



Small Signal Fast Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching diode
- AEC-Q101 qualified
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization:



RoHS COMPLIANT

For definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
1N4151WS	1N4151WS-E3-08 or 1N4151WS-E3-18	Single diode	A5	Tape and reel
	1N4151WS-HE3-08 or 1N4151WS-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V _R	50	V
Repetitive peak reverse voltage		V _{RRM}	75	V
Average rectified current half wave rectification with resistive load ⁽¹⁾	f ≥ 50 Hz	I _{F(AV)}	150	mA
Surge current	t < 1 s and T _j = 25 °C	I _{FSM}	500	mA
Power dissipation ⁽¹⁾		P _{tot}	200	mW

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	650	K/W
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	- 65 to + 150	°C
Operating temperature range		T _{op}	- 55 to + 150	°C

Note

⁽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, I _R = 10 mA i _R = 1 mA	t _{rr}			4	ns
	I _F = 10 mA, i _R = 1 mA, V _R = 6 V, R _L = 100 Ω	t _{rr}			2	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)



Fig. 1 - Forward Current vs. Forward Voltage

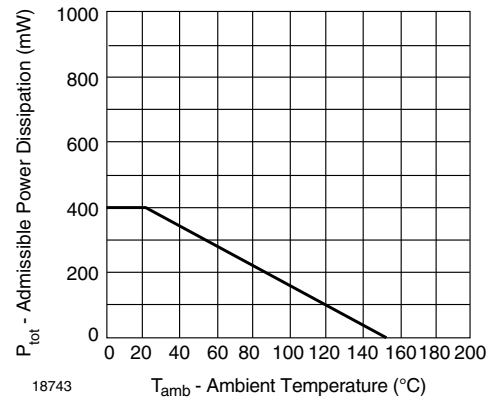


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

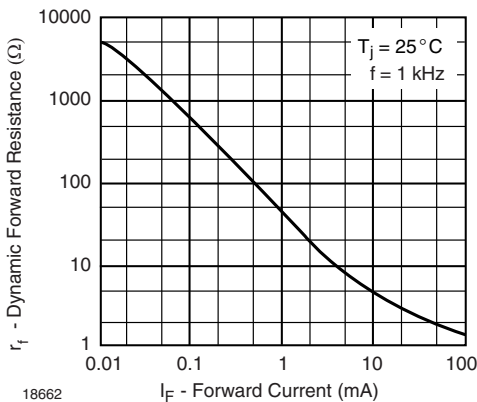


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

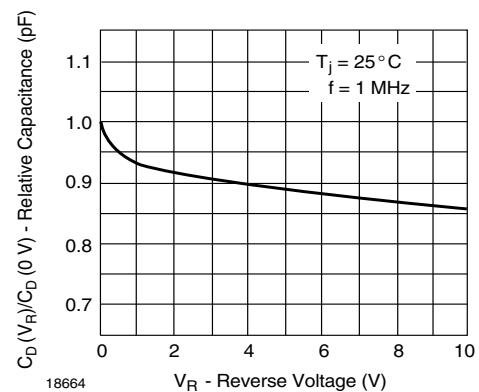


Fig. 4 - Relative Capacitance vs. Reverse Voltage

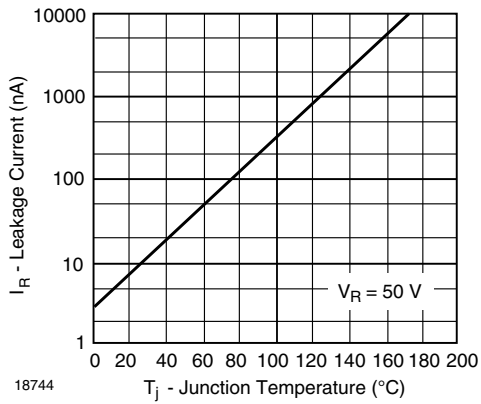


Fig. 5 - Leakage Current vs. Junction Temperature

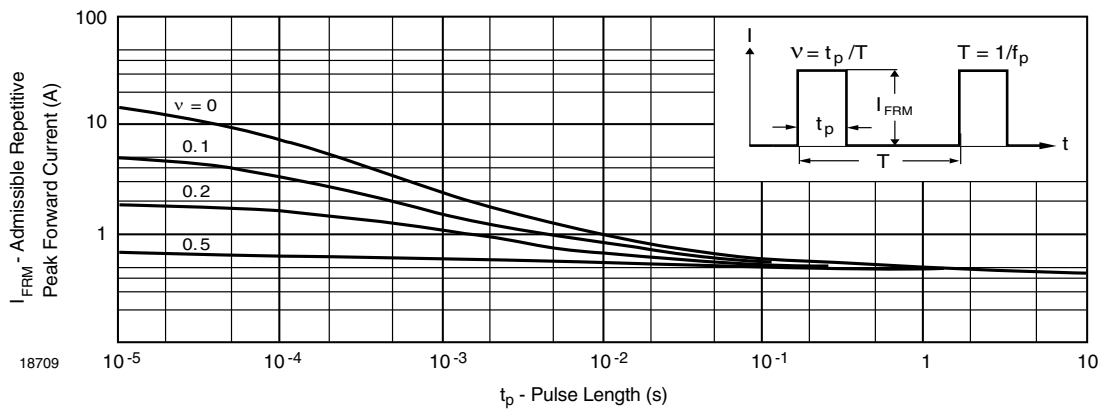
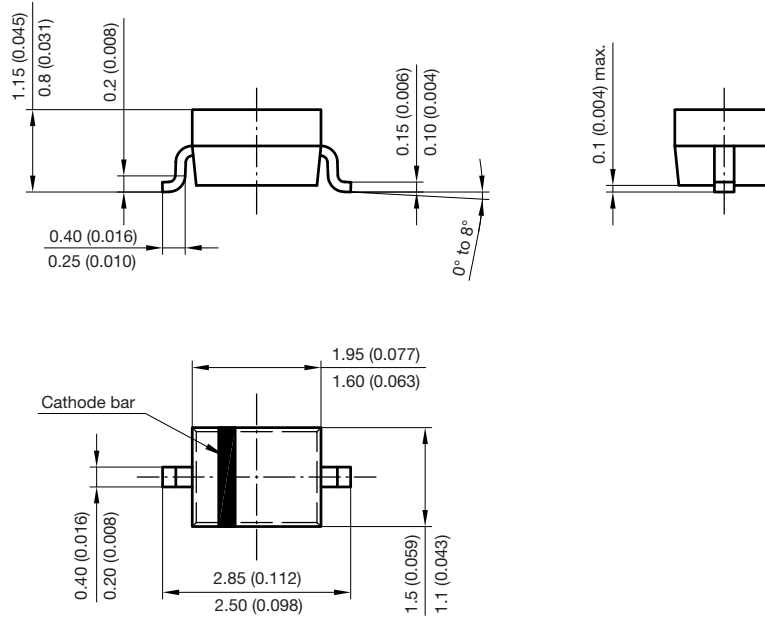


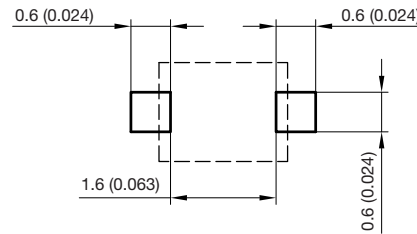
Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration



PACKAGE DIMENSIONS in millimeters (inches): **SOD-323**



Foot print recommendation:



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 17443



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