

Description

PMEG3020EH,115-JSM is Schottky rectifiers with metal - to - silicon construction, featuring majority carrier conduction. It is designed to provide efficient rectification in various electronic circuits, offering excellent performance in terms of forward voltage drop, surge current handling, and thermal characteristics.



Features

- ◆ Low forward voltage drop, contributing to reduced power loss and improved efficiency in circuits.
- ◆ Easy pick and place capability, facilitating automated assembly processes and enhancing production efficiency.
- ◆ High surge current capability, ensuring reliable operation even in the presence of sudden current spikes.
- ◆ Majority carrier conduction mechanism, enabling fast switching performance.

Applications

- ◆ Switching power supplies
- ◆ DC - DC converters
- ◆ Portable electronic devices, such as smart phones and laptops
- ◆ Automotive electronics

Maximum Ratings(TA=25°C)

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	20	V
$I_{F(AV)}$	Average Rectified Forward Current, @ $T_A = 75^\circ\text{C}$	3.0	A
I_{FSM}	Non-repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	100	A
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C

*These ratings are limiting values above which the service ability of any semiconductor device may be impaired.

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Units
P_D	Power Dissipation	2.27	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	55	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	17	°C/W

*Device mounted on FR-4 PCB 0.55x0.55" (14x14 mm).

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Device	Units
V_F	Forward Voltage @ 3.0 A	550	
I_R	Reverse Current @ rated V_R $T_A = 25^{\circ}\text{C}$ $T_A = 100^{\circ}\text{C}$	0.5	mA
		20	mA

Typical Performance Characteristics (TA=25°C unless otherwise Specified)

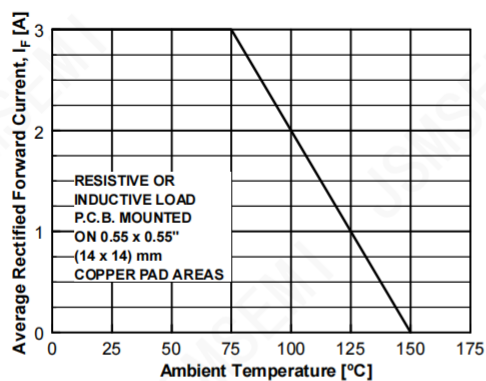


Figure 1. Forward Current Derating Curve

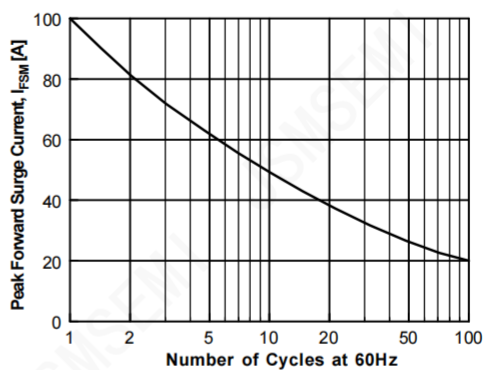


Figure 2. Non-Repetitive Surge Current

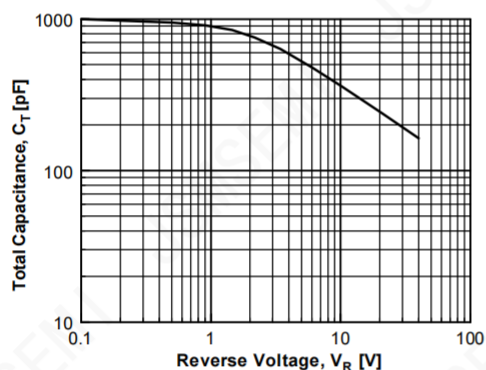


Figure 3. Total Capacitance

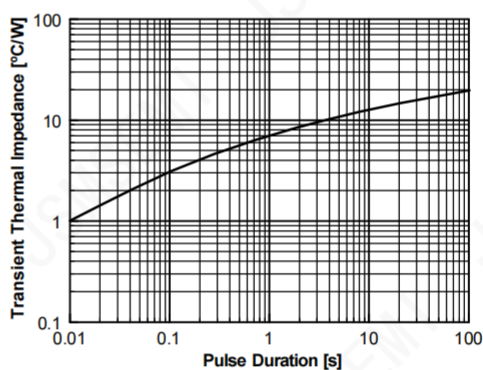
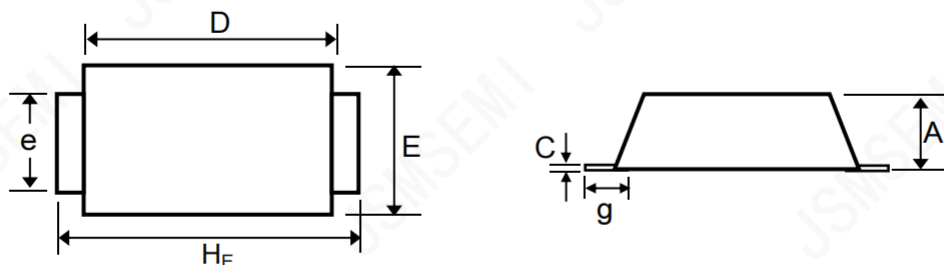


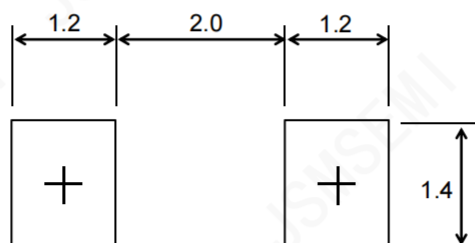
Figure 4. Thermal Impedance Characteristics

SOD-123FL Package Outline Dimensions



Dim	Inches			Millimeters		
	MIN	Typ	MAX	MIN	Typ	MAX
A	0.037	0.038	0.039	0.95	0.97	1.00
C	0.002	0.006	0.010	0.05	0.15	0.25
H _E	0.146	0.154	0.161	3.70	3.90	4.10
E	0.063	0.071	0.079	1.60	1.80	2.00
D	0.106	0.114	0.122	2.70	2.90	3.10
g	0.022	0.030	0.037	0.55	0.75	0.95
e	0.031	0.039	0.047	0.80	1.00	1.20

SOD-123FL Suggested Pad Layout



Unit:mm

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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