

Surface Mount Rectifier

TP50JC - TP50KC

Features

- Planar passivated chips
- Ultra low leakage reverse current
- High temperature performance
- High surge current capability
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards



Mechanical Data

- Case: SMC 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_A = 25°C unless otherwise specified)

Parameter	Symbol	TP50JC	TP50KC	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	600	800	V
RMS Reverse Voltage	V _{RMS}	420	560	V
DC Blocking Voltage	V _{DC}	600	800	V
Average Forward Output Current	I _{F_AV}	5.0		A
Peak Forward Surge Current, 8.3ms Single Half Sine wave	@T _J = 25°C I _{FSM}	170		A

Thermal Characteristics

Parameter	Symbol	TP50JC	TP50KC	Unit
Typical Thermal Resistance *1	R _{θJA}	55		°C/W
	R _{θJC}	15		
	R _{θJL}	10		
Operating Junction Temperature Range	T _J	-55 ~ +150		°C
Storage Temperature Range	T _{STG}	-55 ~ +150		°C

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

Surface Mount Rectifier**TP50JC - TP50KC****Electrical Characteristics** (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Typ.	Max.	Unit
Instantaneous Forward Voltage	V_F	$I_F = 5.0\text{A}$		0.95	1.0	V
Reverse Current	I_R	Rated V_R	@ $T_A = 25^\circ\text{C}$	0.2	1.0	μA
			@ $T_A = 150^\circ\text{C}$	40	100	

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TP50JC - TP50KC

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

Fig.1 Forward Current Derating Curve

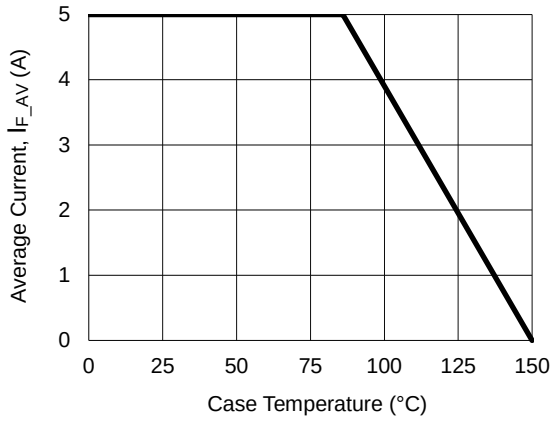


Fig.2 Surge Current Derating Curve

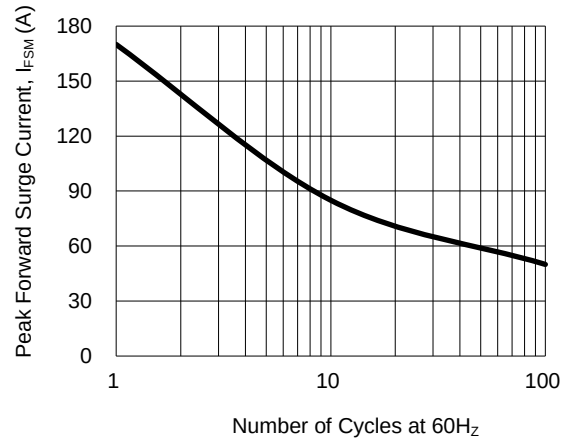


Fig.3 Typical Forward Voltage Characteristics

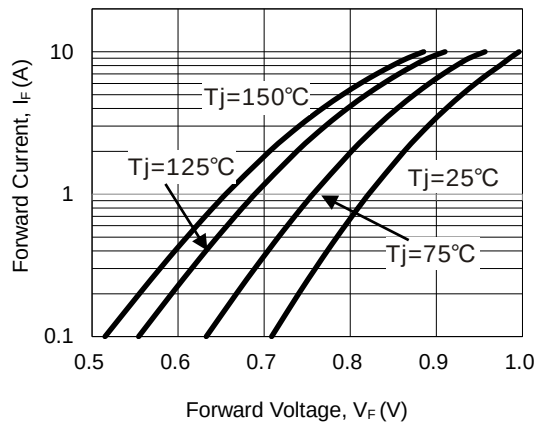
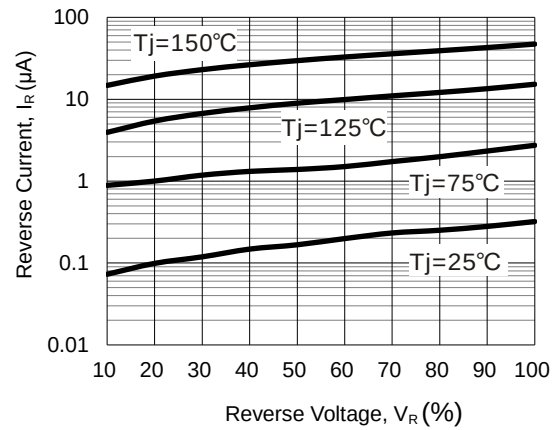


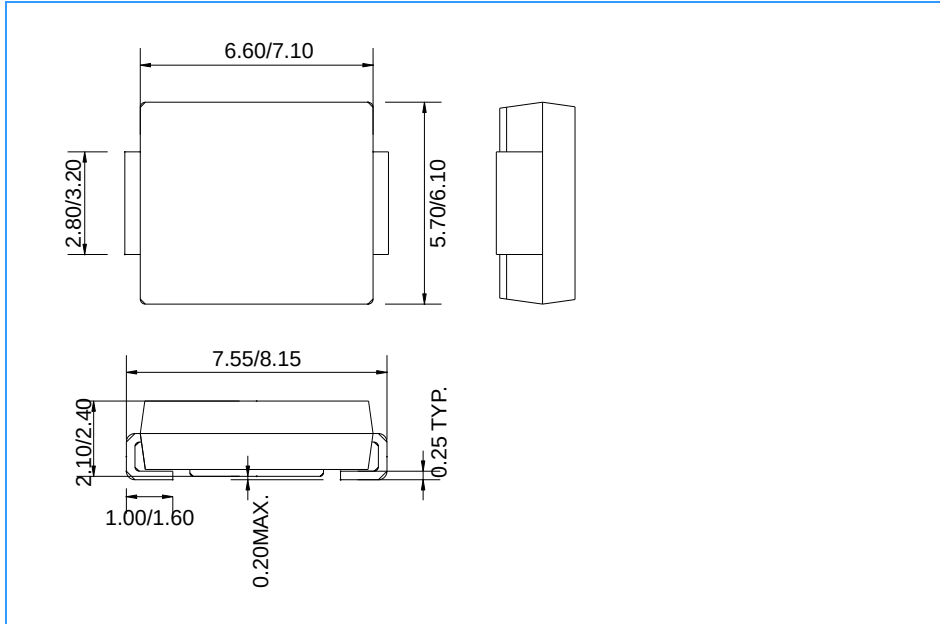
Fig.4 Typical Reverse Characteristics



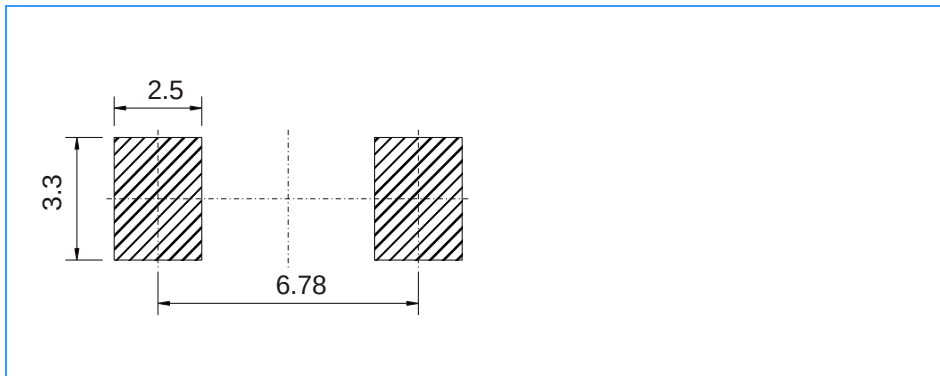
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Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)



Ordering Information

Part Number	Marking	Package	Shipping Quantity
TP50JC	P50JC	SMC	3000 / Tape & Reel
TP50KC	P50KC	SMC	3000 / Tape & Reel