

Small Signal Schottky Diodes



LINKS TO ADDITIONAL RESOURCES



MECHANICAL DATA

Case: MicroMELF

Weight: approx. 12 mg

Cathode band color: black

Packaging codes/options:

TR3/10K per 13" reel (8 mm tape), 10K/box

TR/2.5K per 7" reel (8 mm tape), 12.5K/box

FEATURES

- Integrated protection ring against static discharge
- Low capacitance
- Low leakage current
- Low forward voltage drop
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- IHF-detector
- Protection circuit
- Small battery charger
- AC/DC / DC/DC converter for notebooks

PARTS TABLE

PART	TYPE DIFFERENTIATION	ORDERING CODE	CIRCUIT CONFIGURATION	REMARKS
MCL103A	$V_R = 40$ V	MCL103A-TR3 or MCL103A-TR	Single	Tape and reel
MCL103B	$V_R = 30$ V	MCL103B-TR3 or MCL103B-TR	Single	Tape and reel
MCL103C	$V_R = 20$ V	MCL103C-TR3 or MCL103C-TR	Single	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage		MCL103A	V_R	40	V
		MCL103B	V_R	30	V
		MCL103C	V_R	20	V
Forward continuous current			I_F	200	mA
Peak forward surge current	$t_p = 300$ μ s, square pulse		I_{FSM}	15	A
Power dissipation			P_{tot}	400	mW

THERMAL CHARACTERISTICS ($T_{amb} = 25$ °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air	On PC board 50 mm x 50 mm x 1.6 mm	R_{thJA}	250	K/W
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	-65 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$, unless otherwise specified)							
PARAMETER	TEST CONDITION	SYMBOL	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	$I_R = 10 \mu A$	MCL103A	$V_{(BR)}$	40			V
		MCL103B	$V_{(BR)}$	30			V
		MCL103C	$V_{(BR)}$	20			V
Leakage current	$V_R = 30 V$	MCL103A	I_R		5		μA
	$V_R = 20 V$	MCL103B	I_R		5		μA
	$V_R = 10 V$	MCL103C	I_R		5		μA
Forward voltage drop	$I_F = 20 mA$		V_F			370	mV
	$I_F = 200 mA$		V_F			600	mV
Diode capacitance	$V_R = 0 V, f = 1 MHz$		C_D		50		pF
Reverse recovery time	$I_F = I_R = 50 mA$ to $200 mA$, recovery to $0.1 I_R$		t_{rr}		10		ns

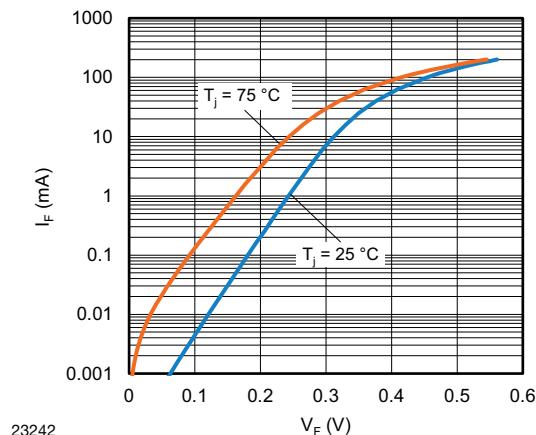
TYPICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$, unless otherwise specified)


Fig. 1 - Typical Forward Current vs. Forward Voltage

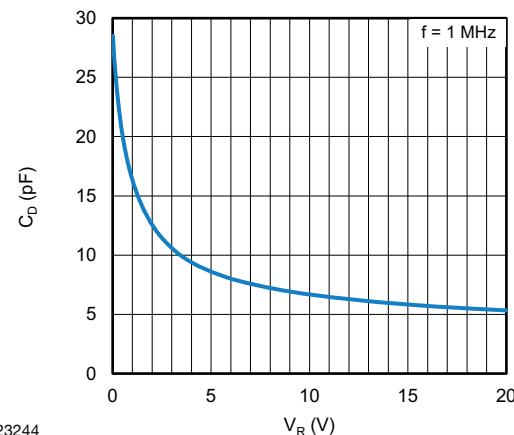


Fig. 3 - Typical Capacitance vs. Reverse Voltage

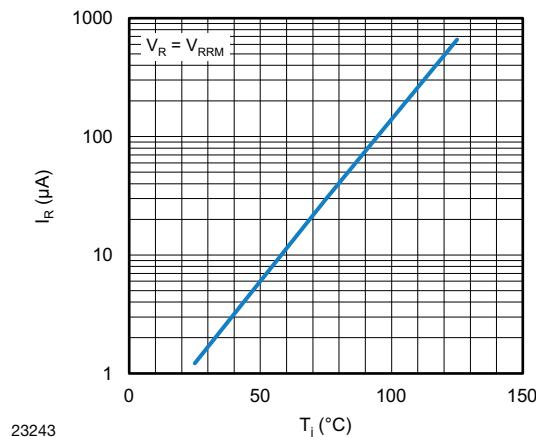
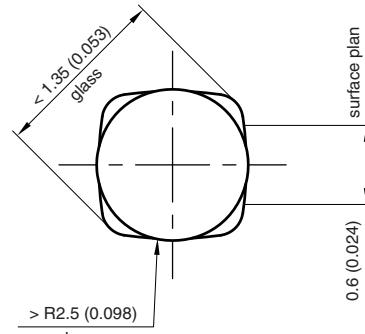
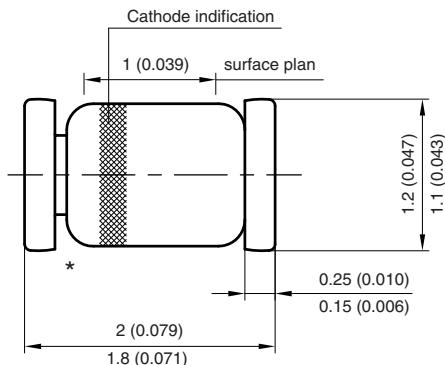
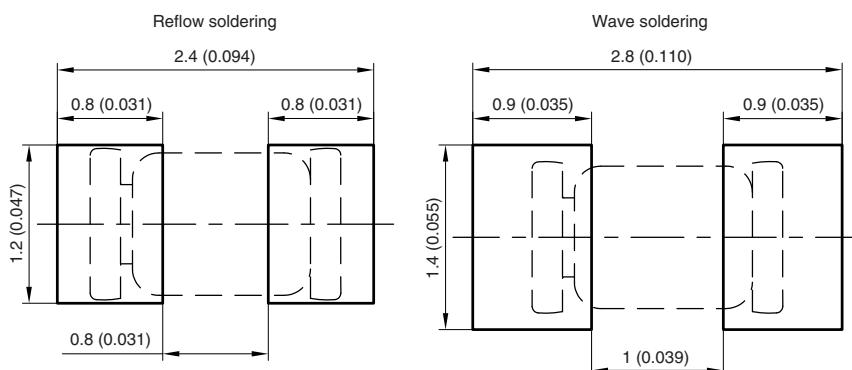


Fig. 2 - Typical Reverse Current vs. Junction Temperature

PACKAGE DIMENSIONS in millimeters (inches): **MicroMELF**


* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:


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