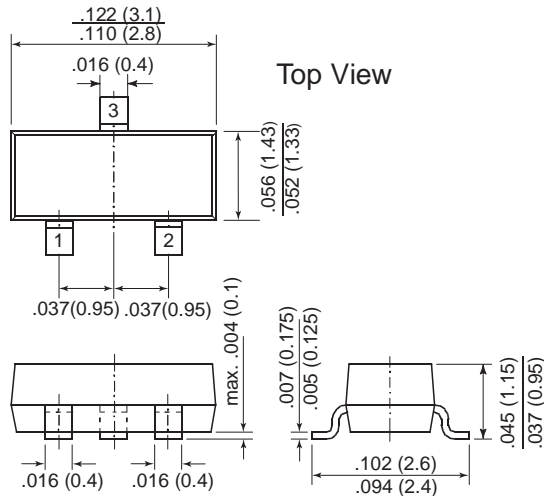


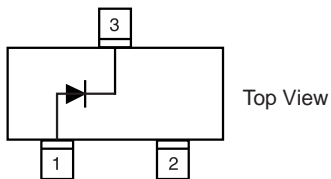
## Small-Signal Diode


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


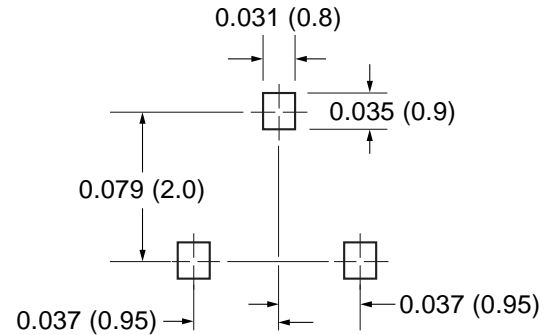
Dimensions in inches and (millimeters)

### 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 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. 0.008g

**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.

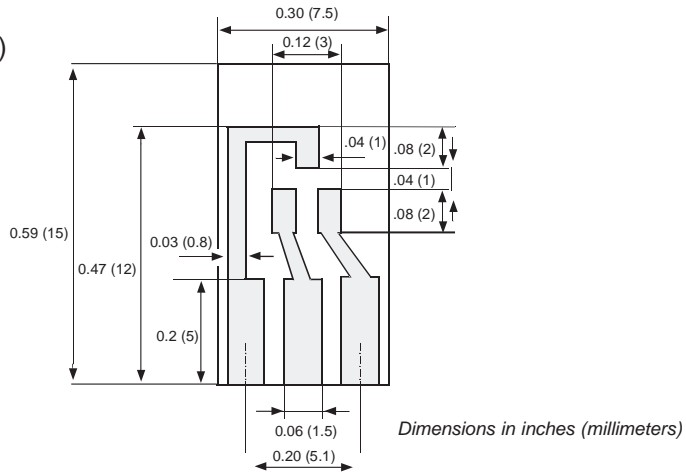
**Electrical Characteristics** ( $T_J = 25^\circ\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F = 10 \text{ mA}$	—	—	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	$C_{\text{tot}}$	$V_F = V_R = 0$	—	—	4	pF
Reverse Recovery Time (see figures)	$t_{\text{rr}}$	$I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$ $V_R = 6 \text{ V}, R_L = 100 \Omega$	—	—	4	ns

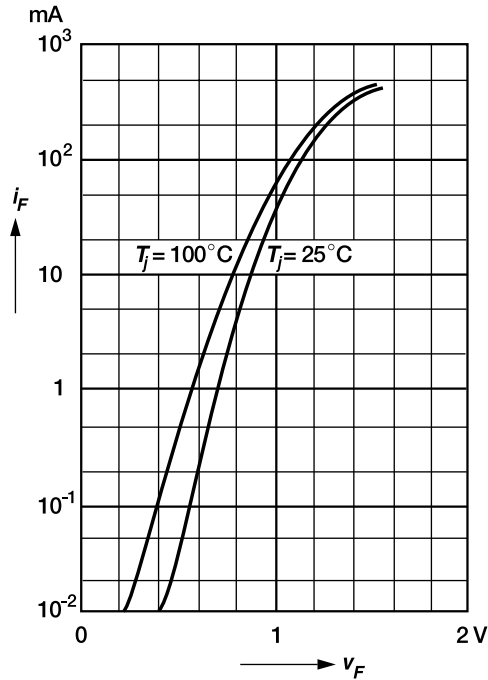
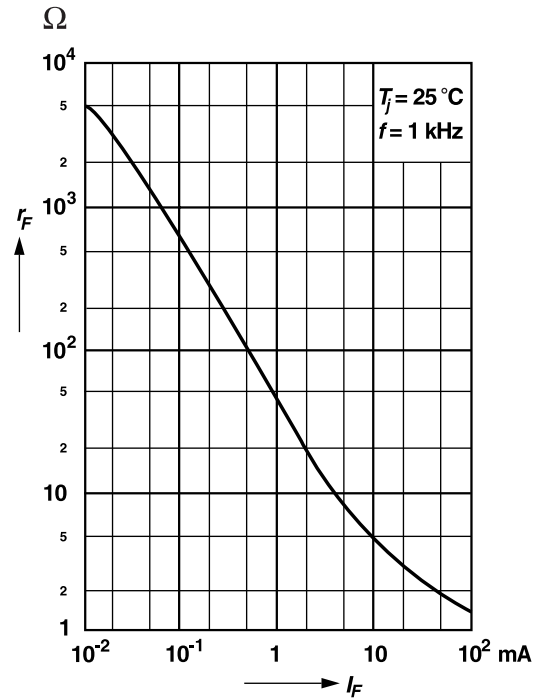
(1) Device on fiberglass substrate, see layout (SOT-23).

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

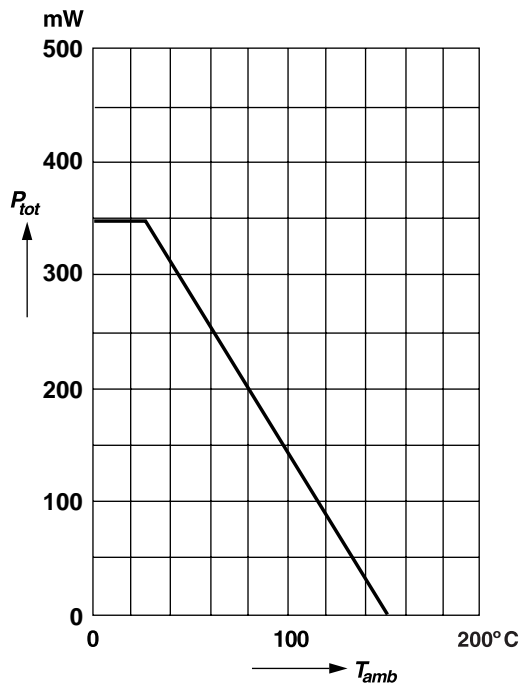
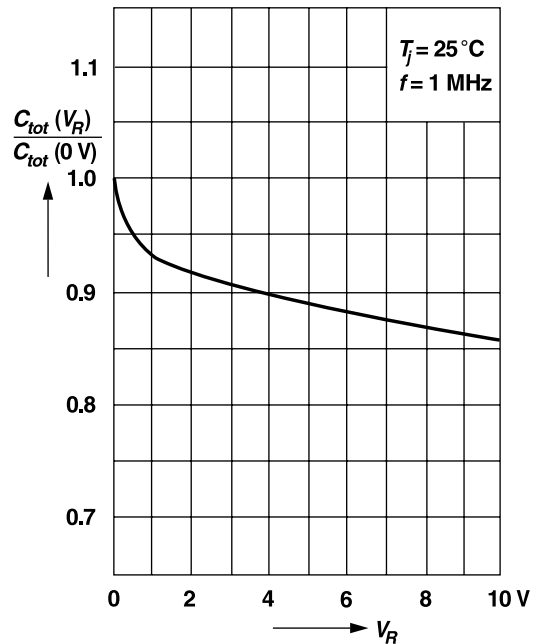
Thickness: Fiberglass 0.059 in. (1.5 mm)  
Copper leads 0.012 in. (0.3 mm)



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

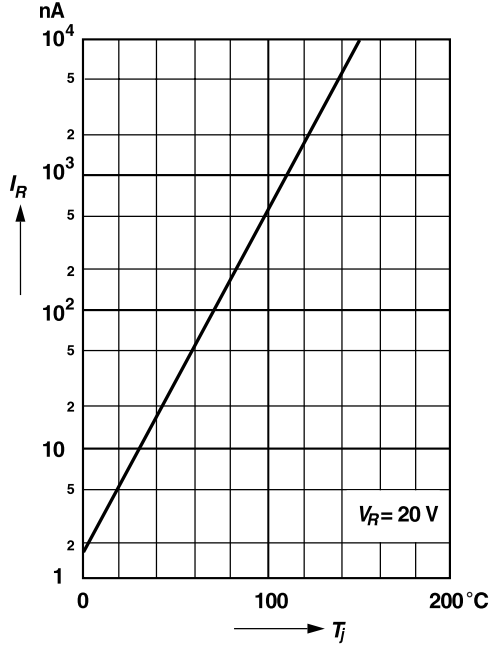
**Forward characteristics**

**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"

