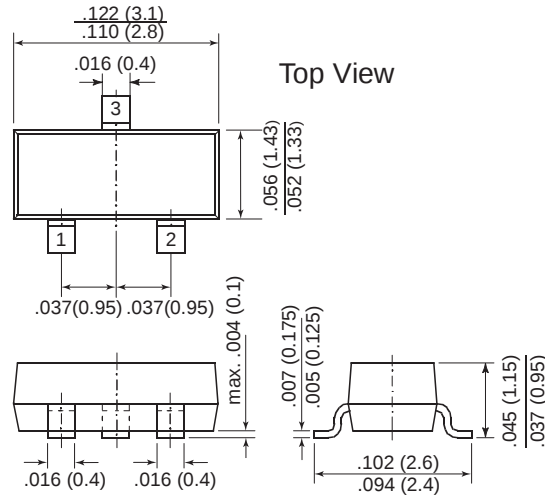


Small-Signal Diode

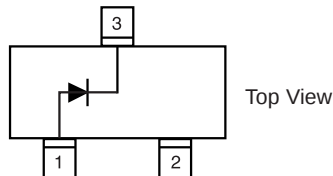


TO-236AB (SOT-23)

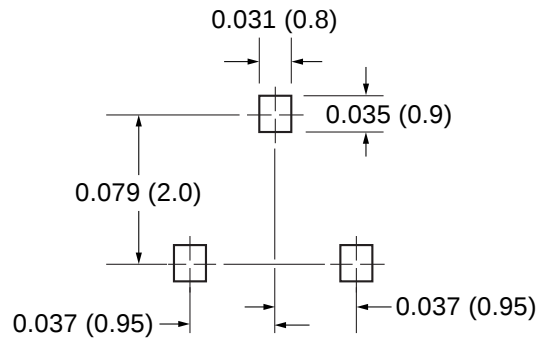


Dimensions in inches and (millimeters)

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_A = 25°C unless otherwise noted)

Parameter	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 ≥ 50Hz	I _{F(AV)}	150 ⁽¹⁾	mA
Surge Forward Current at t < 1s and T _j = 25°C	I _{FSM}	500	mA
Power Dissipation up to T _{amb} = 25°C	P _{tot}	350 ⁽¹⁾	mW
Thermal Resistance Junction to Ambient Air	R _{θJA}	450 ⁽¹⁾	°C/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _S	-65 to +150	°C

Note:

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

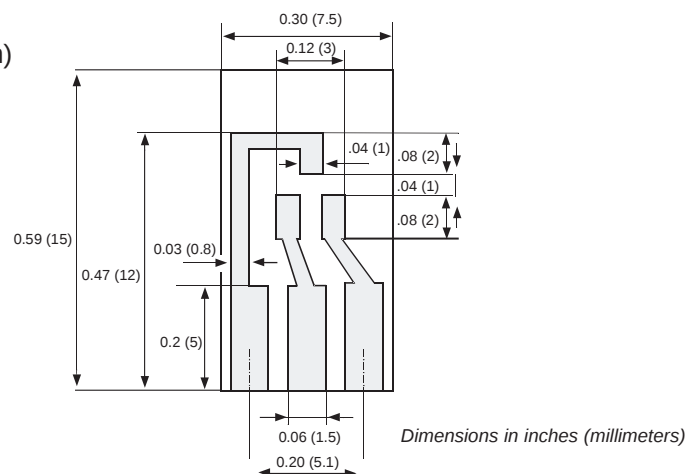
Electrical Characteristics (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F = 10 mA	—	—	1.0	V
Leakage Current	I _R	V _R = 70 V	—	—	2.5	μA
		V _R = 70 V, T _j = 150 °C	—	—	50	μA
		V _R = 25 V, T _j = 150 °C	—	—	30	μA
Capacitance	C _{tot}	V _F = V _R = 0	—	—	4	pF
Reverse Recovery Time (see figures)	t _{rr}	I _F = 10 mA, I _R = 10 mA V _R = 6 V, R _L = 100 Ω	—	—	4	ns

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

Layout for R_{thJA} test

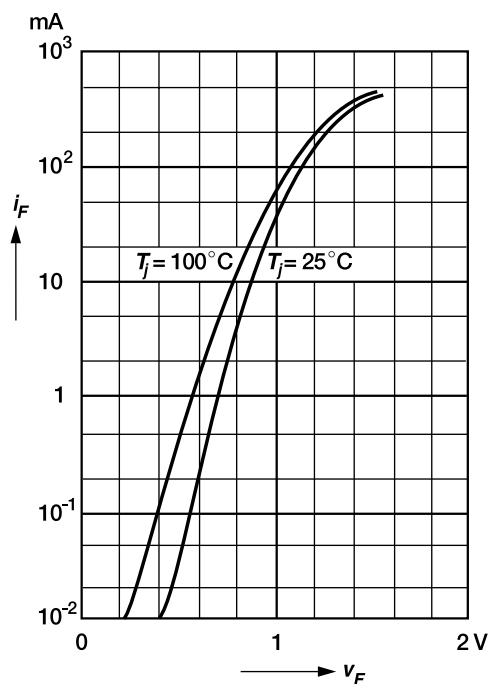
Thickness: Fiberglass 0.059 in. (1.5 mm)
Copper leads 0.012 in. (0.3 mm)



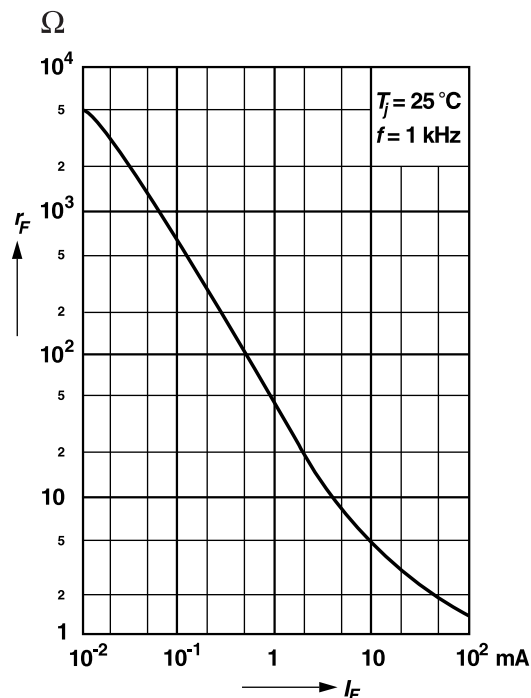
Small-Signal Diode

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

Forward characteristics

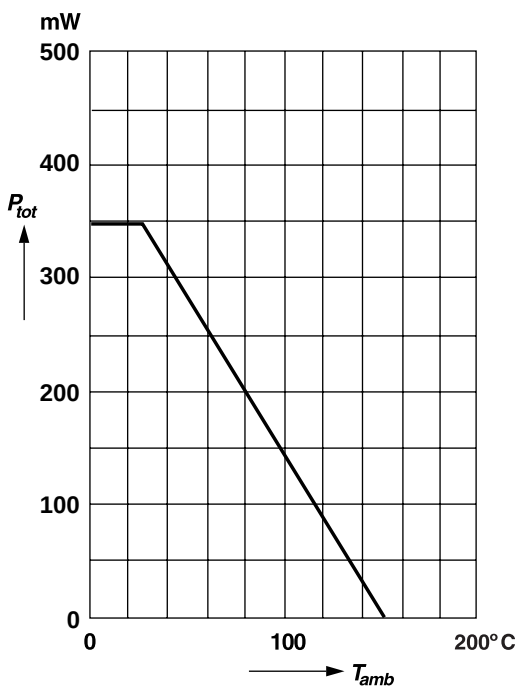


Dynamic forward resistance
versus forward current

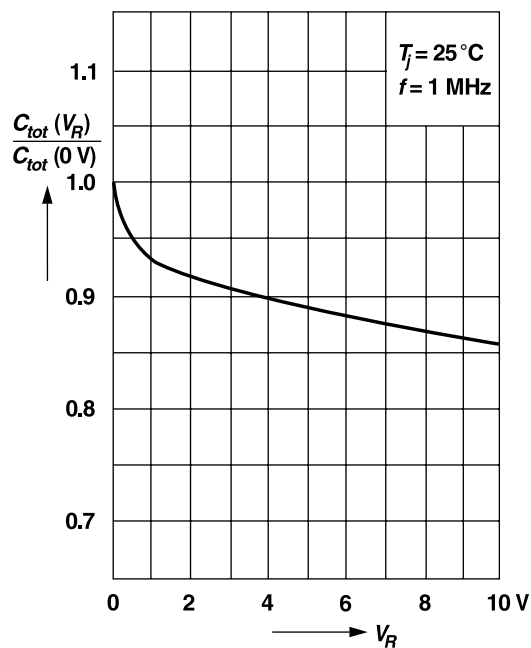


Admissible power dissipation
versus ambient temperature

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

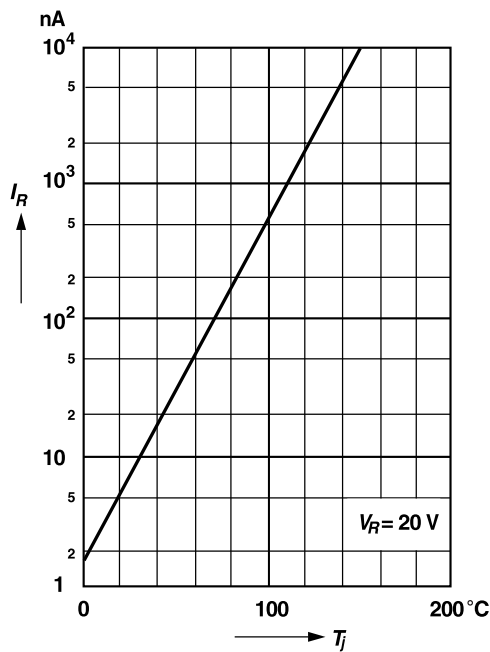


Relative capacitance
versus reverse voltage



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"

