

### Primary Characteristics

$I_F$	1	A
$V_{RRM}$	50~1000	V
$I_{FSM}$	30	A
$V_F$	1.1	V

### Features

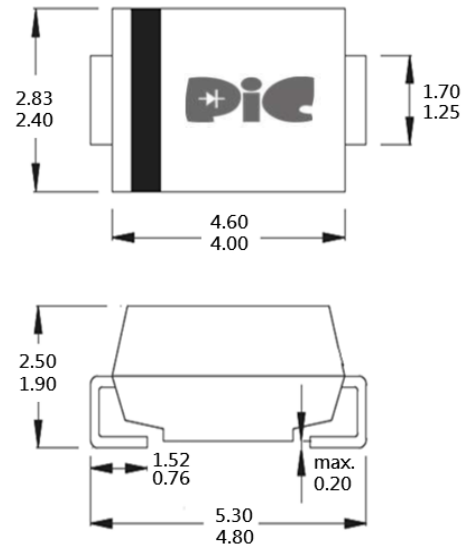
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- Glass passivated chip junction

### Mechanical Data

- Case: JEDEC SMA molded plastic body over passivated chip
- Terminals: Solder plated, solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any

### Package Outline Dimensions

SMA



Dimensions in inches and millimeters

### Maximum Ratings & Electrical Characteristic

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

	Symbol	FM4001	FM4002	FM4003	FM4004	FM4005	FM4006	FM4007	UNITS
Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
DC Blocking Voltage	$V_R$	50	100	200	400	600	800	1000	Volts
Average Forward Current	$I_{F(AV)}$	1.0							Amps
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	30.0							Amps
Forward voltage at 1.0A	$V_F$	1.1							Volts
DC Reverse Current DC blocking voltage	$I_R$	10							$\mu A$
Typical thermal resistance(Note 1)	$R_{\theta JA}$	75							°C/W
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							°C

Notes:

- (1) P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

### Rating and Characteristics Curves

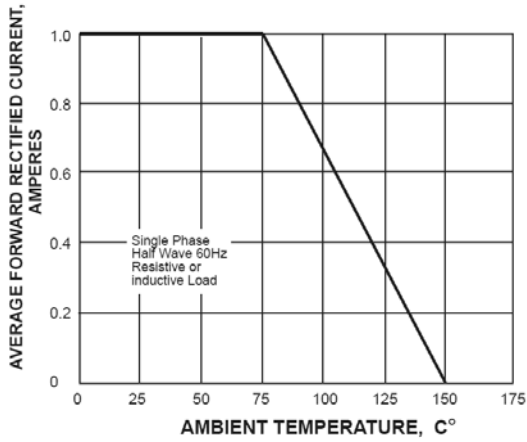


Fig. 1 Forward Current Derating Curve

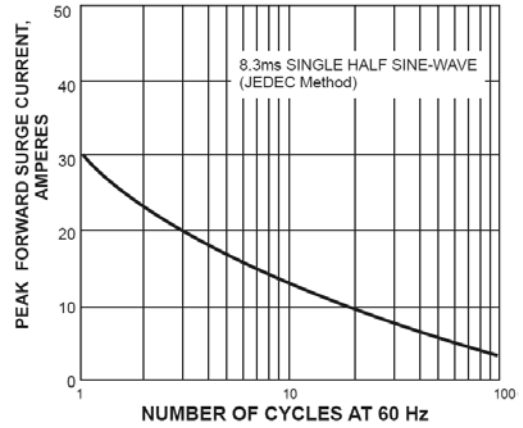


Fig. 2 Max. Non-Repetitive Peak Forward Surge Current

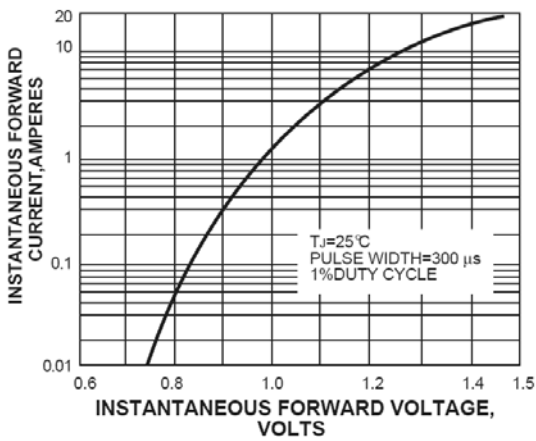


Fig. 3 Typical Instantaneous Forward Characteristics

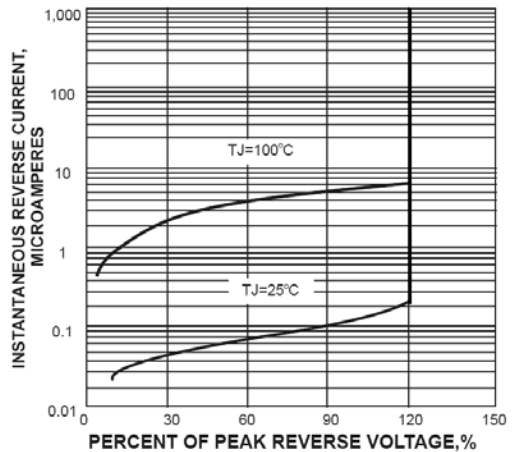


Fig. 4 Typical Reverse Characteristics

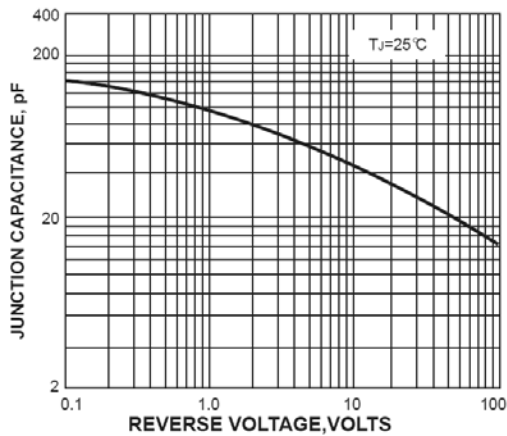


Fig. 5 Typical Junction Capacitance

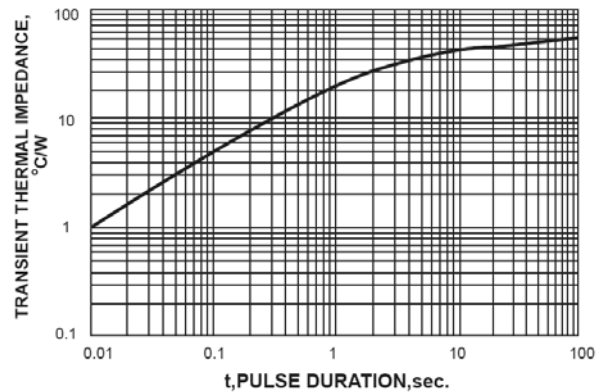
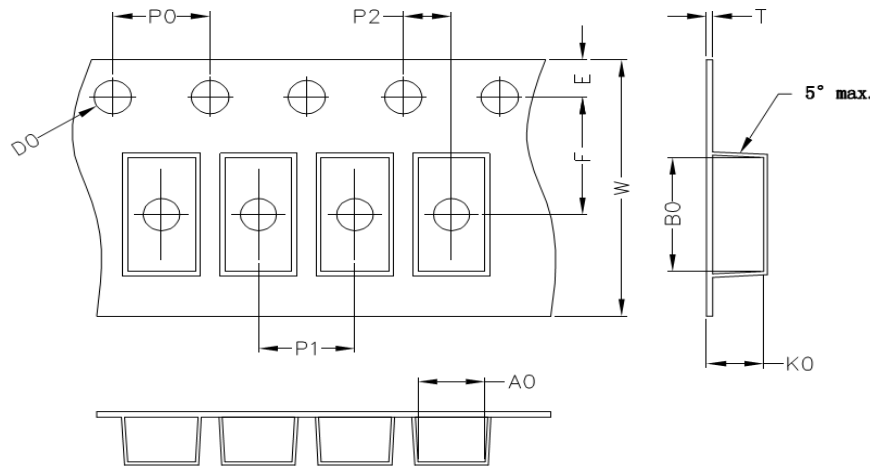


Fig. 6 Typical Transient Thermal Impedance

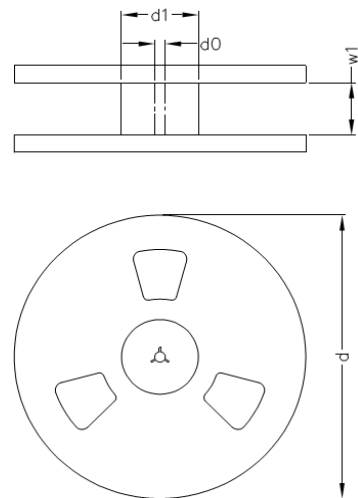
### Packaging Specifications

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

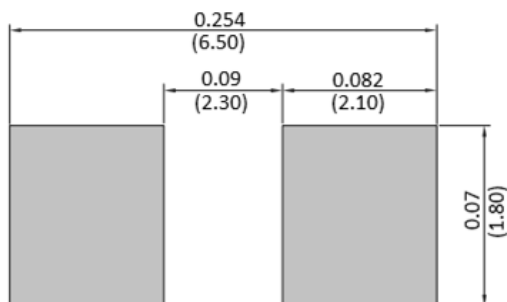


Package	D1 (mm)	D0 (mm)	W1 (mm)	D (mm)
SMA	75	13.5	13.5	330
SMB	75	13.5	13.5	330
SMC	75	13.5	17.0	330

NOTE : The tolerance of reel is ±2mm

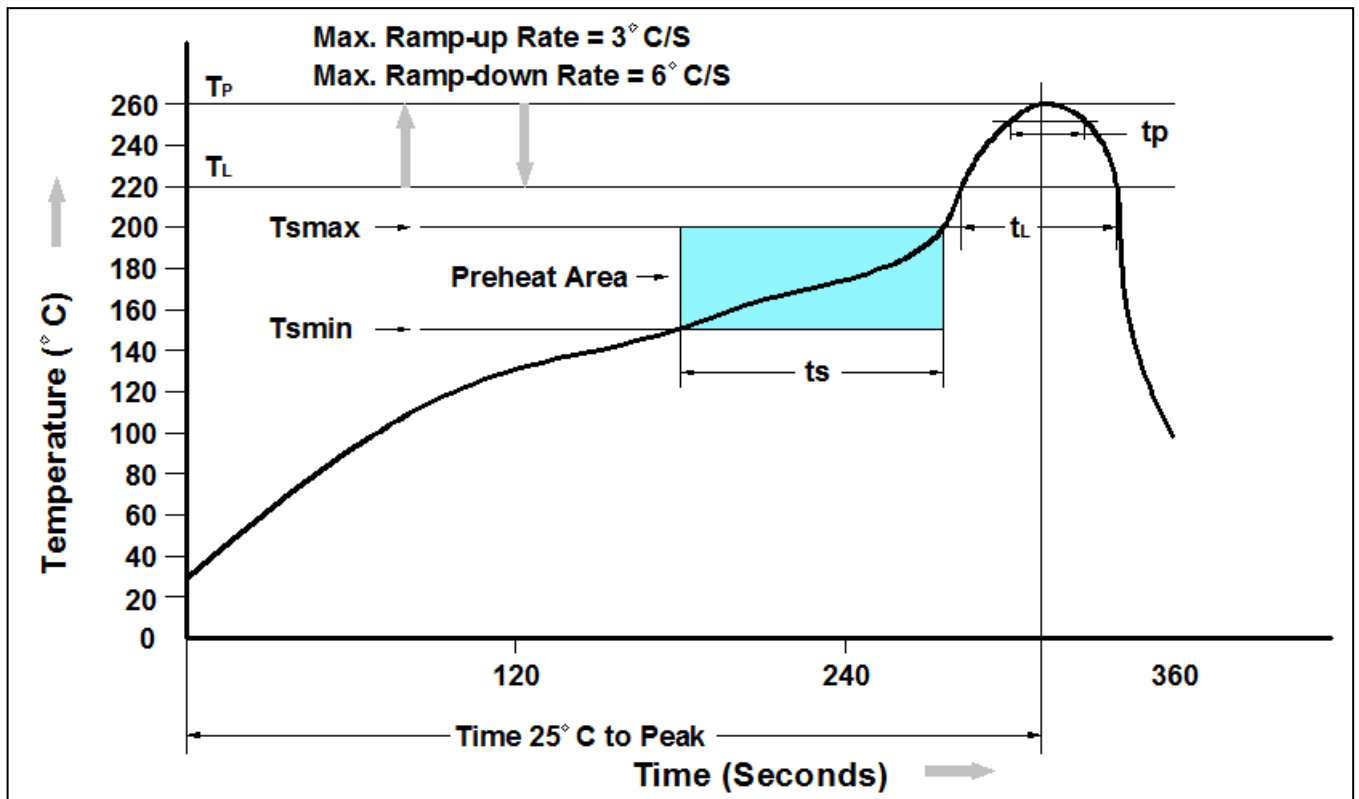


### Suggested Pad Layout



Unit: inch (mm)

### Recommmend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (T smax)	200°C
Time (ts) from (T Amin to T smax)	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
FM4001~FM4007	SMA Reel	5000 pcs

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