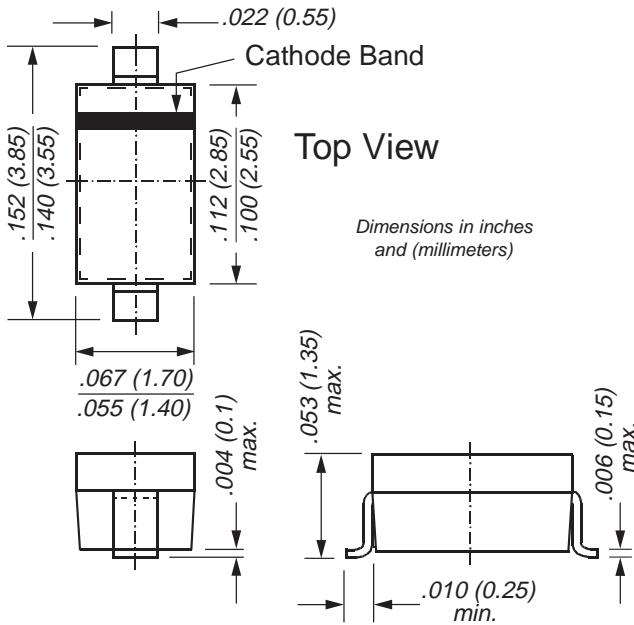




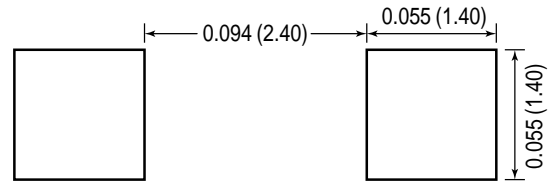
Small-Signal Diode



SOD-123



Mounting Pad Layout



Features

- Silicon Epitaxial Planar Diode
- Fast switching diode
- This diode is also available in other case styles including the DO-35 case with the type designation 1N4151, and the MiniMELF case with the type designation LL4151.

Mechanical Data

Case: SOD-123 Plastic Case

Weight: approx. 0.01g

Marking Code: A5

Packaging Codes/Options:

- D3/10K per 13" reel (8mm tape), 30K/box
- D4/3K per 7" reel (8mm tape), 30K/box

Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Reverse Voltage	V _R	50	V
Peak Reverse Voltage	V _{RM}	75	V
Average Rectified Current Half Wave Rectification with Resistive 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 at T _{amb} = 25°C	P _{tot}	410 ⁽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

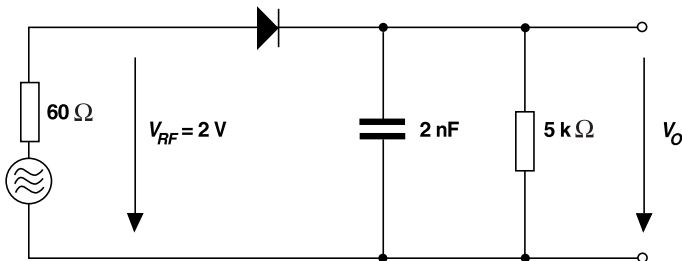
Note: (1) Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

(T_J = 25°C unless otherwise noted)

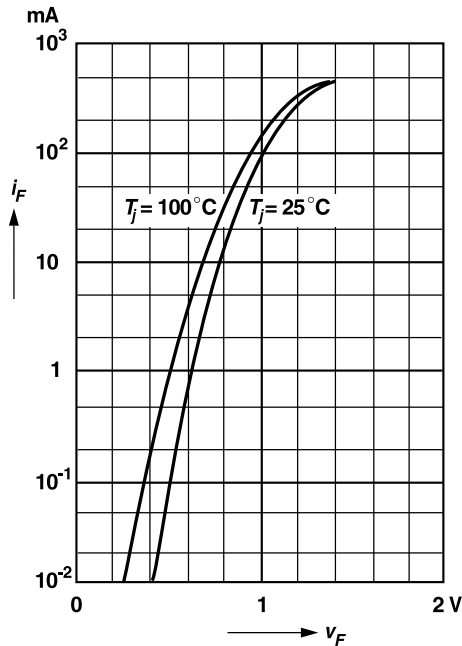
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Forward Voltage	V _F	I _F = 50 mA	—	—	1.0	V
Leakage Current	I _R	V _R = 50V V _R = 20V, T _j = 150 °C	— —	— —	50 50	nA μA
Reverse Breakdown Voltage	V _{(BR)R}	I _R = 5 μA (pulsed)	75	—	—	V
Capacitance	C _{tot}	V _F = V _R = 0V	—	—	2	pF
Reverse Recovery Time	t _{rr}	I _F = 10 mA to I _R = 10 mA to I _R = 1 mA	—	—	4	ns
		I _F = 10 mA to I _R = 1 mA V _R = 6 V, R _L = 100 Ω	—	—	2	
Rectification Efficiency	η _v	f = 100 MHz, V _{RF} = 2V	0.45	—	—	—

Rectification Efficiency Measurement Circuit

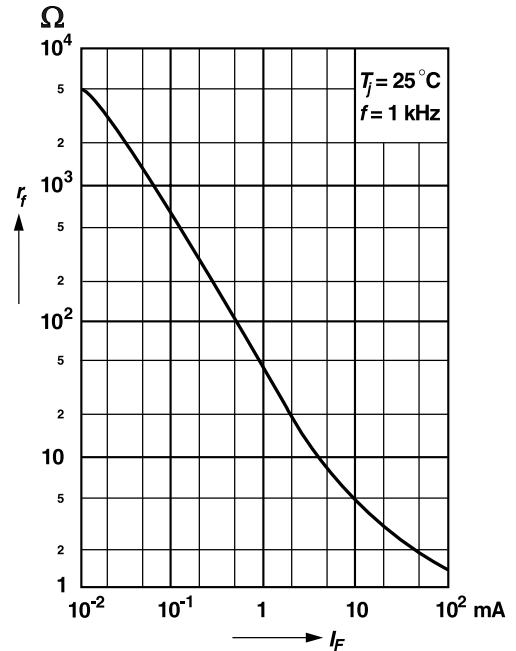


Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Forward characteristics

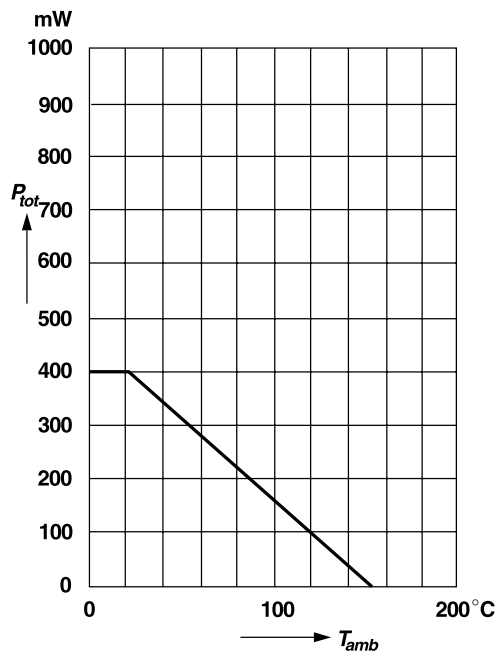


Dynamic forward resistance versus forward current

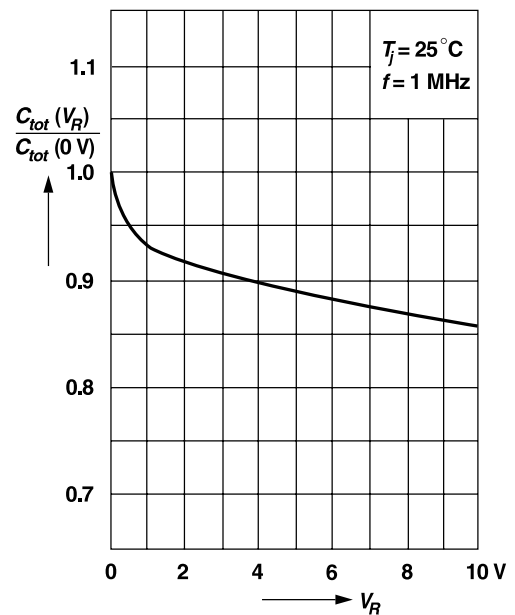


Admissible power dissipation versus ambient temperature

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



Relative capacitance versus reverse voltage



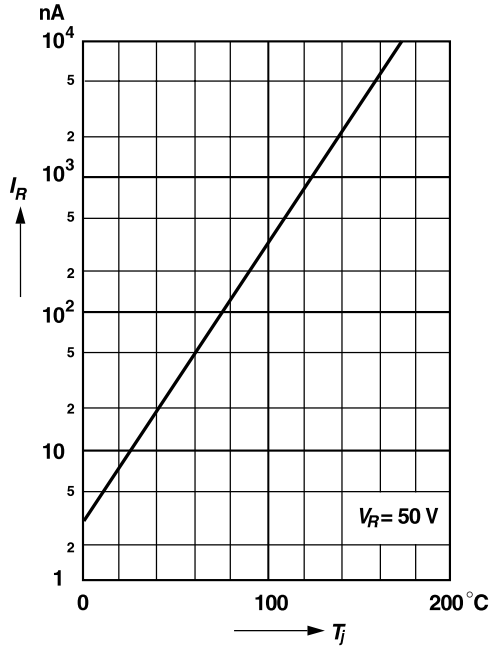
1N4151W

Vishay Semiconductors
formerly General Semiconductor



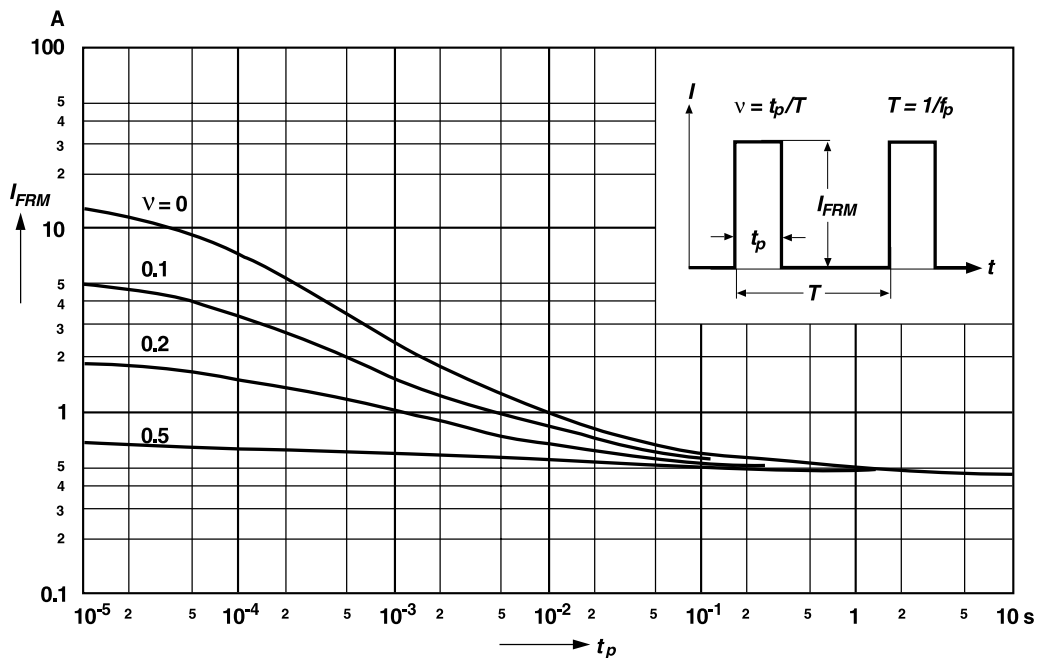
Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Leakage current versus junction temperature



Admissible repetitive peak forward current versus pulse duration

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





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