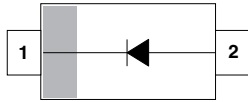


## Small Signal Fast Switching Diode



1 = Cathode  
2 = Anode

22611



### FEATURES

- These diodes are also available in other case styles including the DO-35 case with the type designation 1N4148, the MiniMELF case with the type designation LL4148, and the SOT-23 case with the type designation IMBD4148-V
- Silicon epitaxial planar diode
- Fast switching diodes
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

### MARKING (example only)



22610

Bar = cathode marking  
XY = type code

### MECHANICAL DATA

**Case:** SOD-323

**Weight:** approx. 4.3 mg

**Packaging codes/options:**

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

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

### PARTS TABLE

PART	ORDERING CODE	TYPE MARKING	INTERNAL CONSTRUCTION	REMARKS
1N4148WS-V	1N4148WS-V-GS18 or 1N4148WS-V-GS08	A2	Single diode	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
Repetitive peak reverse voltage		$V_{RRM}$	100	
Average rectified current half wave rectification with resistive load <sup>(1)</sup>	$f \geq 50\text{ Hz}$	$I_{F(AV)}$	150	mA
Surge forward current	$t < 1\text{ s}$ and $T_j = 25\text{ }^{\circ}\text{C}$	$I_{FSM}$	350	
Power dissipation <sup>(1)</sup>		$P_{tot}$	200	mW

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature.



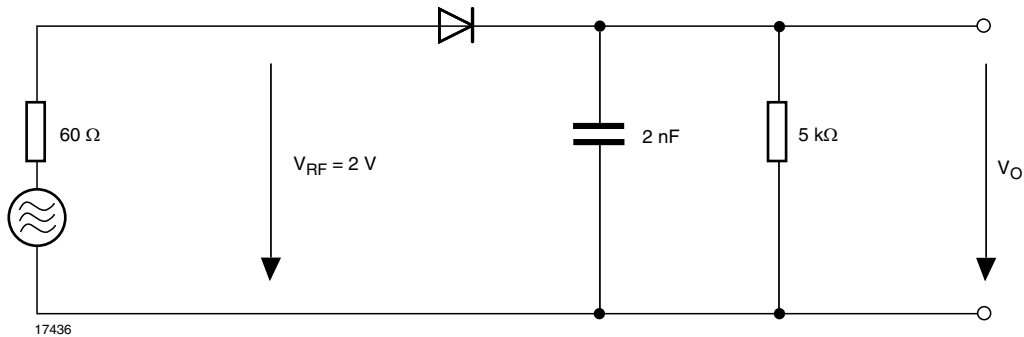
THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		R <sub>thJA</sub>	650	K/W
Junction temperature		T <sub>j</sub>	150	°C
Operating temperature range		T <sub>j</sub>	-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

Note

(1) Valid provided that electrodes are kept at ambient temperature

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>			1000	mV
	I <sub>F</sub> = 100 mA	V <sub>F</sub>			1200	
Leakage current	V <sub>R</sub> = 20 V	I <sub>R</sub>			25	nA
	V <sub>R</sub> = 75 V	I <sub>R</sub>			5	μA
	V <sub>R</sub> = 100 V	I <sub>R</sub>			100	
	V <sub>R</sub> = 20 V, T <sub>j</sub> = 150 °C	I <sub>R</sub>			50	
Diode capacitance	V <sub>F</sub> = V <sub>R</sub> = 0 V	C <sub>D</sub>			4	pF
Voltage rise when switching ON	Tested with 50 mA pulses, t <sub>p</sub> = 0.1 μs, rise time < 30 ns, f <sub>p</sub> = (5 to 100) kHz	V <sub>fr</sub>			2.5	V
Reverse recovery time	I <sub>F</sub> = 10 mA, i <sub>R</sub> = 1 mA, V <sub>R</sub> = 6 V, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			4	ns
Rectification efficiency	f = 100 MHz, V <sub>RF</sub> = 2 V	η <sub>v</sub>	0.45			

RECTIFICATION EFFICIENCY MEASUREMENT CIRCUIT



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

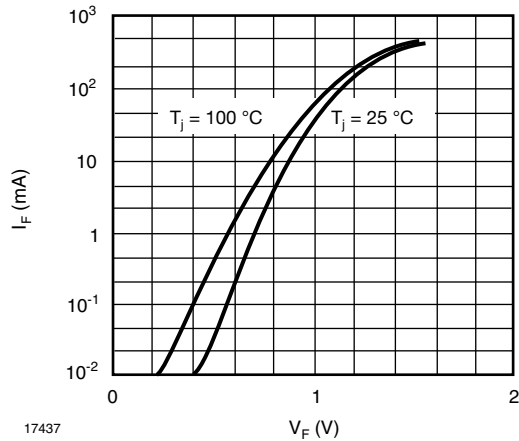


Fig. 1 - Forward Characteristics

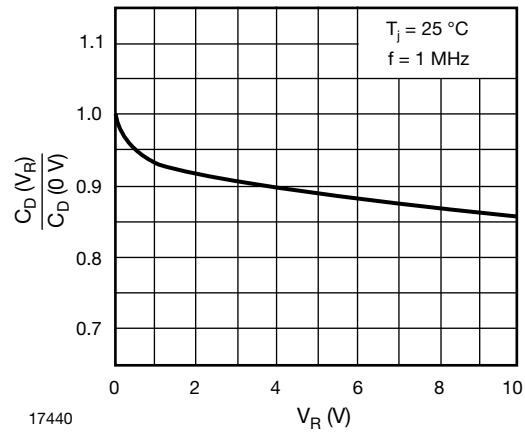


Fig. 4 - Relative Capacitance vs. Reverse Voltage

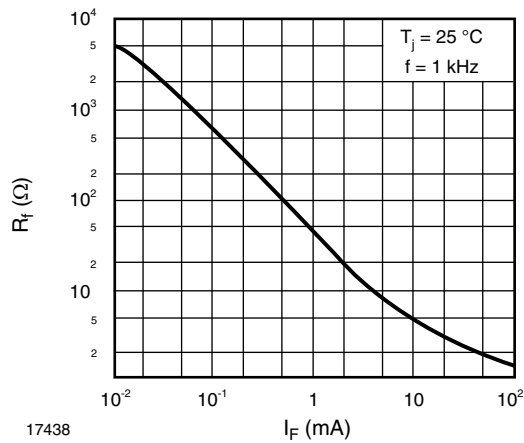


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

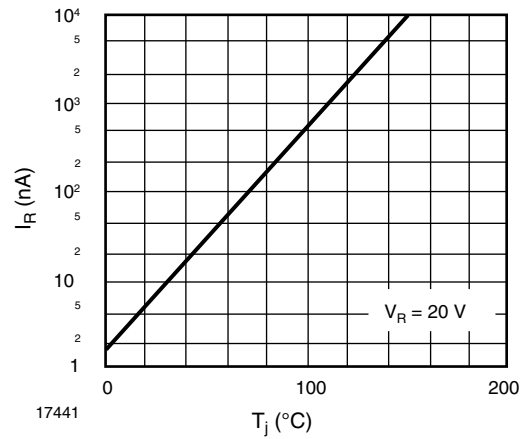


Fig. 5 - Leakage Current vs. Junction Temperature

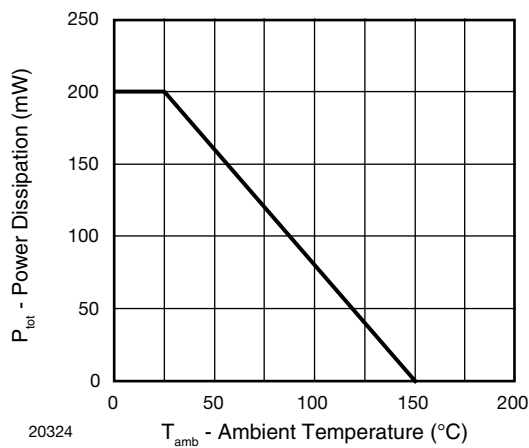


Fig. 3 - Admissible Power Dissipation vs. Ambient Temperature

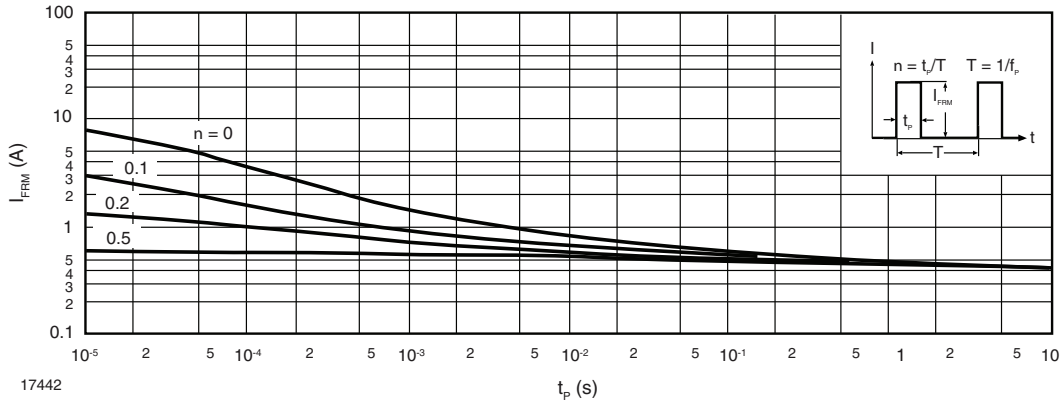
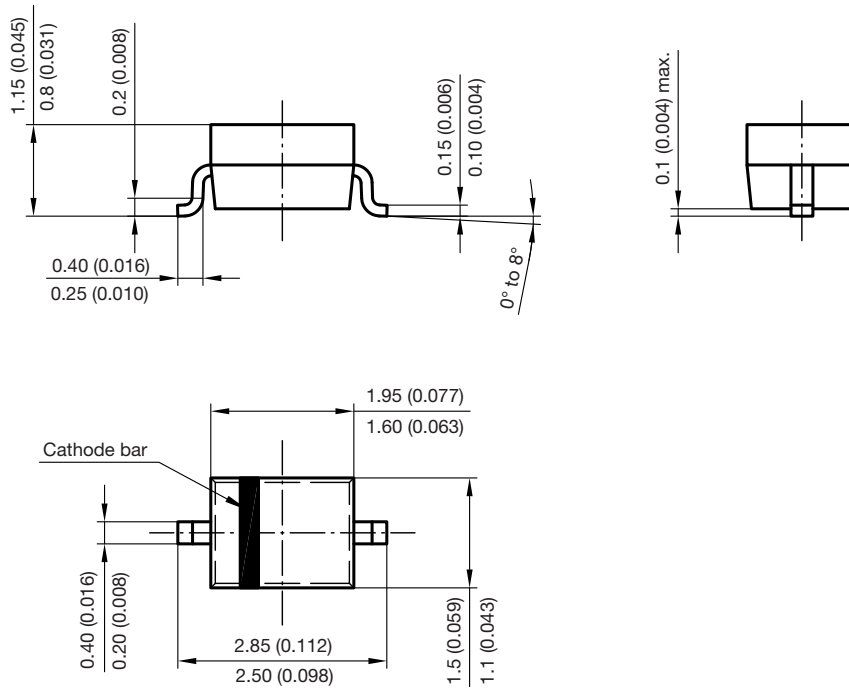
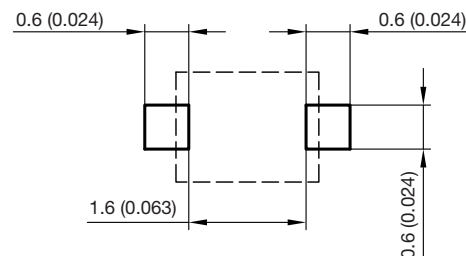


Fig. 6 - Admissible Repetitive Peak Forward Current vs. Pulse Duration

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



Foot print recommendation:



Document no.:S8-V-3910.02-001 (4)

Created - Date: 24.August.2004

Rev. 5 - Date: 23.Sept.2009

17443



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