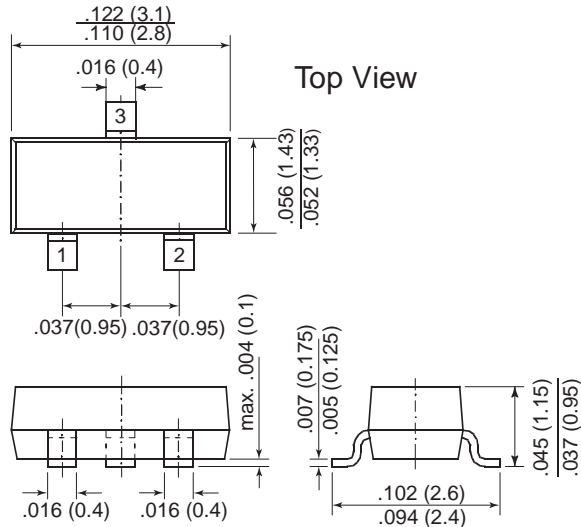




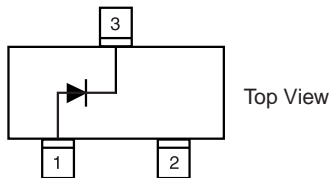
## Small-Signal Diode

**TO-236AB (SOT-23)**


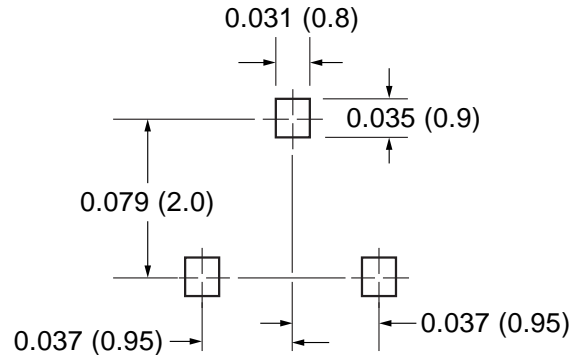
Dimensions in inches and (millimeters)

### Marking

A3



### Mounting Pad Layout



### Features

- Silicon Epitaxial Planar Diodes
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- This diodes are also available in other case styles including: the DO-35 case with the type designation 1N4448, the Mini-MELF case with the type designation LL4448, and the SOD-123 case with the type designation 1N4448W.

### Mechanical Data

**Case:** SOT-23 Plastic Package

**Weight:** approx. 0.008g

**Packaging Codes/Options:**

- E8/10K per 13" reel (8mm tape), 30K/box
- E9/3K per 7" reel (8mm tape), 30K/box

## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	75	V
Peak Reverse Voltage	V <sub>RM</sub>	100	V
Rectified Current (Average) Half Wave Rectification with Resist. Load at T <sub>amb</sub> = 25°C and ≥ f ≥ 50Hz	I <sub>F(AV)</sub>	150 <sup>(1)</sup>	mA
Surge Forward Current at t < 1s and T <sub>j</sub> = 25°C	I <sub>FSM</sub>	500	mA
Power Dissipation up to T <sub>amb</sub> = 25°C	P <sub>tot</sub>	350 <sup>(1)</sup>	mW
Thermal Resistance Junction to Ambient Air	R <sub>θJA</sub>	450 <sup>(1)</sup>	°C/W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>s</sub>	-65 to +150	°C

**Note:**

(1) Device on fiberglass substrate, see layout on next page.

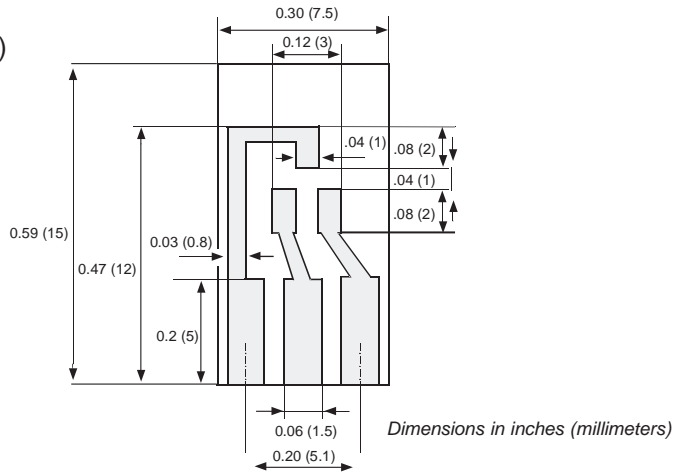
**Electrical Characteristics** (T<sub>J</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 5mA	0.62	—	0.72	V
		I <sub>F</sub> = 100mA	—	—	1.0	V
Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 70V	—	—	2.5	μA
		V <sub>R</sub> = 70V, T <sub>j</sub> = 150°C	—	—	50	μA
		V <sub>R</sub> = 25V, T <sub>j</sub> = 150°C	—	—	30	μA
Capacitance	C <sub>tot</sub>	V <sub>F</sub> = V <sub>R</sub> = 0, f = 1MHz	—	—	4	pF
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 10mA, I <sub>R</sub> = 10mA V <sub>R</sub> = 6V, R <sub>L</sub> = 100Ω	—	—	4	ns

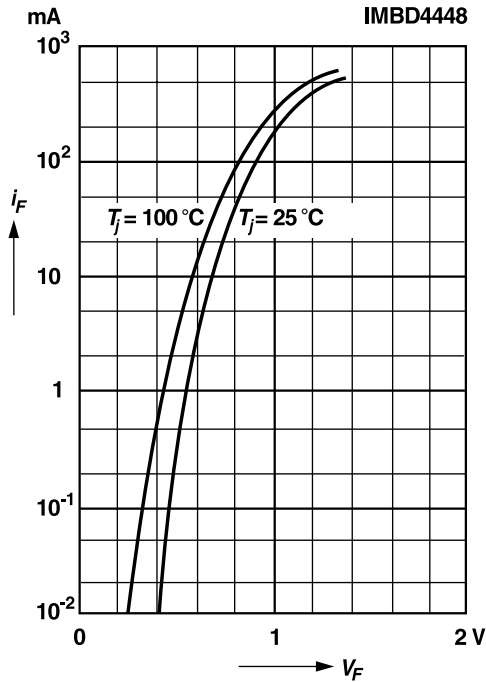
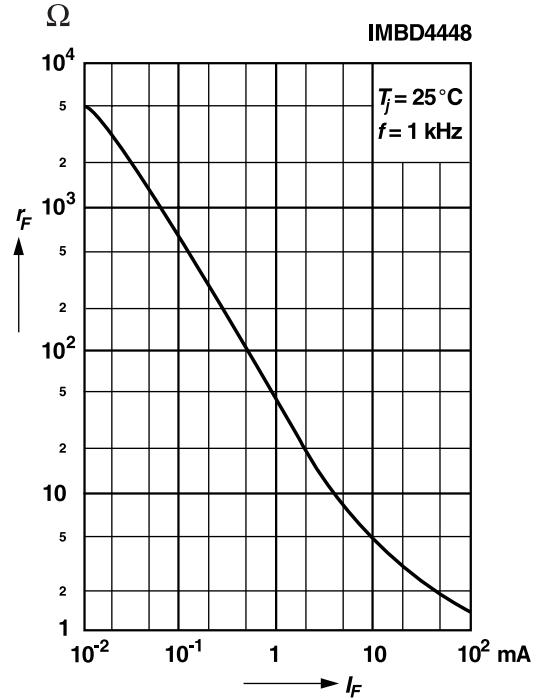
(1) Device on fiberglass substrate, see layout (SOT-23).

**Layout for R<sub>thJA</sub> test**

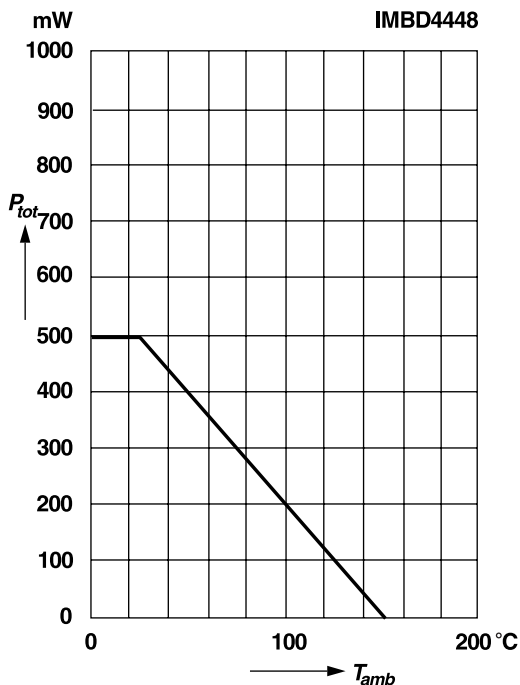
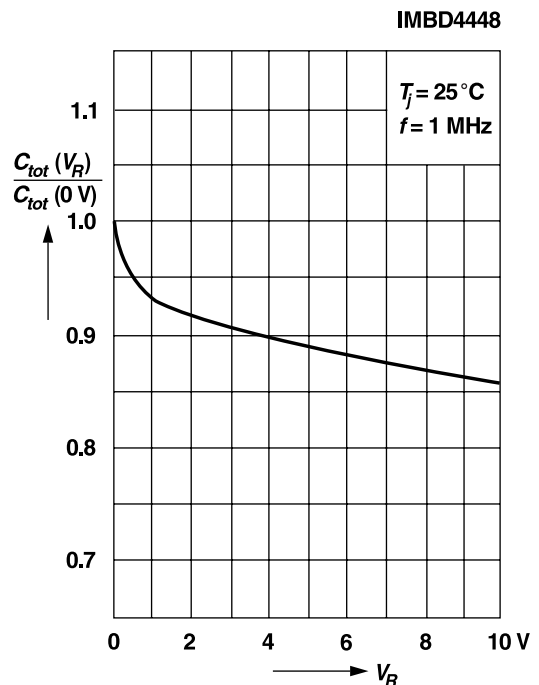
Thickness: Fiberglass 0.059 in. (1.5 mm)  
Copper leads 0.012 in. (0.3 mm)



**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

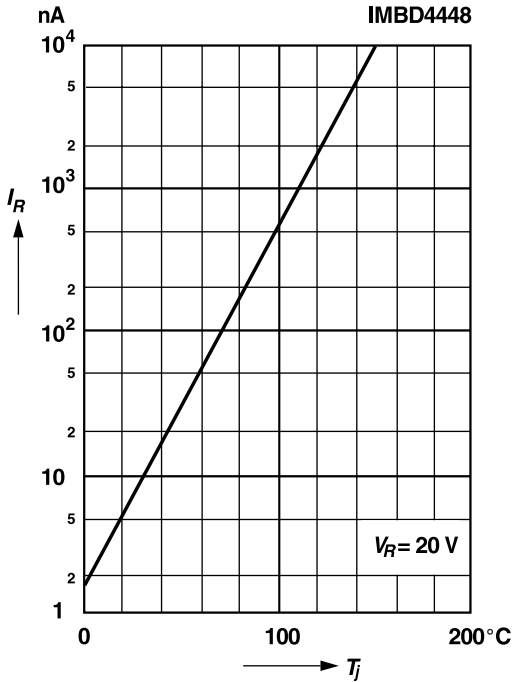
**Forward characteristics**

**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** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Leakage current versus junction temperature**



**Admissible repetitive peak forward current versus pulse duration**

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

