

# PRODUCT DATA SHEET



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Please note: Please check the JINGAO Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.jg-semi.cn. Please email any questions regarding the system integration to JINGAO\_questions@jgsemi.com.



## 1N4148

Silicon Epitaxial Planar Switching Diode

#### Features

- SOD-123 package
- Fast switching

# 1 2 1 Cathode 2 Anode

#### Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

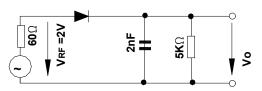
Parameter	Symbol	Value	Unit	
Peak Reverse Voltage	V <sub>RM</sub>	100	V	
Reverse Voltage	V <sub>R</sub>	75	V	
Average Rectified Forward Current	I <sub>F(AV)</sub>	150	mA	
Non-repetitive Peak Forward Surge Current at t = 1 $\mu$ s	I <sub>FSM</sub>	2	А	
Power Dissipation	P <sub>tot</sub>	400	mW	
Thermal Resistance from Junction to Ambient Air	R <sub>θJA</sub>	312	°C/W	
Junction Temperature	Tj	125	°C	
Storage Temperature Range	T <sub>stg</sub>	- 65 to + 150	٥C	

#### Characteristics at T<sub>a</sub> = 25 °C

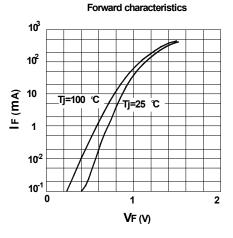
Parameter	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 1 \ \mu A$	$V_{(BR)R}$	75	-	V
Forward Voltage at $I_F = 1 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 150 \text{ mA}$	V <sub>F</sub>		0.715 0.855 1 1.25	V
Peak Reverse Current at $V_R = 75 V$ at $V_R = 20 V$ at $V_R = 75 V$ , $T_J = 150 °C$ at $V_R = 25 V$ , $T_J = 150 °C$	I <sub>R</sub>	- - -	1 25 50 30	μA nA μA μA
Total Capacitance at $V_R = 0 V$ , f = 1 MHz	CT	-	2	pF
Reverse Recovery Time at $I_{rr}$ = 0.1 X $I_{R}$ , $I_{F}$ = $I_{R}$ = 10 mA, $R_{L}$ = 100 $\Omega$	t <sub>rr</sub>	-	4	ns

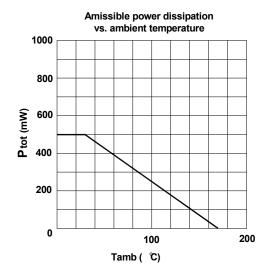


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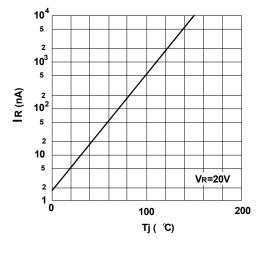


**Rectification Efficiency Measurement Circuit** 

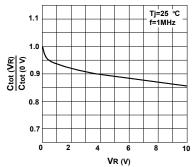




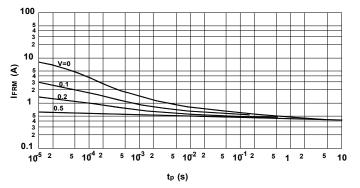
Leakage current vs. junction temperature



Reverse capacitance vs. reverse voltage



Amissible repetitive peak forward current vs. pulse duration

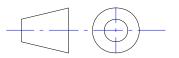


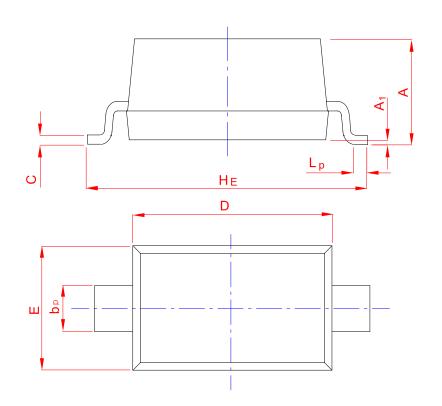


#### PACKAGE OUTLINE



SOD-123






UNIT	А	bp	С	D	Е	ΗE	<b>A</b> 1	Lp
mm	1.20	0.60	0.135	2.75	1.65	3.85	0.10	0.50
	0.90	0.50	0.100	2.55	1.55	3.55	0.01	0.20



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