

## Surface Mount Rectifier

## P120JCF - P120KCF

### Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- RoHS compliant with Halogen-free



### Mechanical Data

- Case: SMCF molded plastic
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Solder plated, solderable per MIL- STD-202, Method 208
- Polarity: Color band denotes cathode end

### Maximum Ratings (@T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	P120JCF	P120KCF	Unit
Peak repetitive reverse voltage	V <sub>RRM</sub>	600	800	V
RMS reverse voltage	V <sub>RMS</sub>	420	560	V
DC blocking voltage	V <sub>DC</sub>	600	800	V
Maximum average forward output current	I <sub>F_AV</sub>	12		A
Peak forward surge current, 8.3ms single half-sine-wave	I <sub>FSM</sub>	240		A

### Thermal Characteristics

Parameter	Symbol	P120JCF	P120KCF	Unit
Typical thermal resistance (Note 1)	R <sub>θJA</sub>	27		°C/W
	R <sub>θJC</sub>	10		
	R <sub>θJL</sub>	4		
Operating junction temperature range	T <sub>J</sub>	-55 ~ +150		°C
Storage temperature range	T <sub>STG</sub>	-55 ~ +150		°C

Note \*1: Device mounted on p.c.b. with 10 mm x 20 mm x 0.1mm copper pad area

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

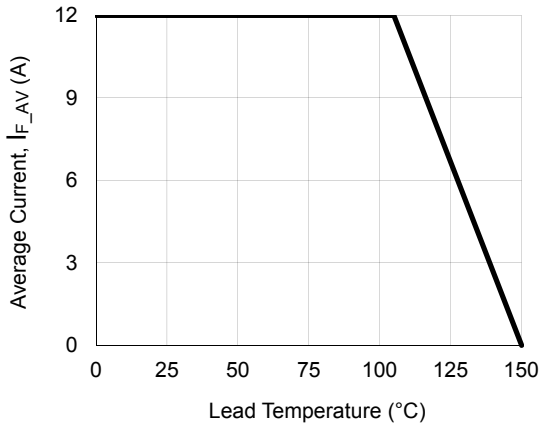
Parameter	Symbol	Test Conditions	Typ.	Max.	Unit	
Instantaneous Forward Voltage	$V_F$	$I_F = 12\text{A}$	0.98	1.05	V	
Reverse Current	$I_R$	Rated	@ $T_A = 25^\circ\text{C}$	0.5	2.0	$\mu\text{A}$
		$V_R$	@ $T_A = 150^\circ\text{C}$	50	150	

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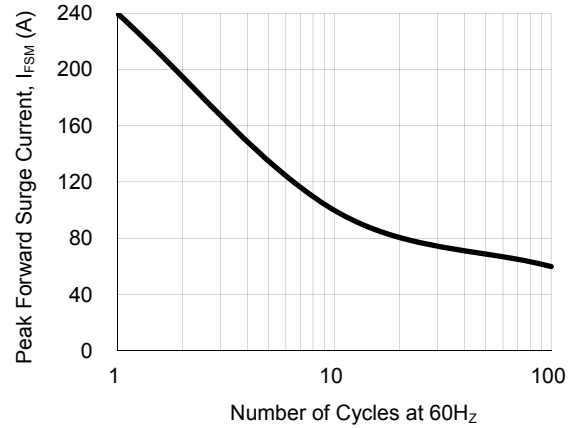
# P120JCF - P120KCF

## Ratings and Characteristic Curves (@ $T_A=25^\circ\text{C}$ unless otherwise noted)

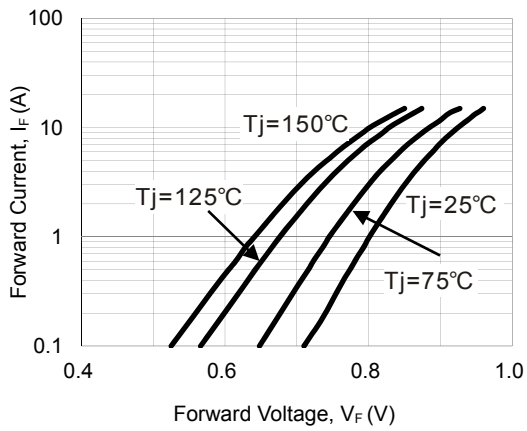
**Fig.1 Forward Current Derating Curve**



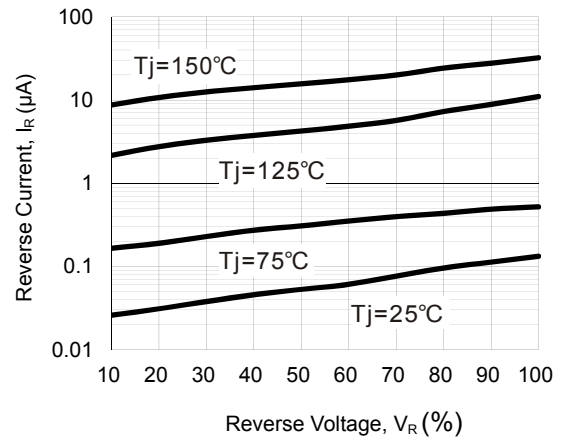
**Fig.2 Surge Current Derating Curve**



**Fig.3 Typical Forward Voltage Characteristics**



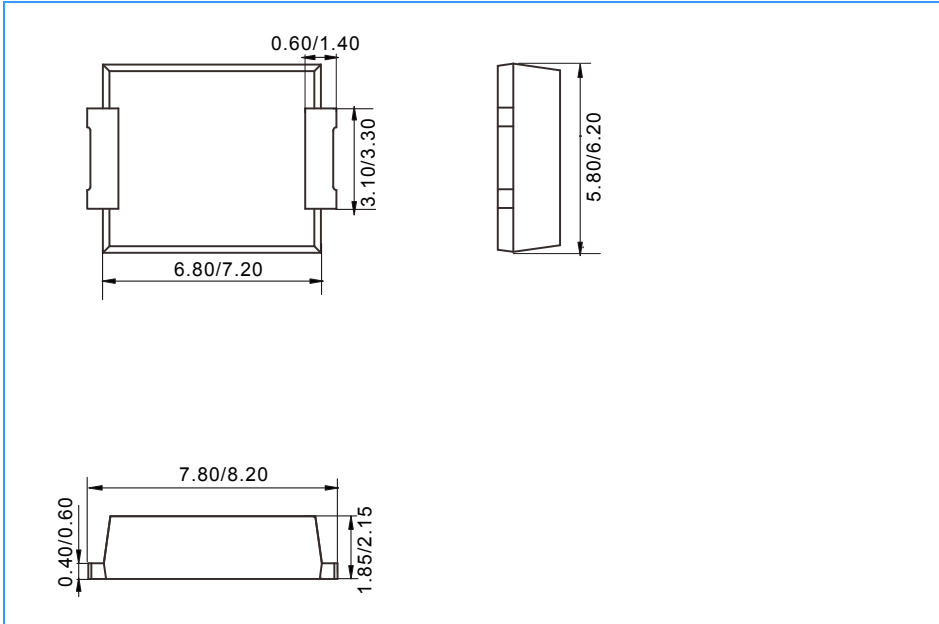
**Fig.4 Typical Reverse Characteristics**



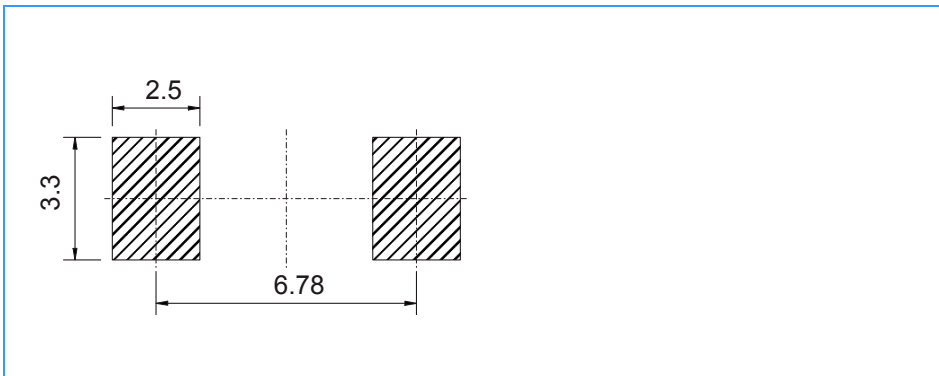
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### Package Outline Dimensions (Unit: mm)



### Mounting Pad Layout (Unit: mm)



### Ordering Information

Part Number	Marking	Package	Shipping Quantity
P120JCF	P120JCF	SMCF	3000 / Tape & Reel
P120KCF	P120KCF	SMCF	3000 / Tape & Reel