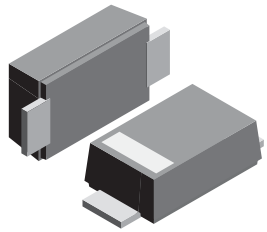
1N4151WS

SURFACE MOUNT FAST SWITCHING DIODE



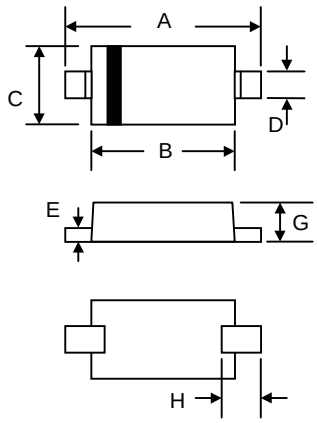
Features

- Silicon Epitaxial Planar Diode
- Fast switching diode

Mechanical Data

- Case: SOD-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.004 grams (approx.)

RoHS COMPLIANT



SOD-323		
Dim	**Min**	**Max**
A	2.30	2.70
B	1.75	1.95
C	1.15	1.35
D	0.25	0.35
E	0.05	0.15
G	0.70	0.95
H	0.30	—
All Dimensions in mm		

Maximum Ratings @ T_A = 25°C unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Reverse voltage		V_R	50	V
Peak reverse voltage		V_{RM}	75	V
Average rectified current half wave rectification with resistive load	f ≥ 50 Hz	$I_{F(AV)}$	150[1)]	mA
Surge current	t < 1 s and T_j = 25 °C	I_{FSM}	500	mA
Power dissipation		P_{tot}	410[1)]	mW

[1)]Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	450[1)]	°C/W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	- 65 to + 150	°C

[1)] Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	I_F = 50 mA	V_F			1	V
Leakage current	V_R = 50 V	I_R			50	nA
	V_R = 20 V, T_j = 150 °C	I_R			50	µA
Reverse breakdown voltage	I_R = 5 µA (pulsed)	$V_{(BR)}$	75			V
Capacitance	V_F = V_R = 0 V				2	pF
Reverse recovery time	I_F = 10 mA to I_R = 10 mA to I_R = 1 mA	t_{rr}			4	ns
	I_F = 10 mA to I_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}			2	ns
Rectification efficiency	f = 100 MHz, V_{RF} = 2 V	ηv	0.45			

Typical Characteristics T_{amb} = 25 °C, unless otherwise specified

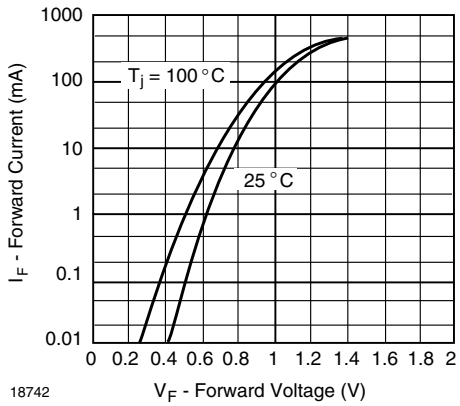


Figure 1. Forward Current vs. Forward Voltage

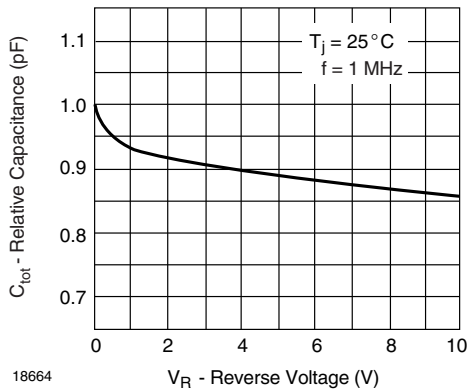


Figure 4. Relative Capacitance vs. Reverse Voltage

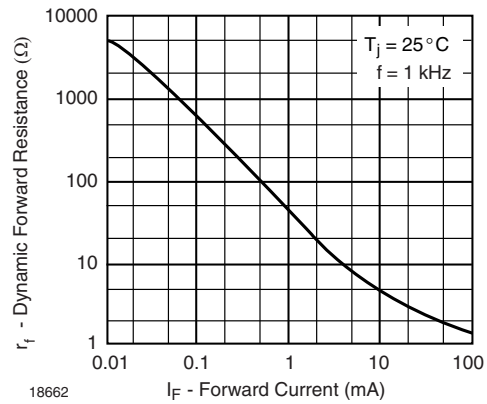


Figure 2. Dynamic Forward Resistance vs. Forward Current

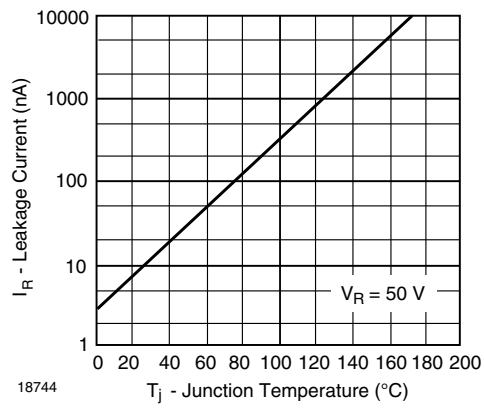


Figure 5. Leakage Current vs. Junction Temperature

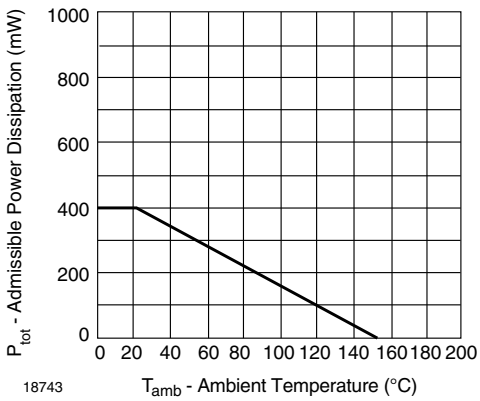


Figure 3. Admissible Power Dissipation vs. Ambient Temperature