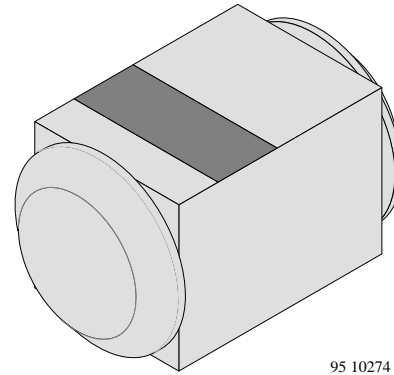


Silicon Epitaxial Planar Diode

Features

- Saving space
- Hermetic sealed parts
- Fits onto SOD 323 / SOT 23 footprints
- Electrical data identical with the devices LL4148 / 1N4148



Applications

Extreme fast switches

Absolute Maximum Ratings

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

Parameter	Test Conditions	Type	Symbol	Value	Unit
Repetitive peak reverse voltage			V_{RRM}	100	V
Reverse voltage			V_R	75	V
Peak forward surge current	$t_p=1\mu\text{s}$		I_{FSM}	2	A
Repetitive peak forward current			I_{FRM}	450	mA
Forward current			I_F	200	mA
Average forward current	$V_R=0$		I_{FAV}	150	mA
Power dissipation			P_V	500	mW
Junction temperature			T_j	175	$^\circ\text{C}$
Storage temperature range			T_{stg}	-65...+175	$^\circ\text{C}$

Maximum Thermal Resistance

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

Parameter	Test Conditions	Symbol	Value	Unit
Junction ambient	mounted on epoxy-glass hard issue, Fig. 1 35 μm copper clad, 0.9 mm ² copper area per electrode	R_{thJA}	500	K/W

Characteristics

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

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	$I_F=50\text{mA}$		V_F		0.86	1	V
Reverse current	$V_R=20\text{V}$		I_R			25	nA
	$V_R=20\text{V}, T_j=150^\circ\text{C}$		I_R			50	μA
	$V_R=75\text{V}$		I_R			5	μA
Breakdown voltage	$I_R=100\mu\text{A}, t_p/T=0.01, t_p=0.3\text{ms}$		$V_{(BR)}$	100			V
Diode capacitance	$V_R=0, f=1\text{MHz}, V_{HF}=50\text{mV}$		C_D		1.5	4	pF
Reverse recovery time	$I_F=I_R=10\text{mA}, i_R=1\text{mA}$		t_{rr}			8	ns

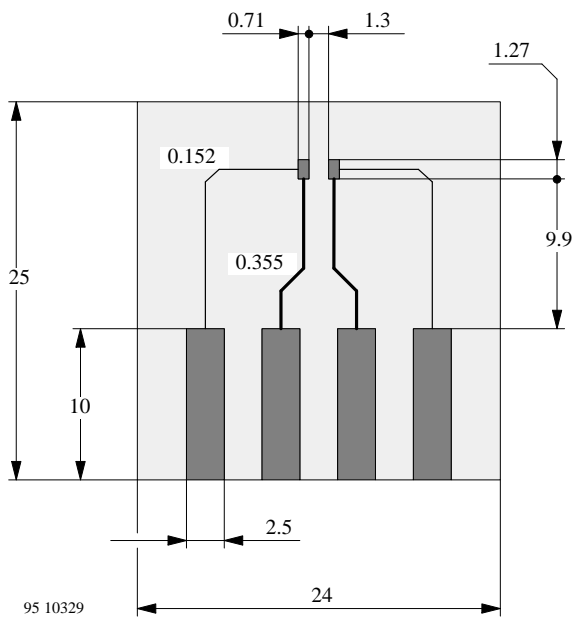


Figure 1 : Board for R_{thJA} definition (in mm)

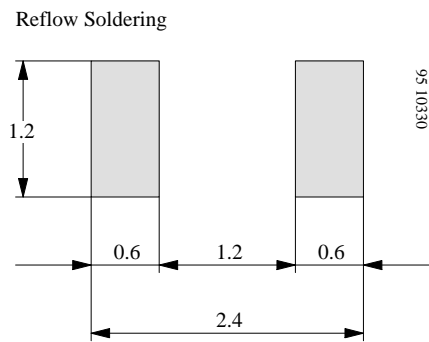


Figure 2 : Recommended foot pads (in mm)

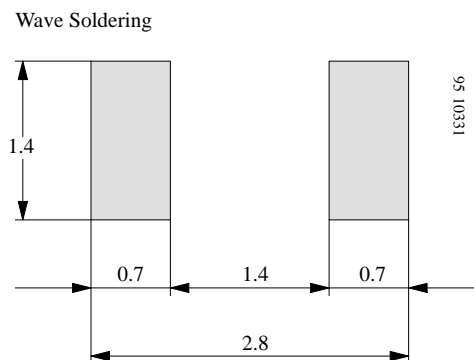


Figure 3 : Recommended foot pads (in mm)

Typical Characteristics ($T_j = 25^\circ\text{C}$ unless otherwise specified)

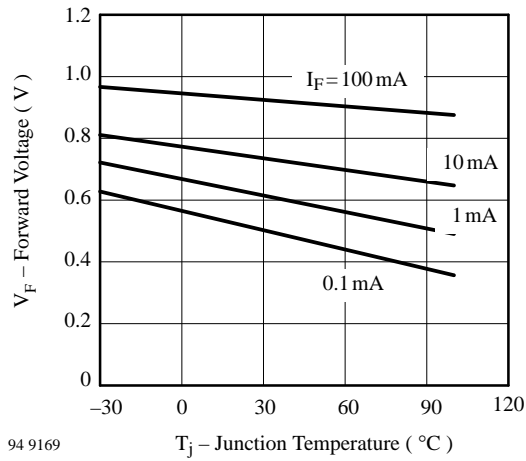


Figure 4 : Forward Voltage vs. Junction Temperature

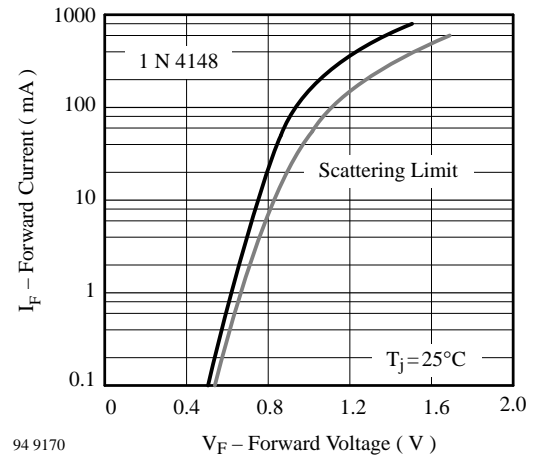


Figure 5 : Forward Current vs. Forward Voltage

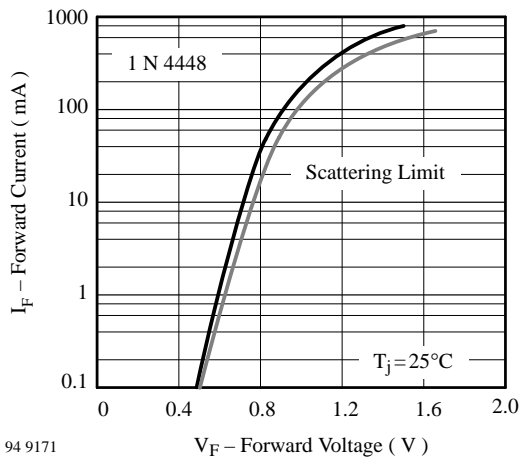


Figure 6 : Forward Current vs. Forward Voltage

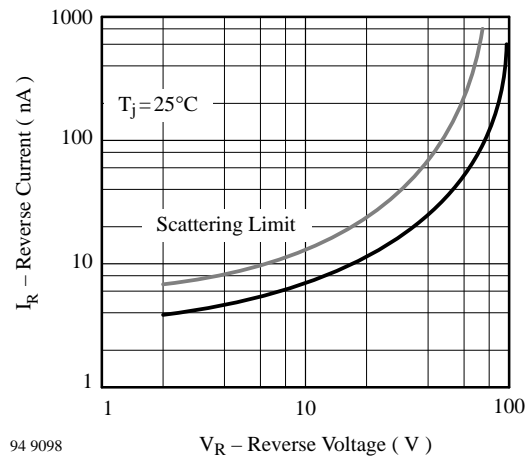
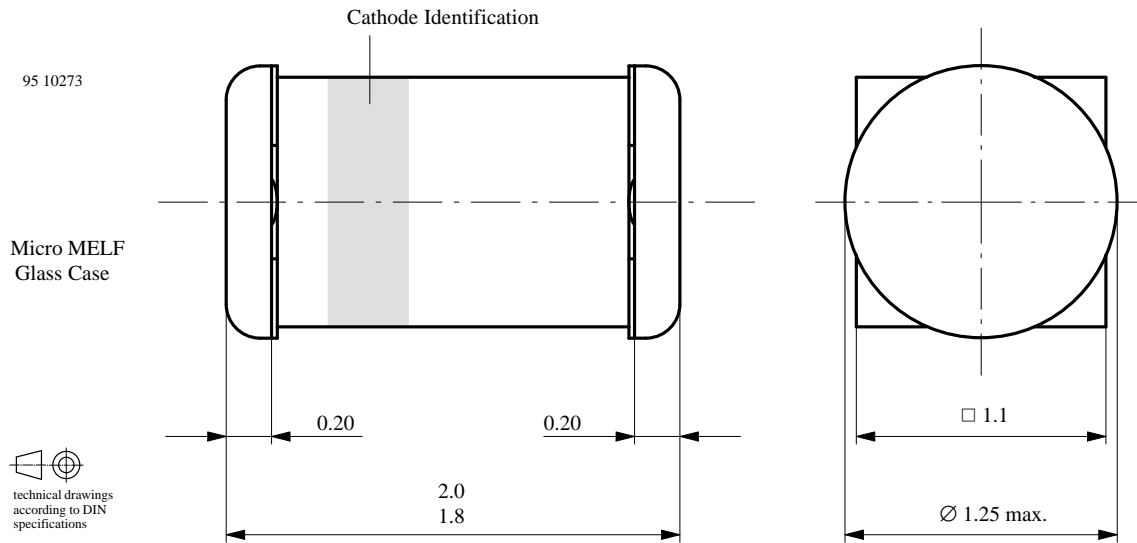


Figure 7 : Reverse Current vs. Reverse Voltage

Dimensions in mm



We reserve the right to make changes to improve technical design and may do so without further notice.

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use TEMIC products for any unintended or unauthorized application, the buyer shall indemnify TEMIC against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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