR)R</sub>	30			V
		MCL103C	V <sub>(BR)R</sub>	20			V
Leakage current	V <sub>R</sub> = 30 V	MCL103A	I <sub>R</sub>			5	μA
	V <sub>R</sub> = 20 V	MCL103B	I <sub>R</sub>			5	μA
	V <sub>R</sub> = 10 V	MCL103C	I <sub>R</sub>			5	μA
Forward voltage drop	I <sub>F</sub> = 20 mA		V <sub>F</sub>			370	mV
	I <sub>F</sub> = 200 mA		V <sub>F</sub>			600	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz		C <sub>D</sub>		50		pF
Reverse recovery time	I <sub>F</sub> = I <sub>R</sub> = 50 to 200 mA, recover to 0.1 I <sub>R</sub>		t <sub>rr</sub>		10		ns

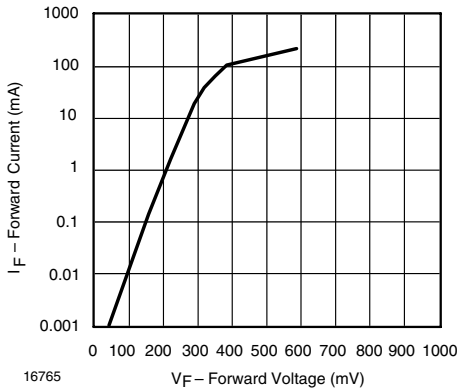


Figure 1. Forward Current vs. Forward Voltage

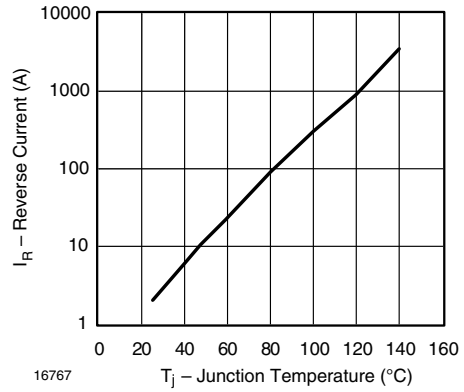


Figure 3. Reverse Current vs. Junction Temperature

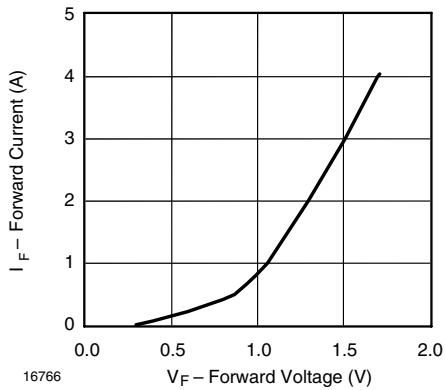


Figure 2. Forward Current vs. Forward Voltage

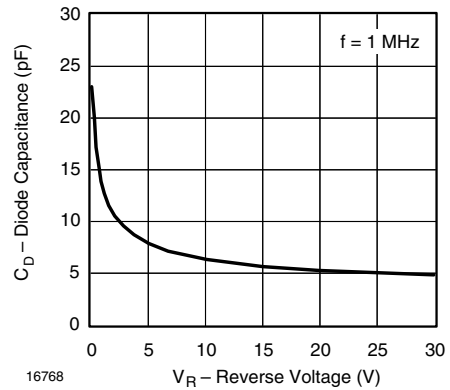


Figure 4. Diode Capacitance vs. Reverse Voltage

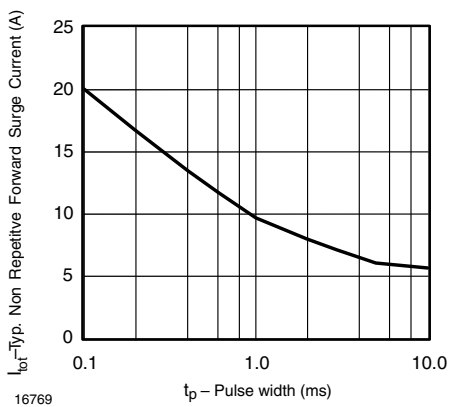


Figure 5. Typ. Non Repetitive Forward Surge Current vs. Pulse width