

Primary Characteristics

I_F	10	A
V_{RRM}	50~1000	V
I_{FSM}	200	A
V_F	1.1	V

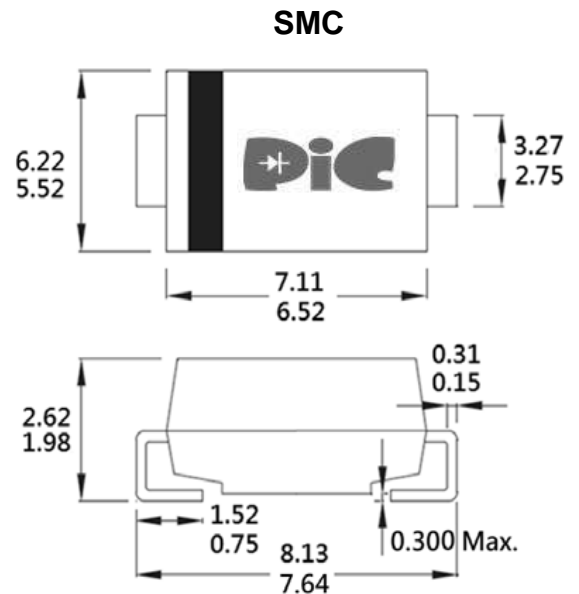
Features

- For surface mounted applications
- Glass passivated die construction
- Low forward voltage drop and high current capability
- High surge current capability

Mechanical Data

- Case: Molded plastic body
- Mounting Position : Any

Package Outline Dimensions



Maximum Ratings & Electrical Characteristic (Ta = 25°C unless otherwise specified)

Parameter	SYMBOL	S10AC	S10BC	S10DC	S10GC	S10JC	S10KC	S10MC	UNITS
Marking Code	-	S10AC	S10BC	S10DC	S10GC	S10JC	S10KC	S10MC	-
Max. Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at $T_L=75^\circ\text{C}$ 60HZ Half-sine wave, Resistance load, $T_L=75^\circ\text{C}$	$I_{F(AV)}$	10							A
Surge Forward Current at $T_A=25^\circ\text{C}$ 60HZ Half-sine wave, 1 cycle, $T_A=25^\circ\text{C}$	I_{FSM}	200							A
Max. Peak Forward Voltage at 15A	V_F	1.1							V
Max. Peak Reverse Current at $V_{RM}=V_{RRM}$ $T_A=25^\circ\text{C}$ $T_A=125^\circ\text{C}$	I_R	10 250							μA
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	40							$^\circ\text{C/W}$
	$R_{\theta JL}$	8							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes:

- (1) Thermal Resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3"x0.3"(8.0mm x 8.0mm) copper pad areas.

Rating and Characteristics Curves

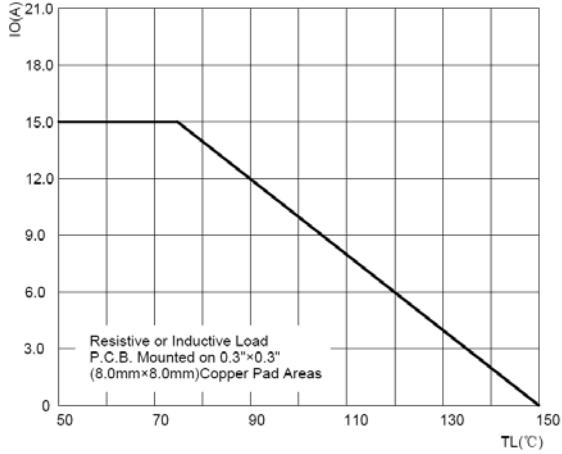


Fig. 1 Forward Current Derating Curve

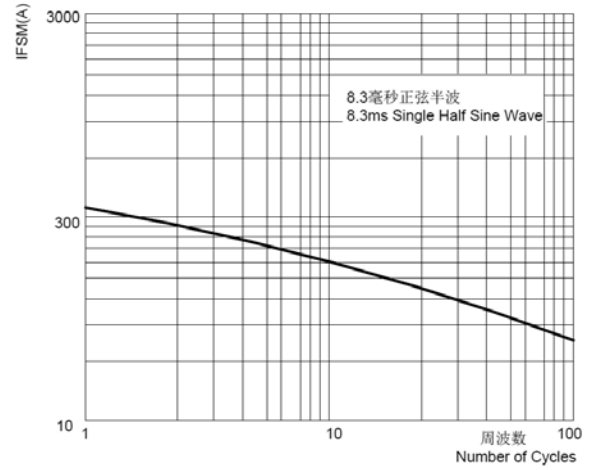


Fig. 2 Max. Non-Repetitive Peak Forward Surge Current

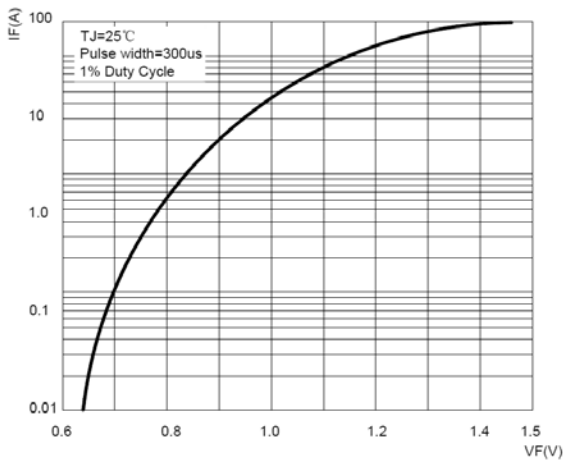


Fig. 3 Typical Forward Characteristics

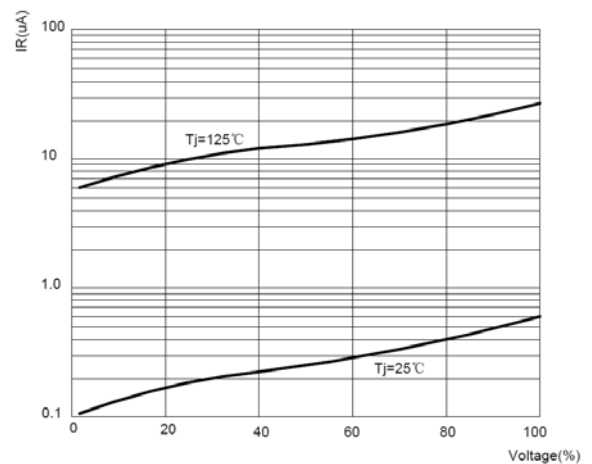
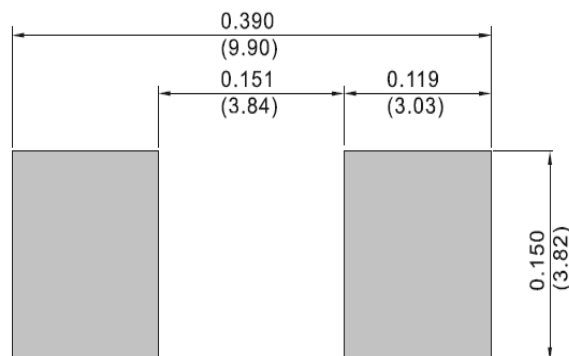


Fig. 4 Typical Reverse Characteristics

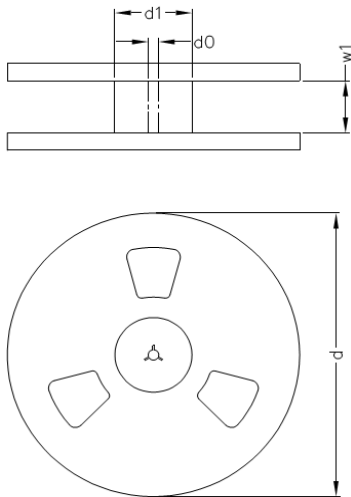
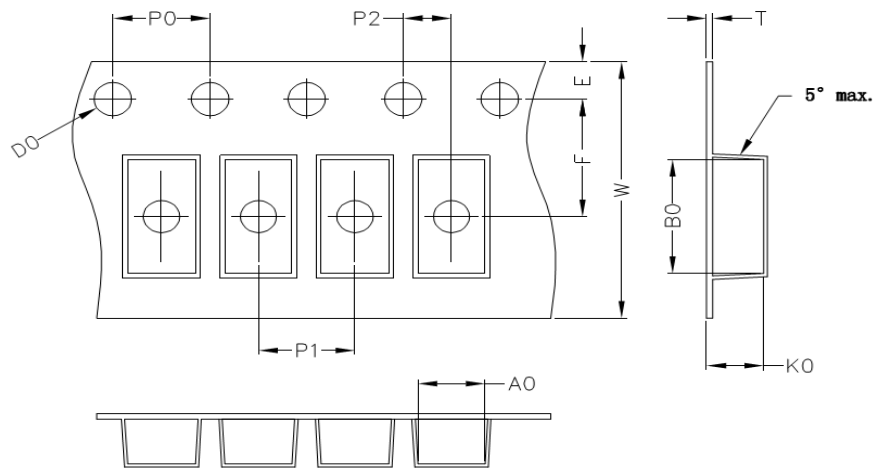
Suggested Pad Layout



Unit: inch (mm)

Packaging Specifications

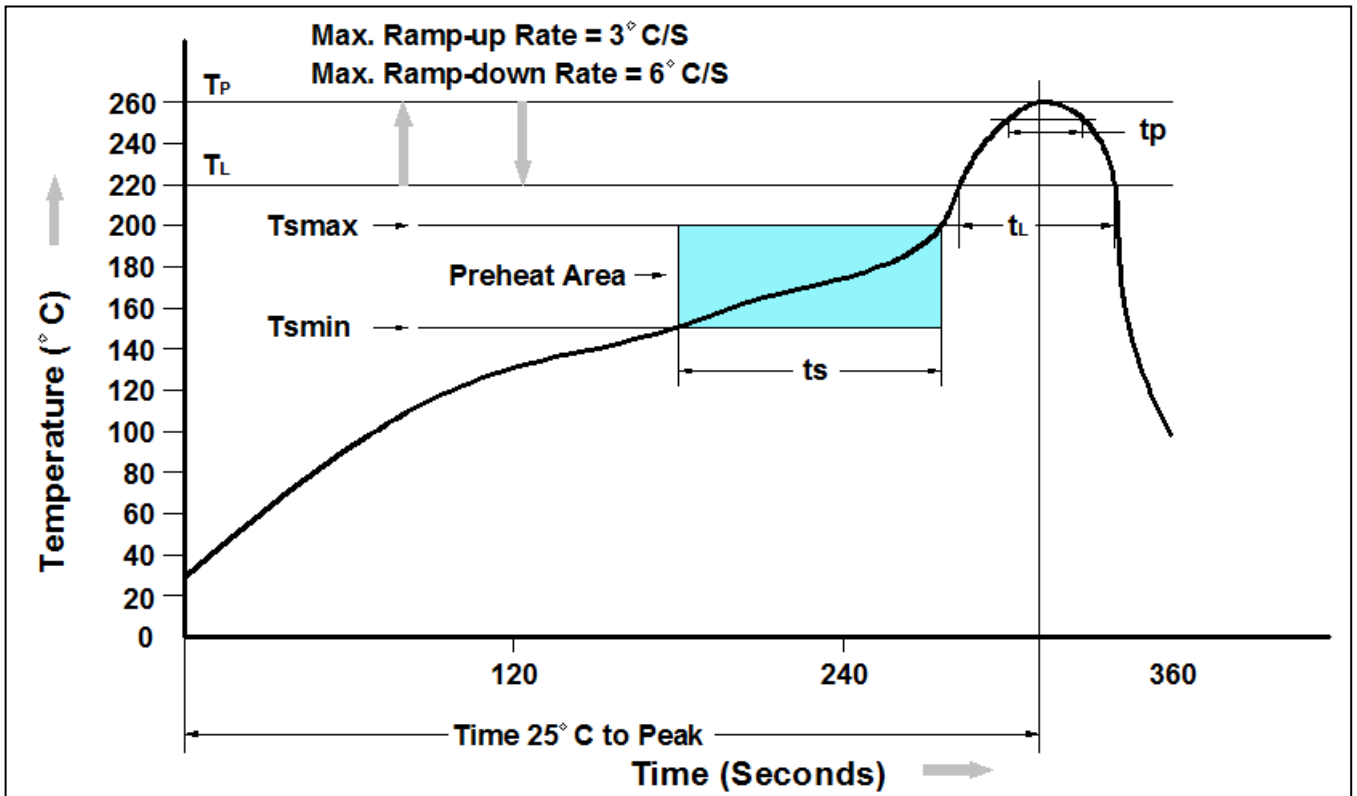
Package	A0 (mm)	B0 (mm)	K0 (mm)	D0 (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)
SMA	2.8±0.1	5.33±0.1	2.36±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	4.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMB	3.8±0.1	5.40±0.1	2.45±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	8.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMC	6.05±0.1	8.31±0.1	2.54±0.1	1.55±0.1	1.75±0.1	7.50±0.1	4.0±0.1	8.0±0.05	2±0.1	0.25±0.1	12±0.1



Package	D1 (mm)	D0 (mm)	W1 (mm)	D (mm)
SMA	75	13.5	13.5	330
SMB	75	13.5	13.5	330
SMC	75	13.5	17.0	330

NOTE : The tolerance of reel is ±2mm

Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (T Amin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
S10AC~S10MC	SMC Reel	3000 pcs

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