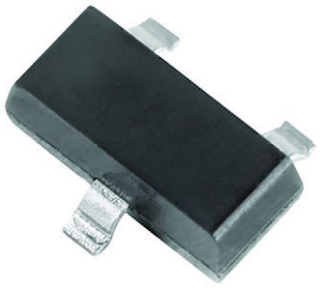
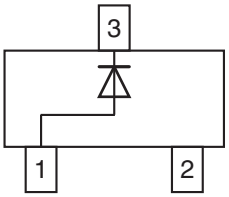
Small Signal Switching Diode





FEATURES

- Silicon epitaxial planar diodes
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 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	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS
IMBD4148	IMBD4148-E3-08 or IMBD4148-E3-18	Single	A2	Tape and reel
	IMBD4148-HE3-08 or IMBD4148-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	75	V
Peak reverse voltage		V_{RM}	100	V
Rectified current (average) half wave rectification with resist. (1)	f ≥ 50 Hz	$I_{F(AV)}$	150	mA
Surge forward current	t < 1 s, T_j = 25 °C	I_{FSM}	500	mA
Power dissipation (1)	up to T_{amb} = 25 °C	P_{tot}	350	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}	450	°C/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) Device on fiberglass substrate, see layout on next page

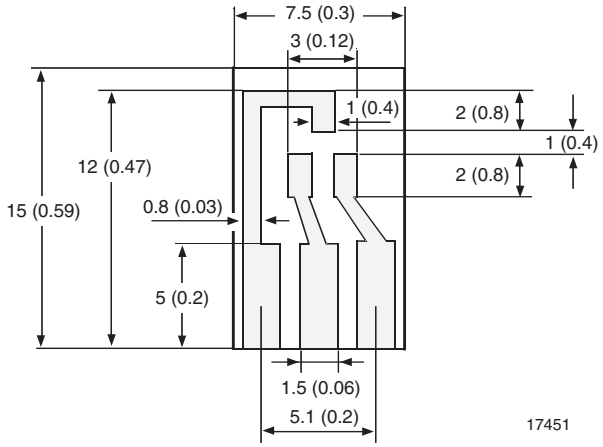
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ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Forward voltage	I_F = 10 mA	V_F			1.0	V
Leakage current	V_R = 70 V	I_R			2500	nA
	V_R = 70 V, Tj = 150 °C	I_R			50	µA
	V_R = 25 V, Tj = 150 °C	I_R			30	µA
Diode capacitance	$V_F = V_R$ = 0	C_D			4	pF
Reverse recovery time (see figures)	I_F = 10 mA to i_R = 1 mA, V_R = 6 V, R_L = 100 Ω	t_{rr}			4	ns

LAYOUT FOR R_{thJA} TEST

Thickness:
Fiberglass 1.5 mm (0.059 inches)
Copper leads 0.3 mm (0.012 inches)



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

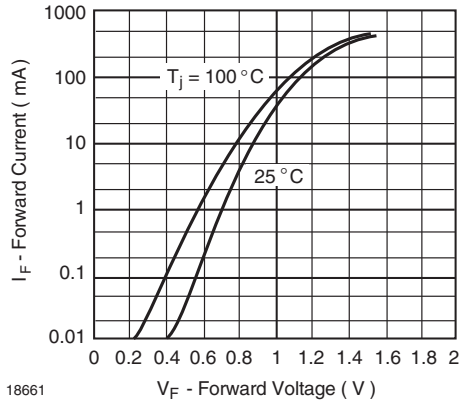


Fig. 1 - Forward Current vs. Forward Voltage

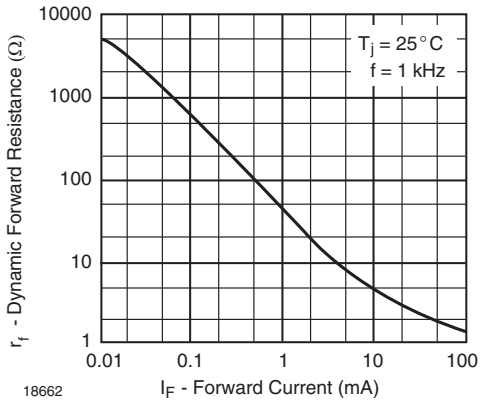


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

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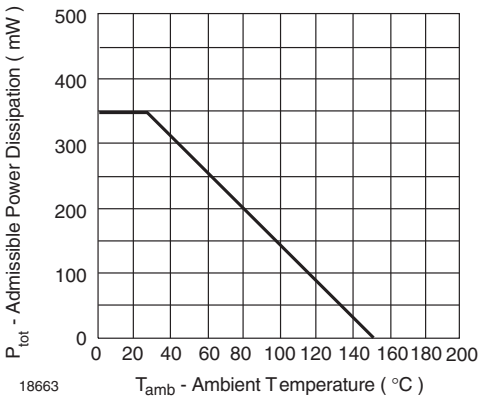


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

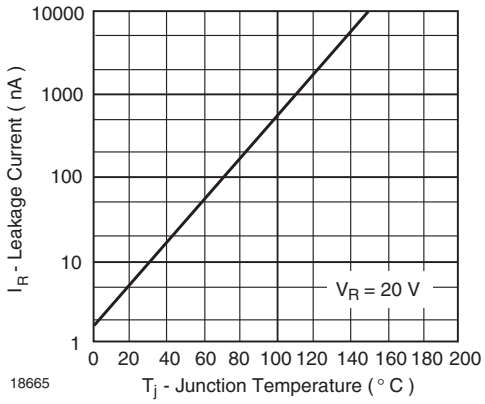


Fig. 5 - Leakage Current vs. Junction Temperature

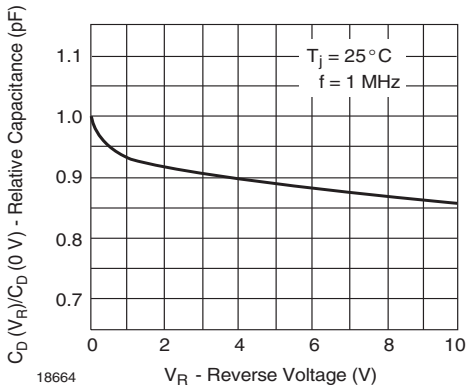


Fig. 4 - Relative Capacitance vs. Reverse Voltage

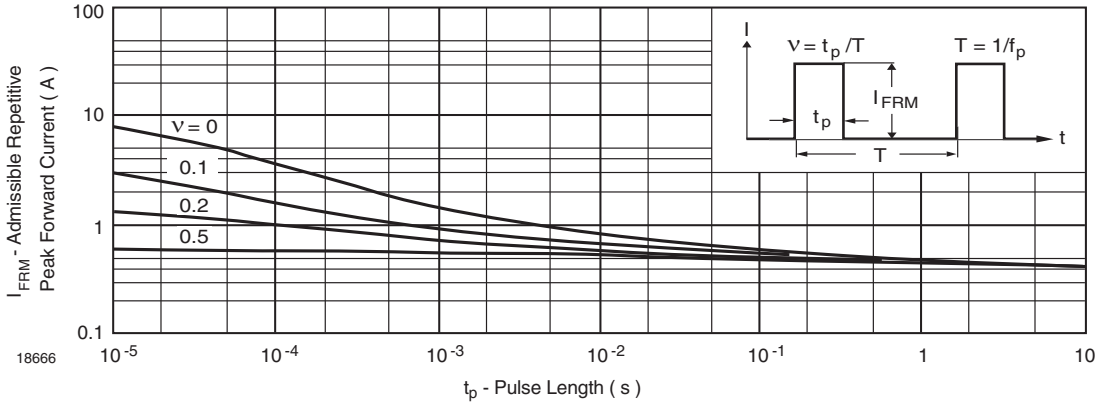
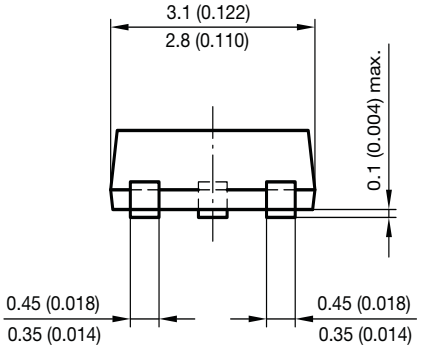
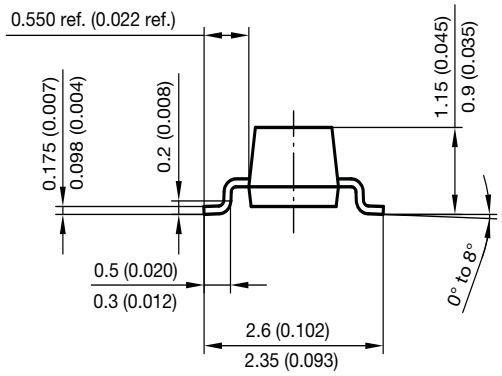


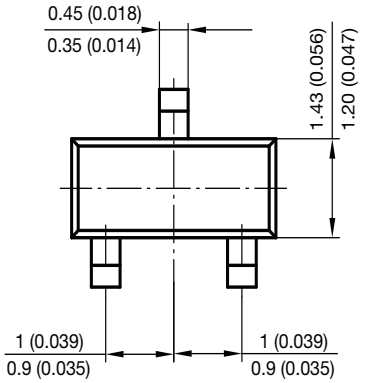
Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

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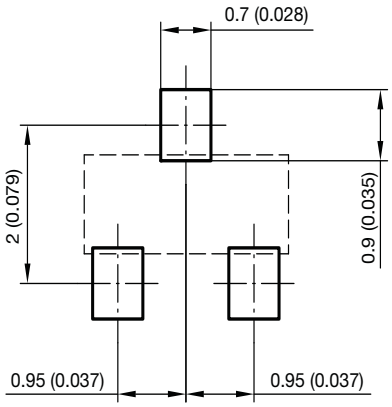
PACKAGE DIMENSIONS in millimeters (inches): **SOT-23**







Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009
17418

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