

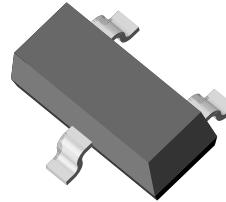
Small Signal Switching Diode

Features

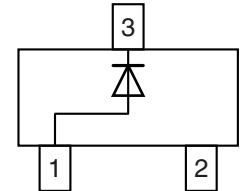
- Silicon Epitaxial Planar Diodes
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- These diodes are also available in other case styles including: the DO-35 case with the type designation 1N4448, the MiniMELF case with the type designation LL4448, and the SOD-123 case with the type designation 1N4448W-V.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS
COMPLIANT



16923



Mechanical Data

Case: SOT-23

Weight: approx. 8.8 mg

Packaging Codes/Options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 3 k per 7" reel (8 mm tape), 15 k/box

Parts Table

Part	Ordering code	Marking	Remarks
IMBD4448-V	IMBD4448-V-GS18 or IMBD4448-V-GS08	A3	Tape and Reel

Absolute Maximum Ratings

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

¹⁾ Device on fiberglass substrate, see layout (SOT-23).

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

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

¹⁾ Device on fiberglass substrate, see layout (SOT-23).

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

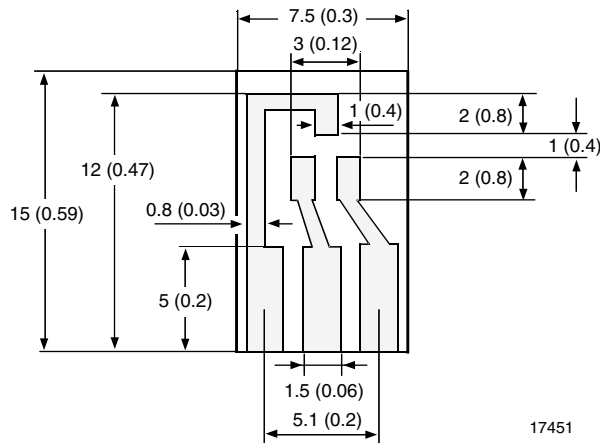
Parameter	Test condition	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F = 5\text{ mA}$	V_F	0.62		0.72	V
	$I_F = 100\text{ mA}$	V_F			1	V
Leakage current	$V_R = 70\text{ V}$	I_R			2.5	μA
	$V_R = 70\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			50	μA
	$V_R = 25\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$	I_R			30	μA
Diode capacitance	$V_F = V_R = 0$	C_D			4	pF
Reverse recovery time (see figures)	$I_F = 10\text{ mA}, I_R = 10\text{ mA},$ $V_R = 6\text{ V}, R_L = 100\text{ }\Omega$	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

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

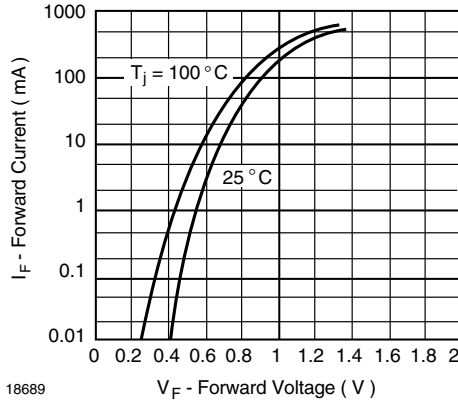


Figure 1. Forward Current vs. Forward Voltage

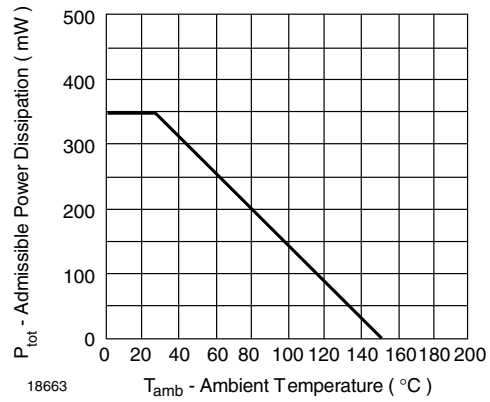


Figure 3. Admissible Power Dissipation vs. Ambient Temperature

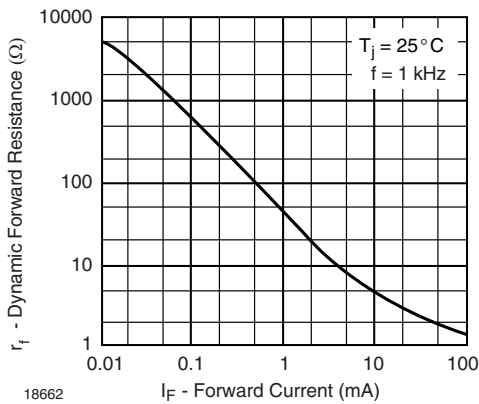


Figure 2. Dynamic Forward Resistance vs. Forward Current

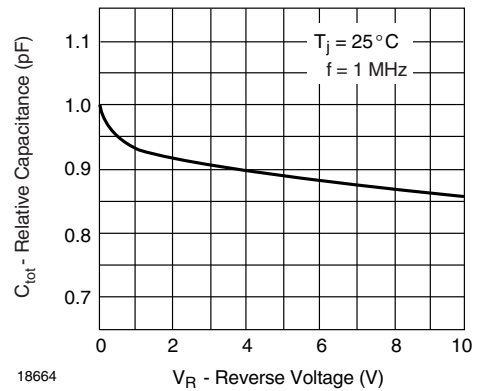


Figure 4. Relative Capacitance vs. Reverse Voltage

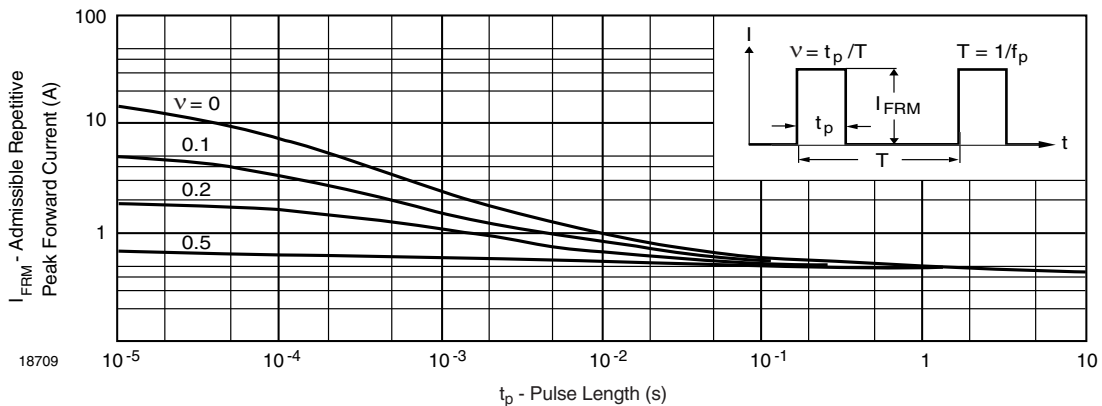
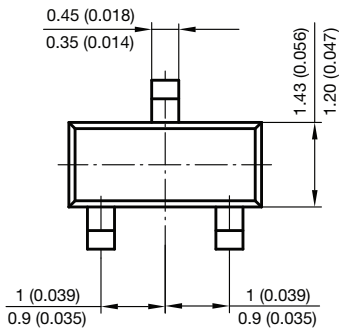
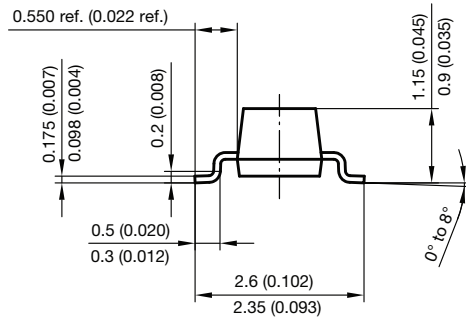
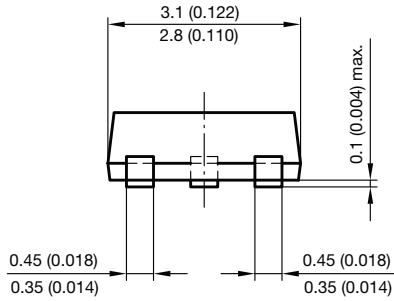
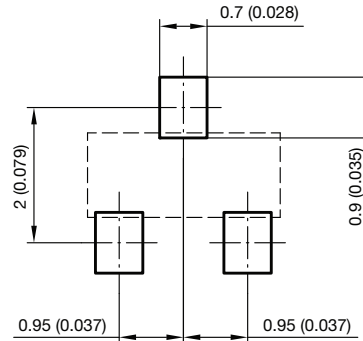


Figure 5. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches): SOT-23



Foot print recommendation:



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17418



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