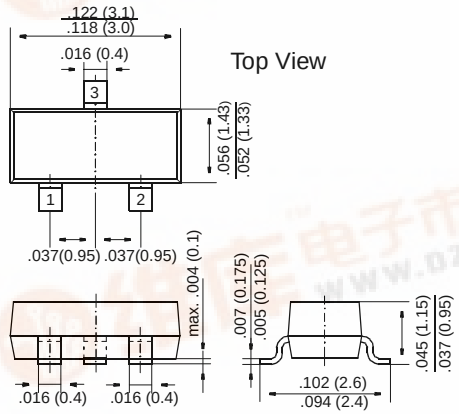
IMBD4148

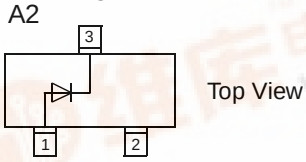
Small Signal Diodes

SOT-23



Dimensions in inches and (millimeters)

Marking
A2



FEATURES

- Silicon Epitaxial Planar Diodes
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- This diode is also available in other case styles including: the DO-35 case with the type designation 1N4148, the Mini-MELF case with the type designation LL4148, and the SOD-123 case with the type designation 1N4148W

MECHANICAL DATA

Case: SOT-23 Plastic Package
Weight: approx. 0.008 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Value	Unit
Reverse Voltage	V_R	75	V
Peak Reverse Voltage	V_{RM}	100	V
Rectified Current (Average) Half Wave Rectification with Resist. Load at T_{amb} = 25 °C and ≥ f ≥ 50 Hz	I_0	150[1)]	mA
Surge Forward Current at t < 1 s and T_j = 25 °C	I_{FSM}	500	mA
Power Dissipation at T_{amb} = 25 °C	P_{tot}	350[1)]	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	–65 to +150	°C

[1)] Device on fiberglass substrate, see layout

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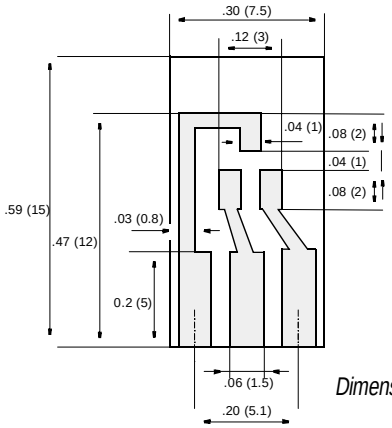
IMBD4148

ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at I_F = 10 mA	V_F	–	–	1	V
Leakage Current at V_R = 70 V at V_R = 70 V, T_j = 150 °C at V_R = 25 V, T_j = 150 °C	 I_R I_R I_R	 – – –	 – – –	 2.5 50 30	 µA µA µA
Capacitance at V_F = V_R = 0	C_{tot}	–	–	4	pF
Reverse Recovery Time from I_F = 10 mA to I_R = 10 mA V_R = 6 V, R_L = 100 Ω	t_{rr}	–	–	4	ns
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	450[1)]	K/W
[1)] Device on fiberglass substrate, see layout					



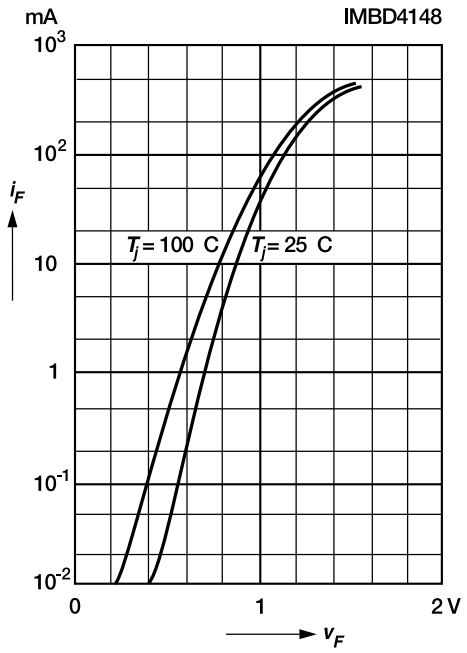
Dimensions in inches (millimeters)

Layout for R_{thJA} test

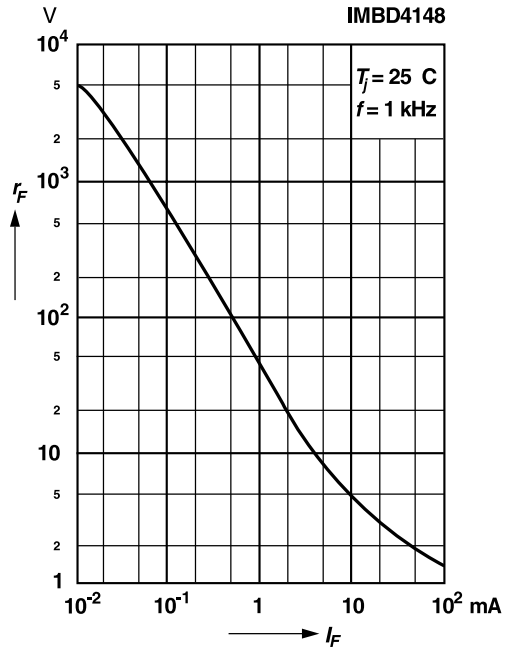
Thickness: Fiberglass 0.059 in (1.5 mm)
Copper leads 0.012 in (0.3 mm)

RATINGS AND CHARACTERISTIC CURVES IMBD4148

Forward characteristics

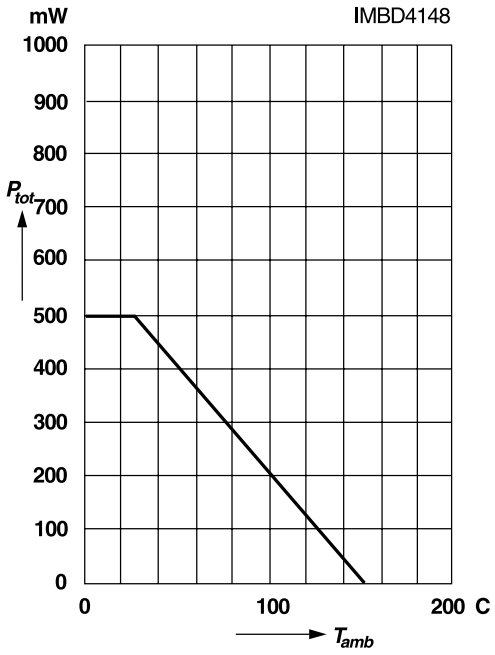


Dynamic forward resistance versus forward current

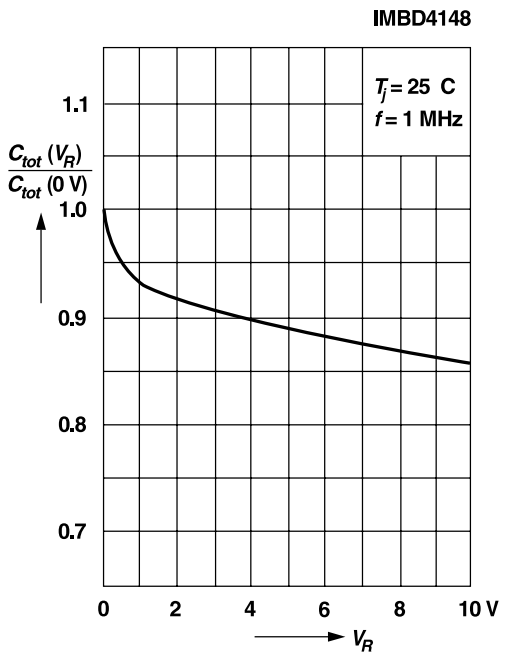


Admissible power dissipation versus ambient temperature

For conditions, see footnote in table "Absolute Maximum Ratings"



Relative capacitance versus reverse voltage



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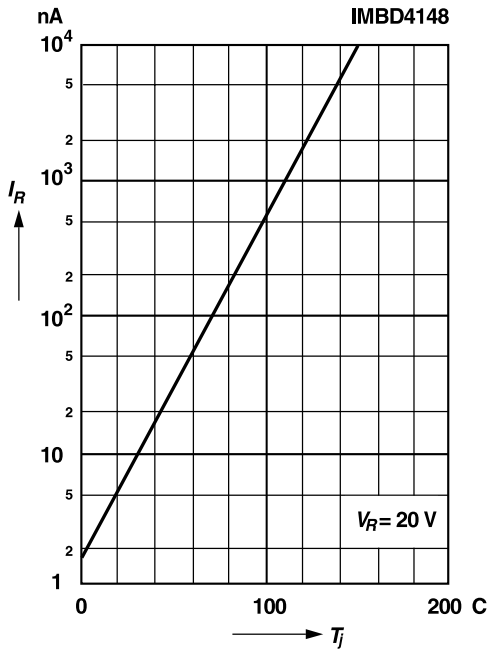
RATINGS AND CHARACTERISTIC CURVES IMBD4148

Leakage current
versus junction temperature



Admissible repetitive peak forward current versus pulse duration

For conditions, see footnote in table "Absolute Maximum Ratings"