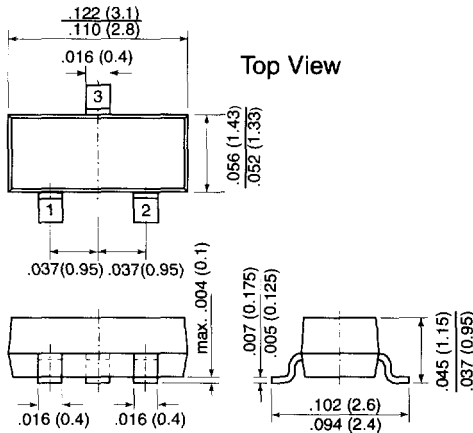


**Small Signal Diode**

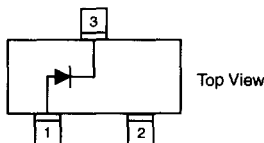


**TO-236AB (SOT-23)**

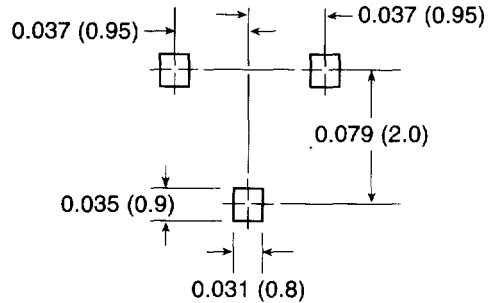


Dimensions in inches and (millimeters)

**Marking**  
A2



**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 $\geq f \geq 50$ Hz	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.

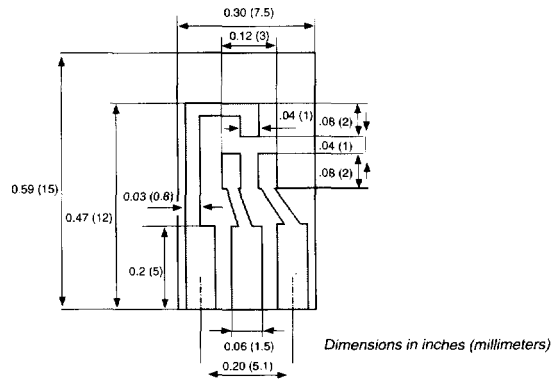
**Electrical Characteristics** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F = 5\text{mA}$	0.62	—	0.72	V
		$I_F = 100\text{mA}$	—	—	1.0	V
Leakage Current	$I_R$	$V_R = 70\text{V}$	—	—	2.5	$\mu\text{A}$
		$V_R = 70\text{V}, T_j = 150^\circ\text{C}$	—	—	50	$\mu\text{A}$
		$V_R = 25\text{V}, T_j = 150^\circ\text{C}$	—	—	30	$\mu\text{A}$
Capacitance	$C_{tot}$	$V_F = V_R = 0, f = 1\text{MHz}$	—	—	4	pF
Reverse Recovery Time	$t_{rr}$	$I_F = 10\text{mA}, I_R = 10\text{mA}$ $V_R = 6\text{V}, R_L = 100\Omega$	—	—	4	ns

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

**Layout for  $R_{thJA}$  test**

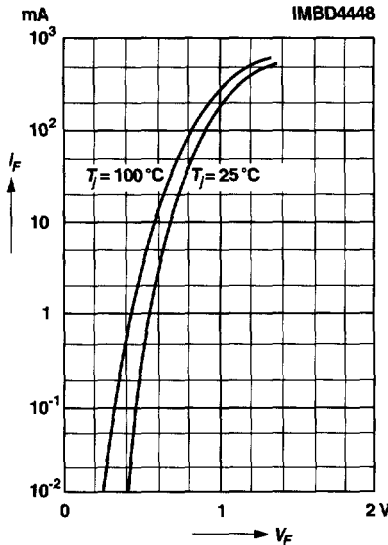
Thickness: Fiberglass 0.059 in. (1.5 mm)  
Copper leads 0.012 in. (0.3 mm)



Switching Diodes

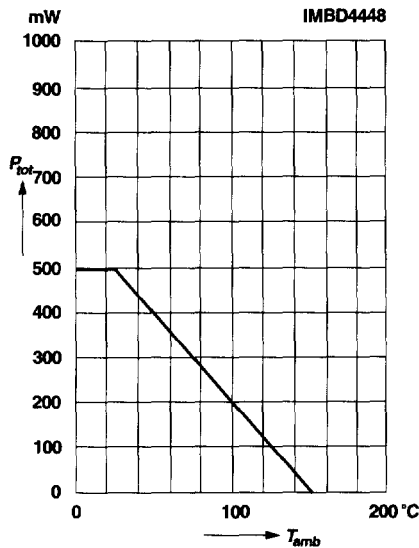
**Ratings and Characteristic Curves** ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Forward characteristics

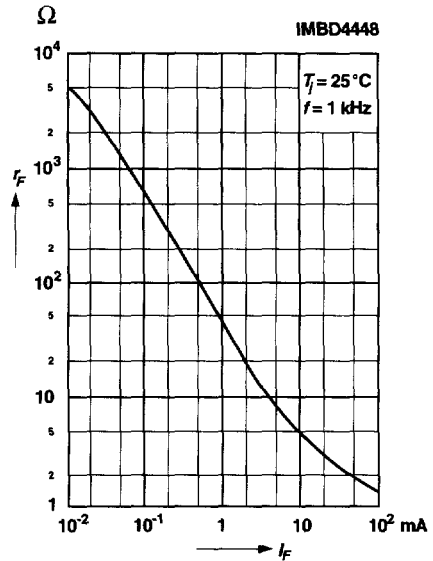


Admissible power dissipation versus ambient temperature

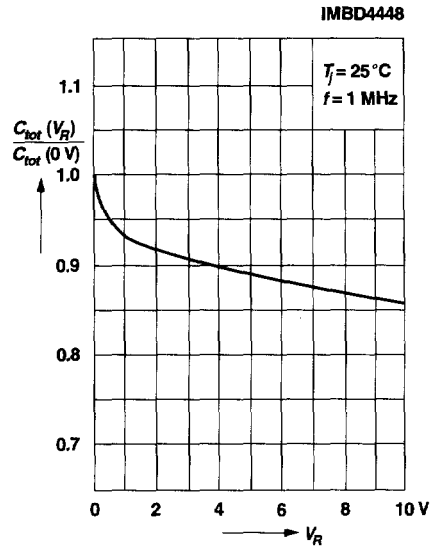
For conditions, see footnote in table "Absolute Maximum Ratings"



Dynamic forward resistance versus forward current

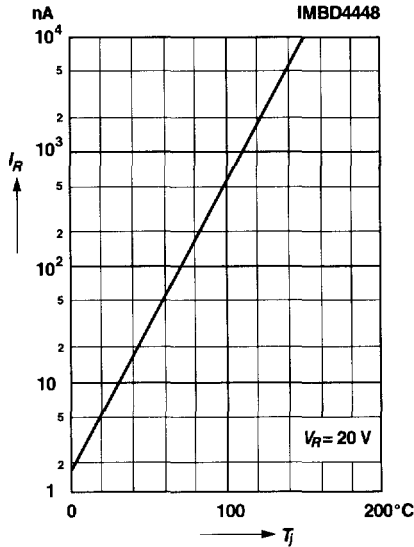


Relative capacitance versus reverse voltage



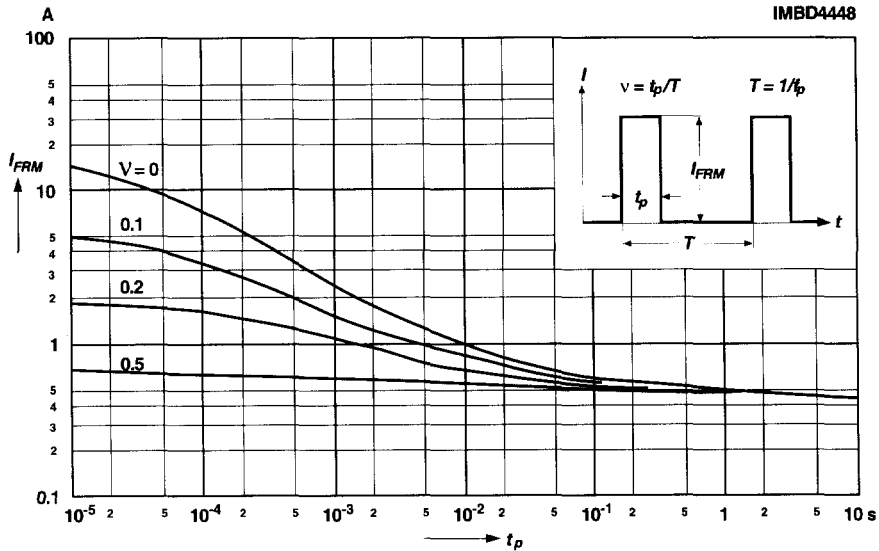
Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$  unless otherwise noted)

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

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



Switching Diodes