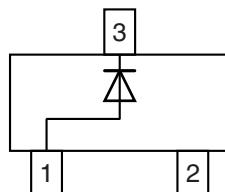


## Small Signal Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- AEC-Q101 qualified
- Base P/N-G3 - green, commercial grade
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.1 mg

**Packaging codes/options:**

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

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

<b>PARTS TABLE</b>				
PART	ORDERING CODE	INTERNAL CONSTRUCTION	TYPE MARKING	REMARKS
IMBD4448-G	IMBD4448-G3-08 or IMBD4448-G3-18	Single diode	AJ	Tape and reel

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_{amb} = 25^{\circ}\text{C}$ , 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 resistive load (1)	$f \geq 50 \text{ Hz}$	$I_{F(AV)}$	150	mA
Surge forward current	$t < 1 \text{ s}$ and $T_j = 25^{\circ}\text{C}$	$I_{FSM}$	500	mA
Power dissipation (1)		$P_{tot}$	350	mW

<b>THERMAL CHARACTERISTICS</b> ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air (1)		$R_{thJA}$	450	K/W
Junction temperature		$T_j$	150	$^{\circ}\text{C}$
Storage temperature range		$T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$
Operating temperature range		$T_{op}$	- 55 to + 150	$^{\circ}\text{C}$

#### Note

(1) Device on fiberglass substrate, see layout on next page.

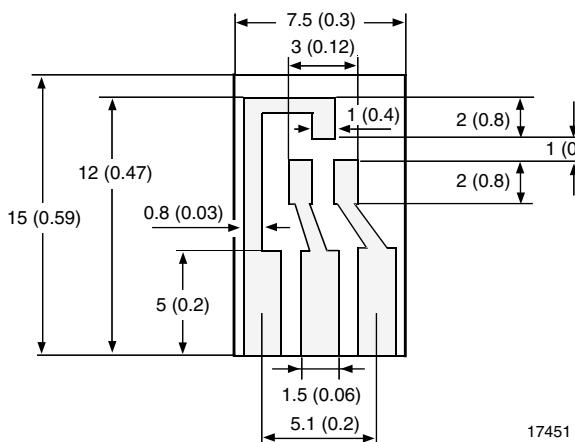
<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25^\circ C$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 5 \text{ mA}$	$V_F$	0.62		0.72	V
	$I_F = 100 \text{ mA}$	$V_F$			1	V
Leakage current	$V_R = 70 \text{ V}$	$I_R$			2500	nA
	$V_R = 70 \text{ V}, T_j = 150^\circ C$	$I_R$			50	$\mu\text{A}$
	$V_R = 25 \text{ V}, T_j = 150^\circ C$	$I_R$			30	$\mu\text{A}$
Diode capacitance	$V_F = V_R = 0 \text{ V}$	$C_D$			4	pF
Reverse recovery time	$I_F = 10 \text{ mA}, i_R = 1 \text{ mA}, V_R = 6 \text{ V}, R_L = 100 \Omega$	$t_{rr}$			4	ns

### Layout For $R_{thJA}$ test

Thickness:

Fiberglass 1.5 mm (0.059 in.)

Copper leads 0.3 mm (0.012 in.)



### TYPICAL CHARACTERISTICS ( $T_{amb} = 25^\circ C$ , unless otherwise specified)

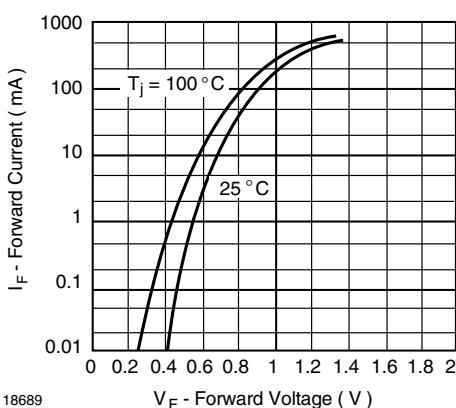


Fig. 1 - Forward Current vs. Forward Voltage

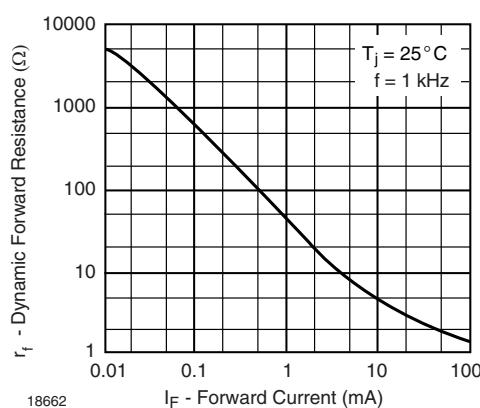


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

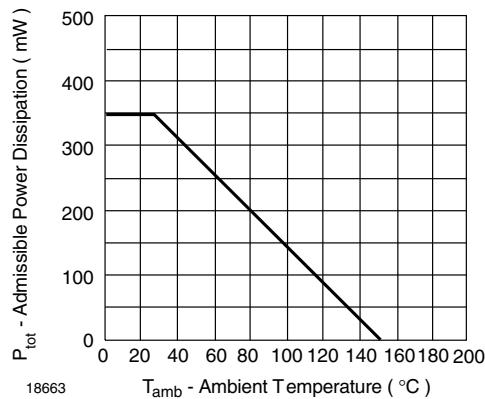


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

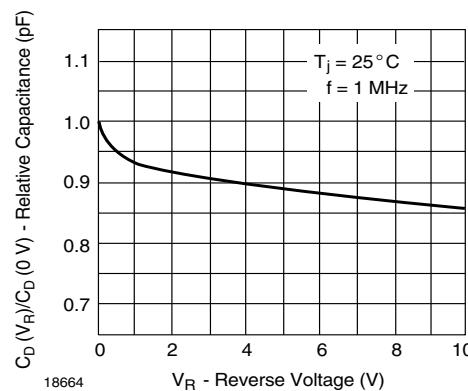


Fig. 4 - Relative Capacitance vs. Reverse Voltage

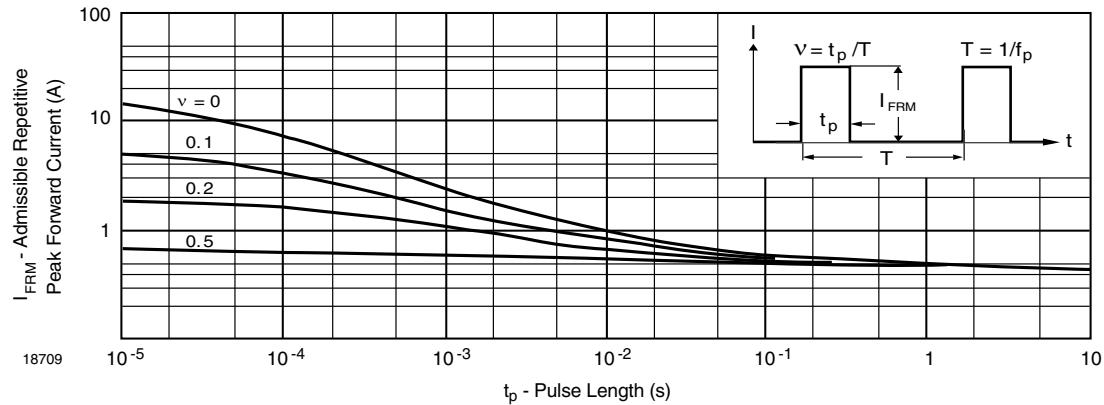
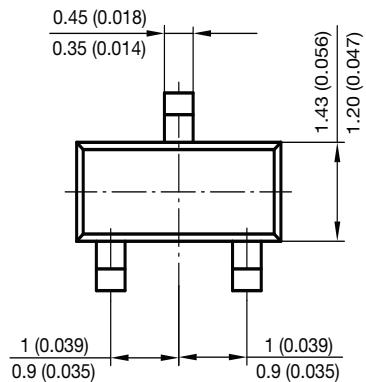
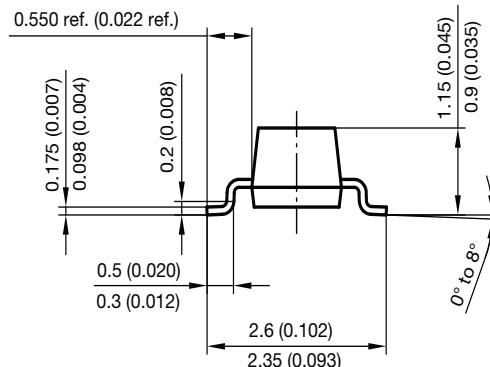
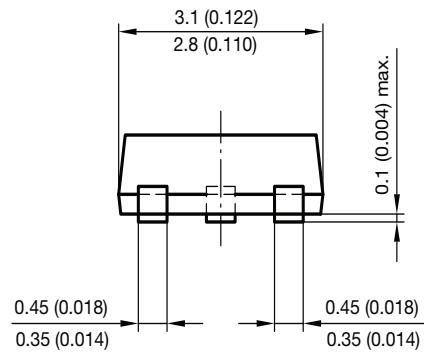
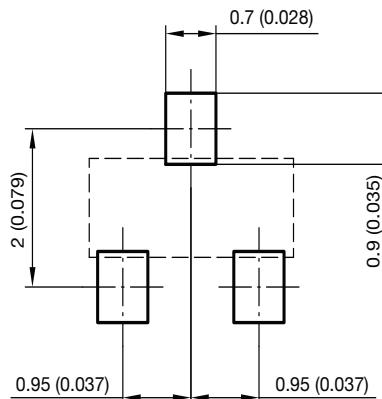


Fig. 5 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

**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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