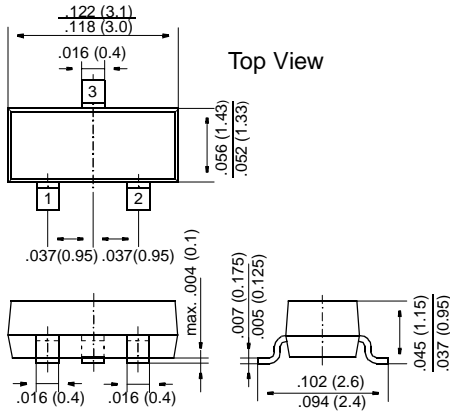


# IMBD4148

## Small Signal Diodes

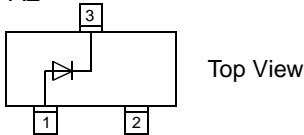
### SOT-23



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 $T_{amb} = 25\text{ °C}$ and $\geq f \geq 50\text{ Hz}$	$I_0$	150 <sup>1)</sup>	mA
Surge Forward Current at $t < 1\text{ s}$ and $T_j = 25\text{ °C}$	$I_{FSM}$	500	mA
Power Dissipation at $T_{amb} = 25\text{ °C}$	$P_{tot}$	350 <sup>1)</sup>	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_S$	-65 to +150	°C

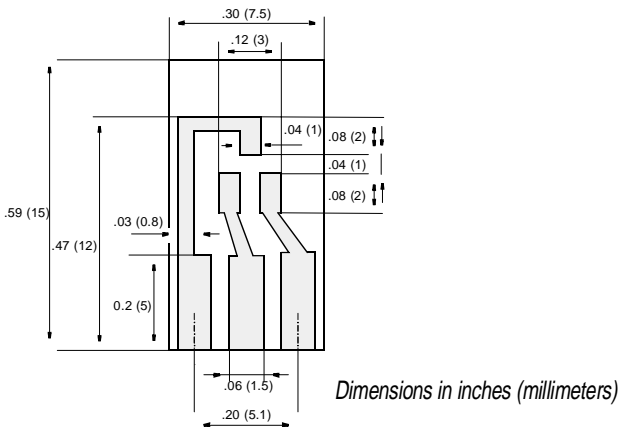
<sup>1)</sup> Device on fiberglass substrate, see layout

# IMBD4148

## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

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



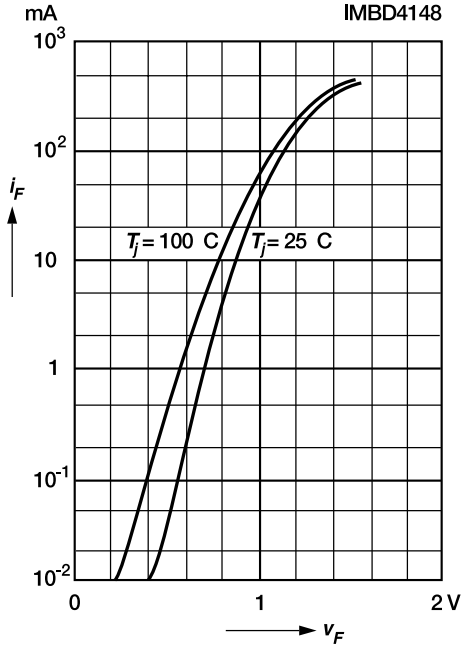
### Layout for $R_{\text{thJA}}$ test

Thickness: Fiberglass 0.059 in (1.5 mm)

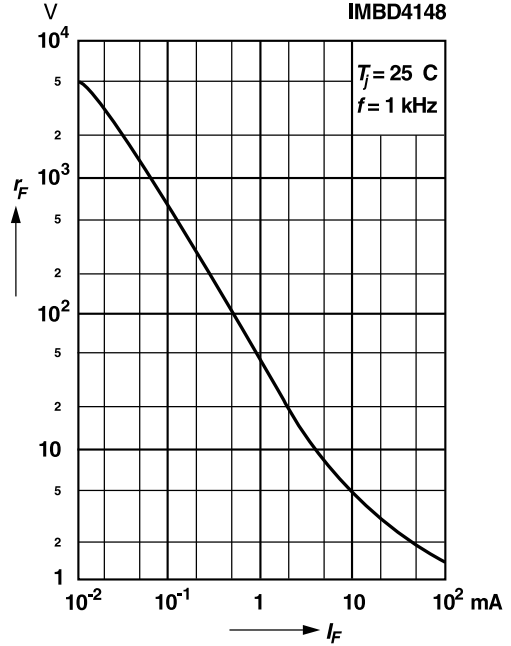
Copper leads 0.012 in (0.3 mm)

# RATINGS AND CHARACTERISTIC CURVES IMBD4148

Forward characteristics

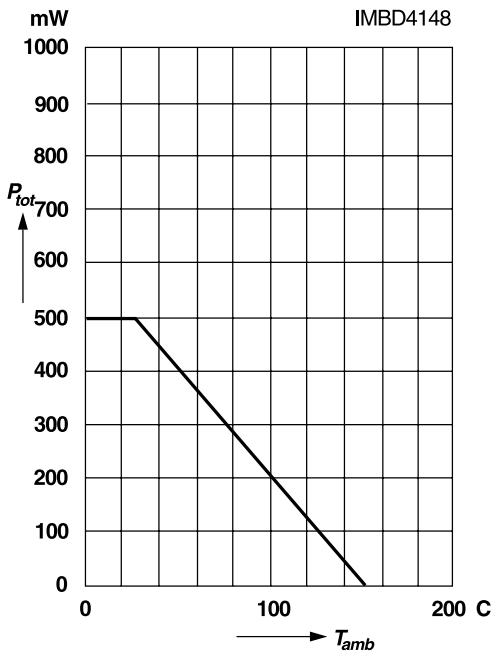


Dynamic forward resistance versus forward current

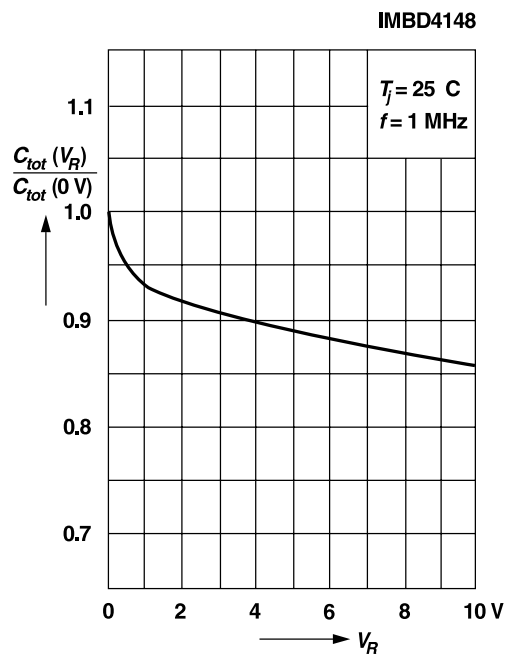


Admissible power dissipation versus ambient temperature

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

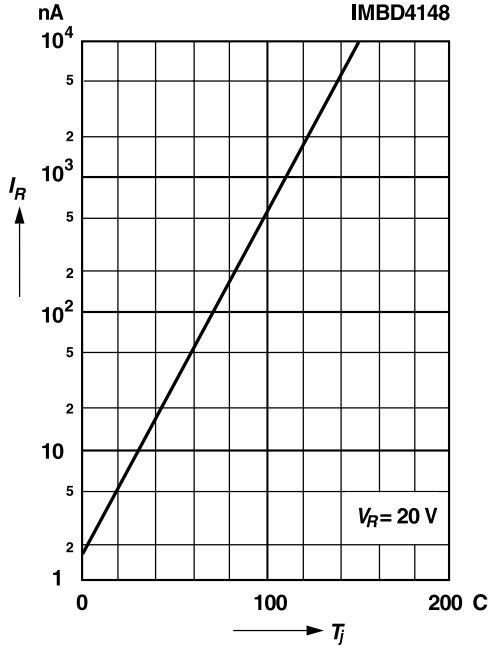


Relative capacitance versus reverse voltage



# 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"

