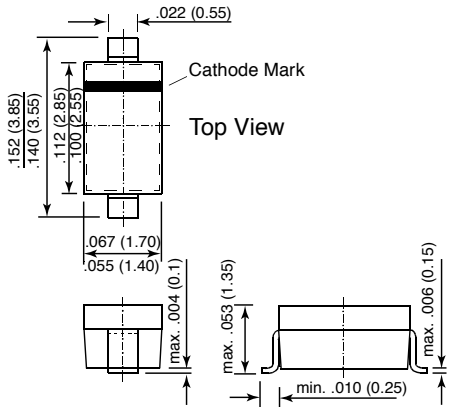


# 1N4151W

## 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 <sup>(1)</sup>	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 <sup>(1)</sup>	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

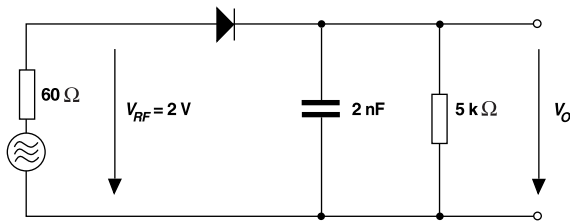
## ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

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

### NOTES:

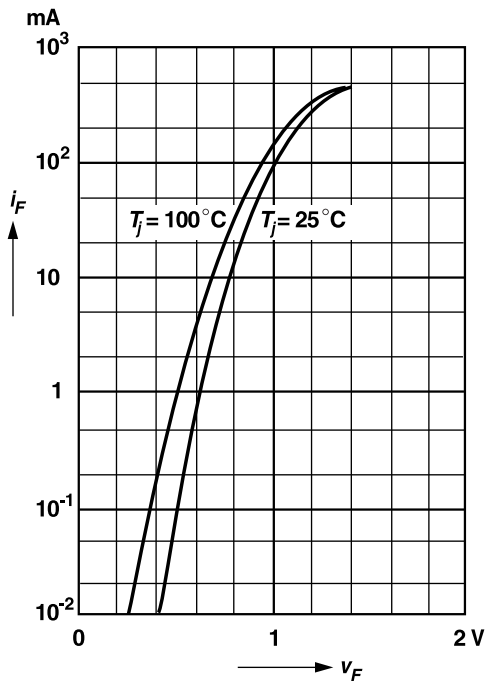
(1) Valid provided that electrodes are kept at ambient temperature (SOD-123)



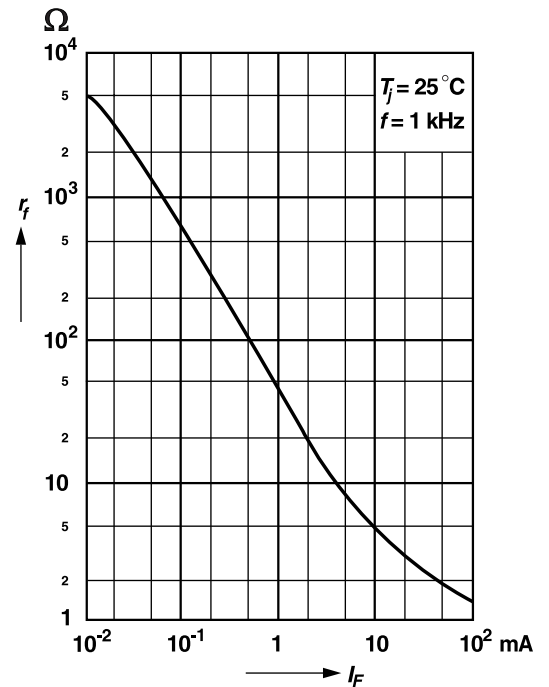
Rectification Efficiency Measurement Circuit

# RATINGS AND CHARACTERISTICS CURVES 1N4151W

Forward characteristics

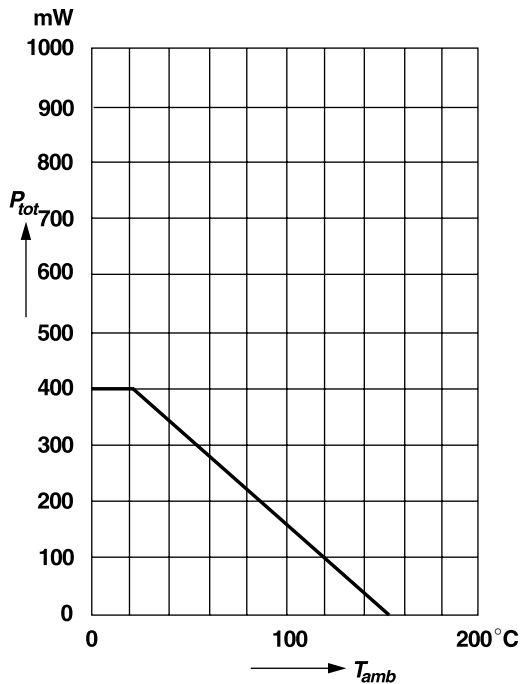


Dynamic forward resistance versus forward current

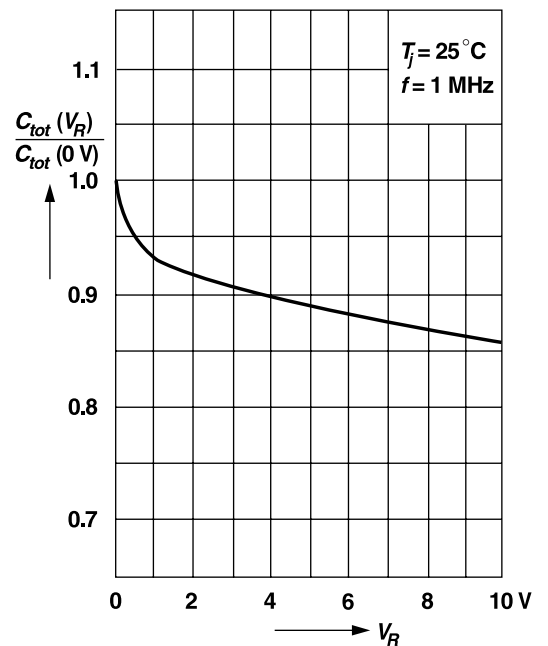


Admissible power dissipation versus ambient temperature

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

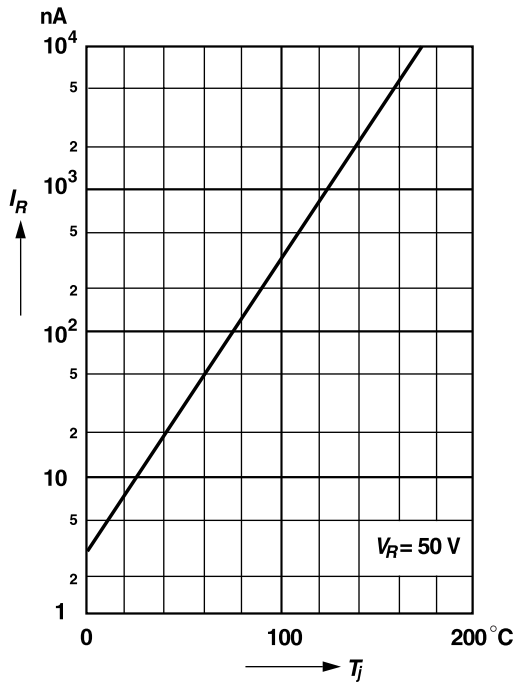


Relative capacitance versus reverse voltage



# 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"

