

Description

The PMEG3020EP,115-JSM are surface mount Schottky barrier rectifiers designed to offer reliable performance in various electronic applications. These rectifiers feature a metal silicon junction with majority carrier conduction, enabling low power loss and high efficiency. With reverse voltage ranging from 20V to 200V and a forward current of 3.0A, they are well suited for use in low voltage, high frequency scenarios. Their surface mount design (SOD-128 package) makes them convenient for integration into modern circuit layouts, while their high forward surge current capability ensures robustness in demanding operating conditions.



Features

- ◆ Metal silicon junction with majority carrier conduction
- ◆ Suitable for surface mounted applications
- ◆ Low power loss and high efficiency
- ◆ High forward surge current capability
- ◆ RoHS compliant
- ◆ SOD-128 package with 2 leads

Applications

- ◆ Low voltage, high frequency inverters
- ◆ Free wheeling circuits
- ◆ Polarity protection applications
- ◆ Power supplies
- ◆ DC-DC converters
- ◆ Battery charging systems

Maximum ratings and electrical characteristics

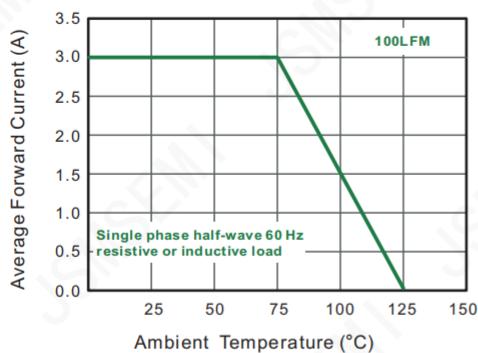
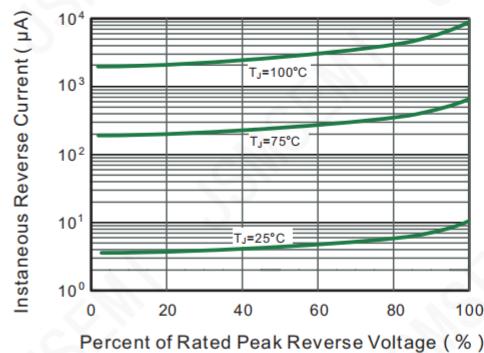
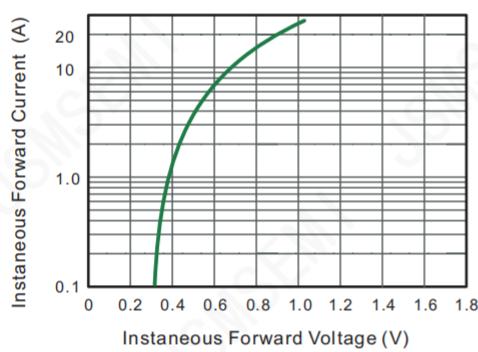
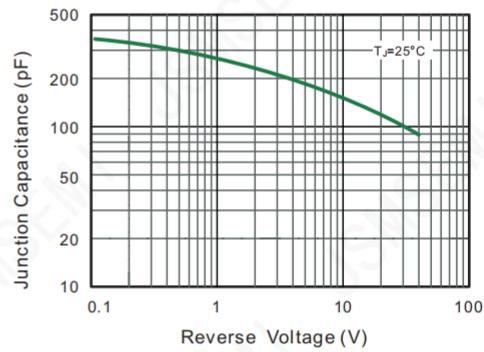
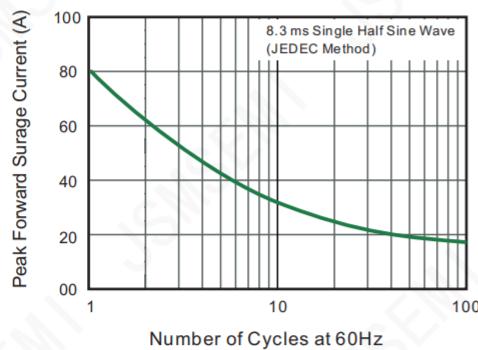
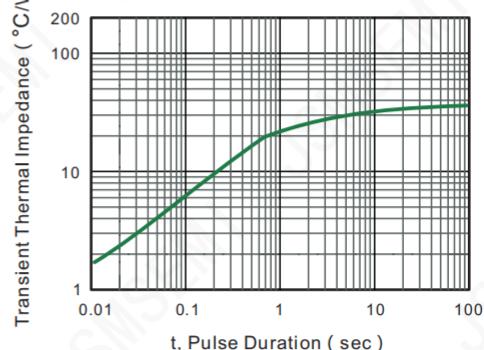
Ratings at 25°C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Parameter	Symbols	PMEG3020EP,115-JSM		Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20		V
Maximum RMS voltage	V_{RMS}	14		V
Maximum DC Blocking Voltage	V_{DC}	20		V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0		A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	80		A
Max Instantaneous Forward Voltage at 3 A	V_F	0.55		V
Maximum DC Reverse Current $T_a = 25^\circ C$ at Rated DC Reverse Voltage $T_a = 100^\circ C$	I_R	0.5 10		mA
Typical Junction Capacitance ¹⁾	C_j	250		pF
Typical Thermal Resistance ²⁾	$R_{\theta JA}$	40		°C/W
Operating Junction Temperature Range	T_j	-55 ~ +125		°C
Storage Temperature Range	T_{stg}	-55 ~ +150		°C

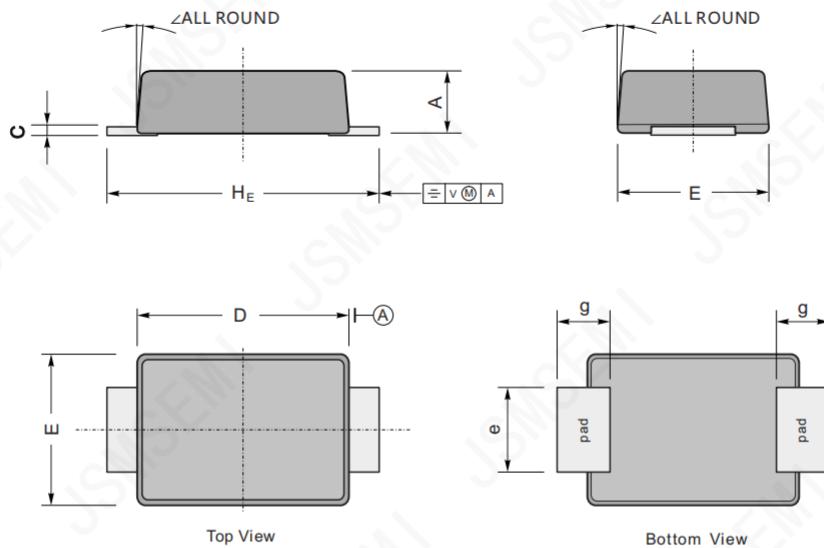
1) Measured at 1MHz and applied reverse voltage of 4 V D.C.

2) P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.

Typical Performance Curves

Fig.1 Forward Current Derating Curve

Fig.2 Typical Reverse Characteristics

Fig.3 Typical Forward Characteristic

Fig.4 Typical Junction Capacitance

Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

Fig.6-Typical Transient Thermal Impedance


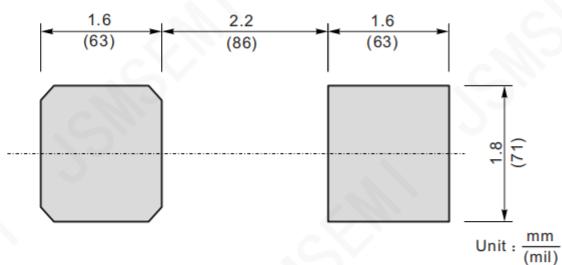
SOD-128 Package Outline Dimensions



Plastic surface mounted package; 2 leads

UNIT		A	C	D	E	e	g	H_E	\angle
mm	max	1.1	0.20	3.7	2.7	1.6	1.2	4.9	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	max	43	7.9	146	106	63	47	193	7°
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size



Revision History

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

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