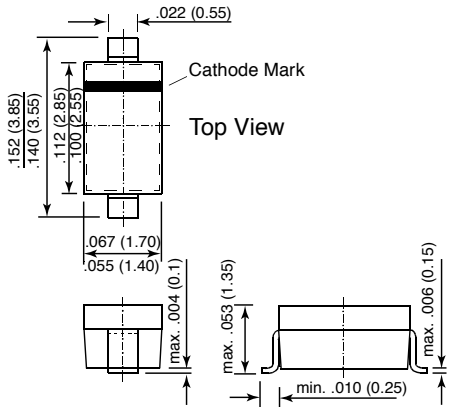


1N4151W

SMALL SIGNAL DIODES

SOD-123



Dimensions in inches and (millimeters)

FEATURES

- ◆ Silicon Epitaxial Planar Diode
- ◆ Fast switching diode.
- ◆ This diode is also available in other case styles including the SOD-123 case with the type designation 1N4151W and the Mini-MELF case with the type designation LL4151.



MECHANICAL DATA

Case: SOD-123 Plastic Case
Weight: approx. 0.01 g

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Reverse Voltage	V_R	50	V
Peak Reverse Voltage	V_{RM}	75	V
Rectified Current (Average) Half Wave Rectification with Resist. Load at $T_{amb} = 25\text{ }^\circ\text{C}$ and $f \geq 50\text{ Hz}$	I_O	150 ⁽¹⁾	mA
Surge Forward Current at $t < 1\text{ s}$ and $T_j = 25\text{ }^\circ\text{C}$	I_{FSM}	500	mA
Power Dissipation at $T_{amb} = 25\text{ }^\circ\text{C}$	P_{tot}	410 ⁽¹⁾	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_S	- 65 to +150	$^\circ\text{C}$

NOTES:

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

1N4151W

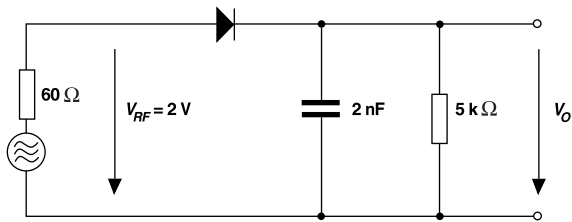
ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward Voltage at $I_F = 50 \text{ mA}$	V_F	–	–	1.0	V
Leakage Current at $V_R = 50 \text{ V}$ at $V_R = 20 \text{ V}$, $T_j = 150^\circ\text{C}$	I_R I_R	– –	– –	50 50	nA μA
Reverse Breakdown Voltage Tested with $5\mu\text{A}$ pulses	$V_{(BR)R}$	75	–	–	V
Capacitance at $V_F = V_R = 0 \text{ V}$	C_{tot}	–	–	2	pF
Reverse Recovery Time from $I_F = 10 \text{ mA}$ through $I_R = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$ from $I_F = 10 \text{ mA}$ to $I_R = 1 \text{ mA}$, $V_R = 6 \text{ V}$, $R_L = 100 \Omega$	t_{rr} t_{rr}	– –	– –	4 2	ns ns
Thermal Resistance Junction to Ambient Air	R_{thJA}	–	–	450 ⁽¹⁾	$^\circ\text{C/W}$
Rectification Efficiency at $f = 100 \text{ MHz}$, $V_{RF} = 2 \text{ V}$	η_V	0.45	–	–	–

NOTES:

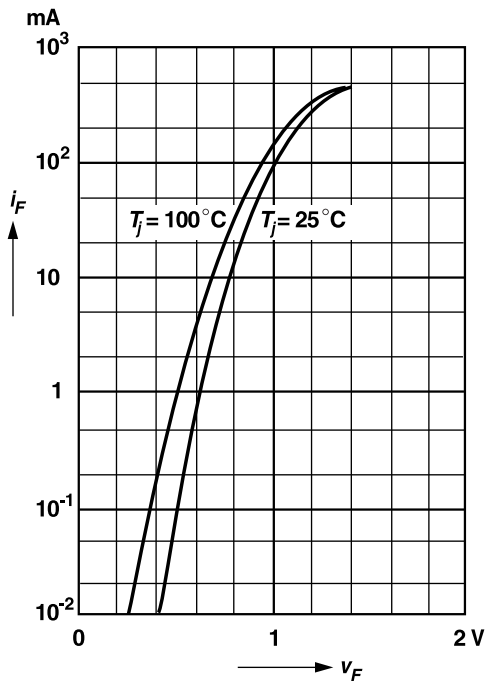
(1) Valid provided that electrodes are kept at ambient temperature (SOD-123)



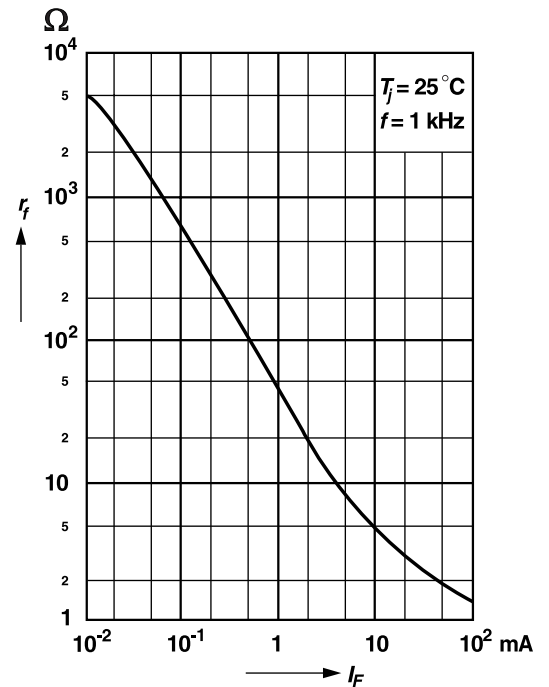
Rectification Efficiency Measurement Circuit

RATINGS AND CHARACTERISTICS CURVES 1N4151W

Forward characteristics

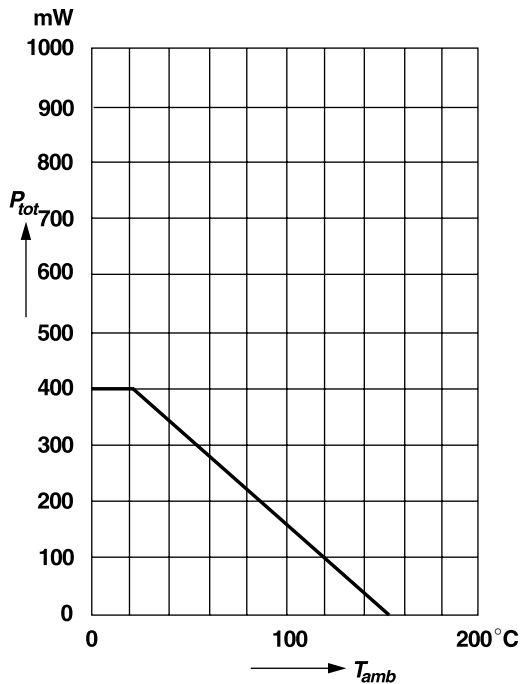


Dynamic forward resistance versus forward current

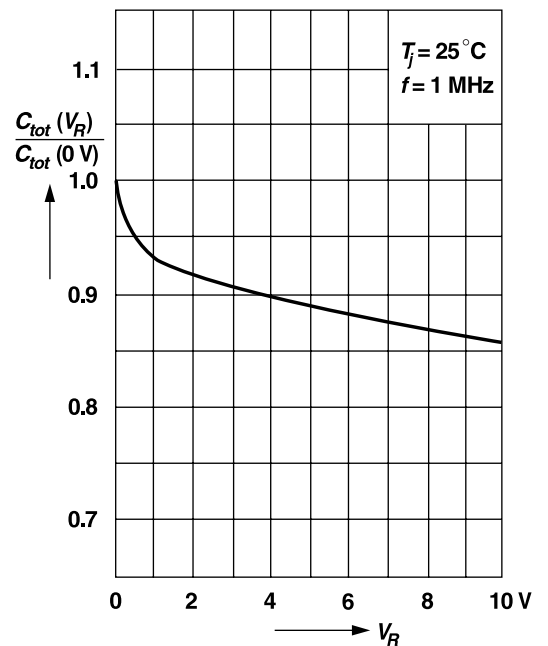


Admissible power dissipation versus ambient temperature

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

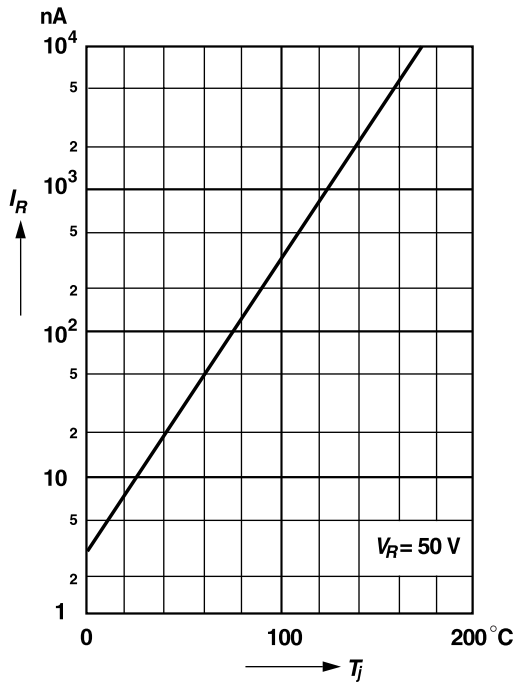


Relative capacitance versus reverse voltage



RATINGS AND CHARACTERISTICS CURVES 1N4151W

Leakage current
versus junction temperature



Admissible repetitive peak forward current versus pulse duration

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

