



Schottky Barrier Diode

Features

1. Saving space
2. High reliability
3. Low reverse current and low forward voltage
4. Micro Melf package, fits onto SOD 323/SOT 23 footprints



Applications

Low current rectification and high speed switching

Absolute Maximum Ratings

$T_j=25^{\circ}\text{C}$

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage		MCL103A	V_{RRM}	40	V
		MCL103B	V_{RRM}	30	V
		MCL103C	V_{RRM}	20	V
Repetitive peak forward current	$t_p \leq 1 \text{ s}$		I_{FRM}	1	A
Forward current			I_{FM}	350	mA
Power dissipation	$T_{amb}=25^{\circ}\text{C}$		P_V	400	mW
Storage temperature range			T_{stg}	-65~+175	$^{\circ}\text{C}$

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.



Electrical Characteristics

$T_j=25\text{ }^{\circ}\text{C}$

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=20\text{mA}$		V_F			0.37	V
	$I_F=200\text{mA}$		V_F			0.6	V
Reverse current	$V_R=30\text{V}$	MCL103A	I_R			5	μA
	$V_R=20\text{V}$	MCL103B	I_R			5	μA
	$V_R=10\text{V}$	MCL103C	I_R			5	μA
Diode capacitance	$V_R=V_F=0, f=1\text{MHz}$		C_D		50		pF
Reverse recovery time	$I_F=I_R=200\text{mA}$ to $0.1\text{mA } I_R$		t_{rr}		10		ns

Characteristics ($T_j=25$

$^{\circ}\text{C}$ unless otherwise specified)

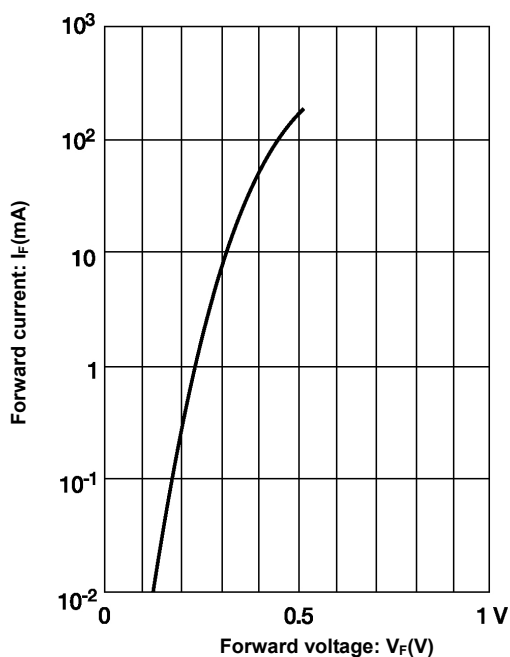


Figure 1. Typical variation of forward current vs. forward voltage for primary conduction through the schottky barrier

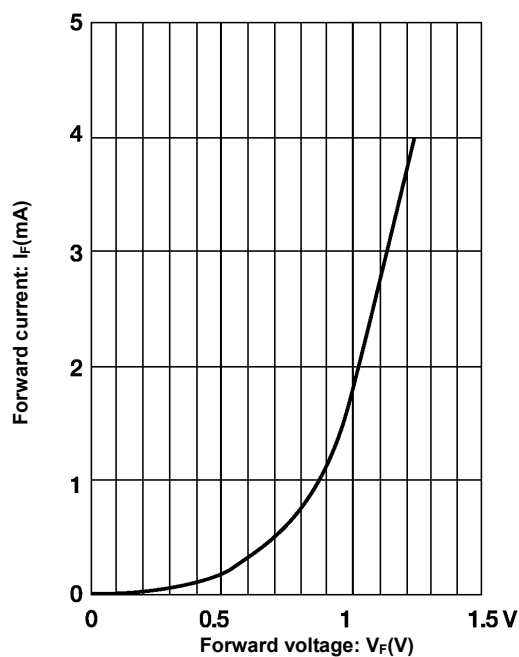


Figure 2. Typical high current forward conduction curve $t_p=300\text{ms}$, duty cycle=2%

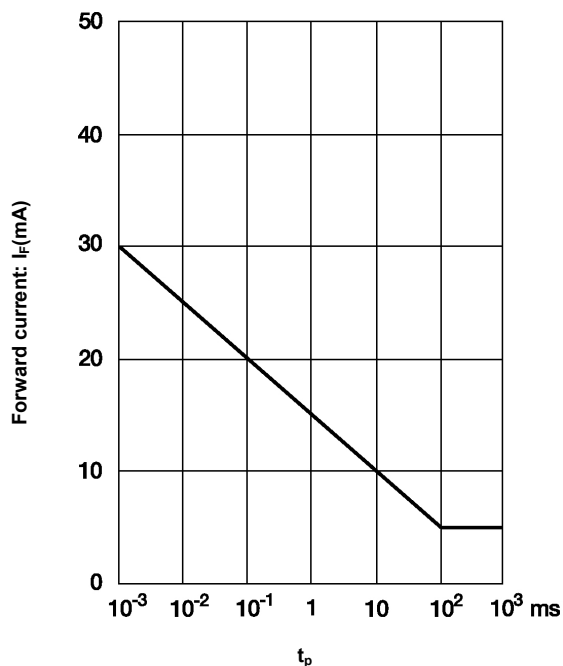


Figure 3. Typical non repetitive forward surge current vs. pulse width

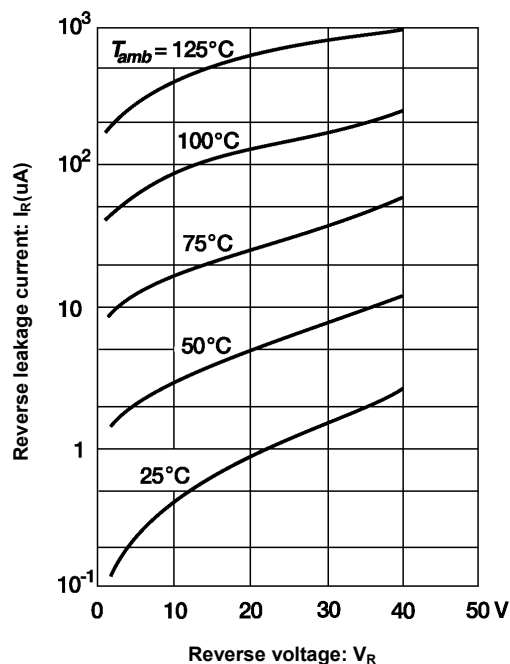


Figure 4. Typical variation of reverse current at various temperatures

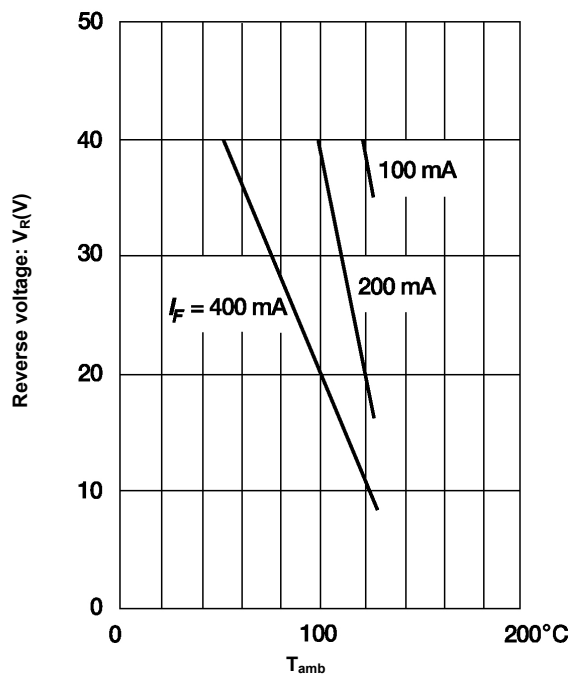


Figure 5. Blocking voltage duration vs. temperature at various average forward current

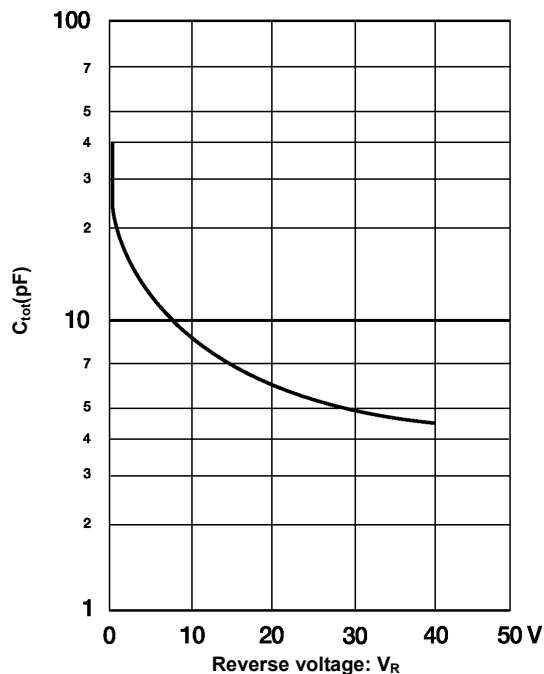
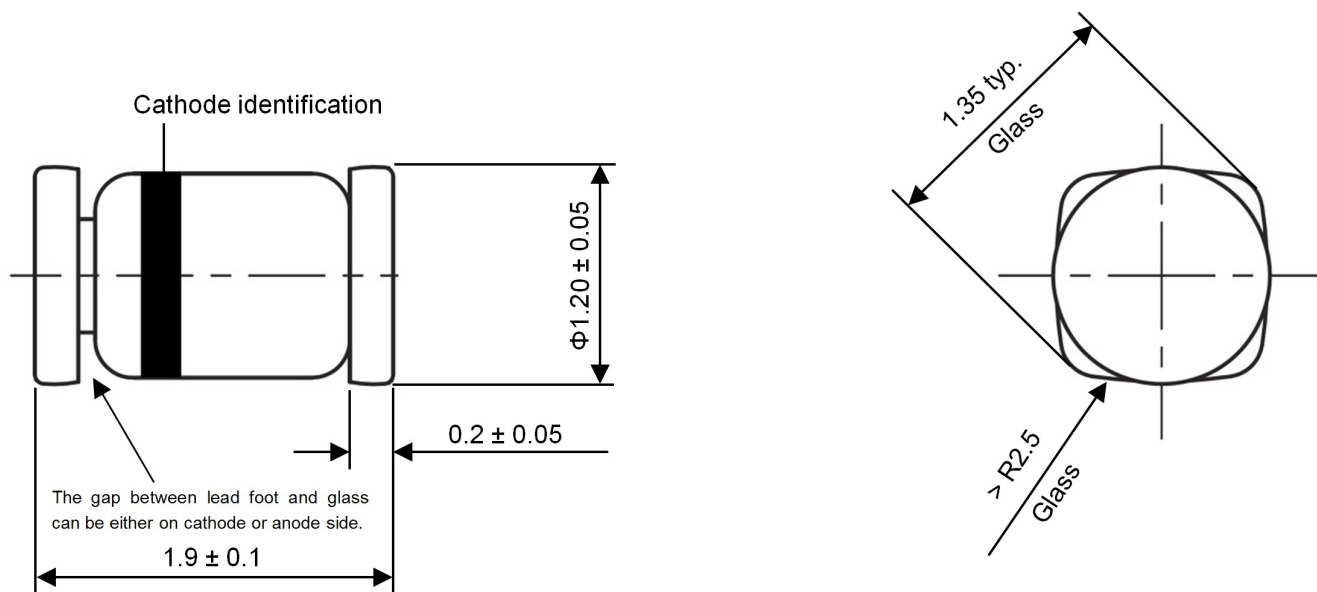


Figure 6. Typical capacitance vs. reverse voltage



Dimensions in mm



Glass Case
Micro Melf