

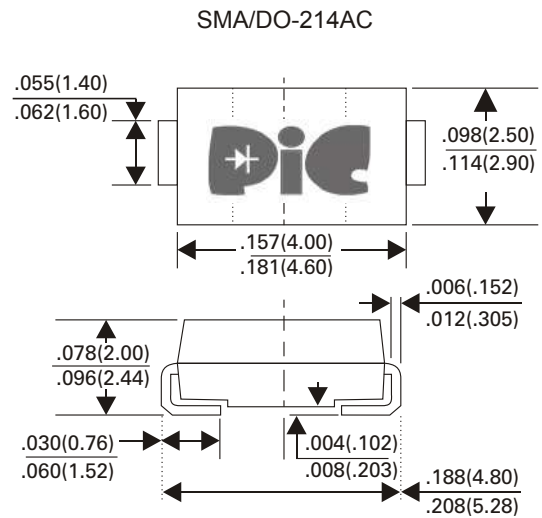
### Primary Characteristics

$I_F$	1	A
$V_{RRM}$	20~40	V
$I_{FSM}$	40	A
$V_F$	0.45~0.50	V

### Features

- For surface mount applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Low forward voltage drop
- Metal to silicon rectifier, majority carrier conduction
- Low power loss, high efficiency
- High current and surge capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 250°C/10 seconds at terminsls

### Package Outline Dimensions



Dimensions in inches and (millimeters)

### Mechanical Data

Case : JEDEC DO-214AC molded plastic  
 Terminals : Solder plated, solderable per MIL-STD-202, Method 208  
 Polarity : Color band denotes cathode end  
 Standard Package : 12mm tape (EIA STD EIA-481)  
 Weight : 0.002 ounce, 0.064gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

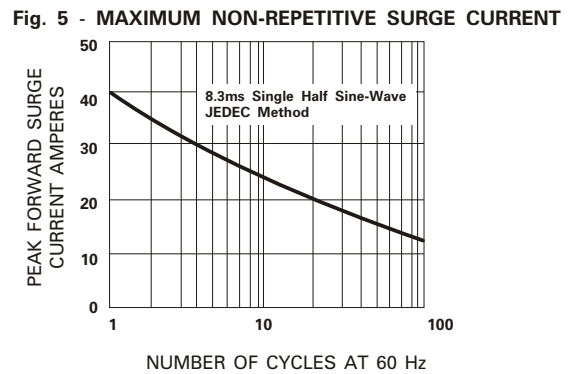
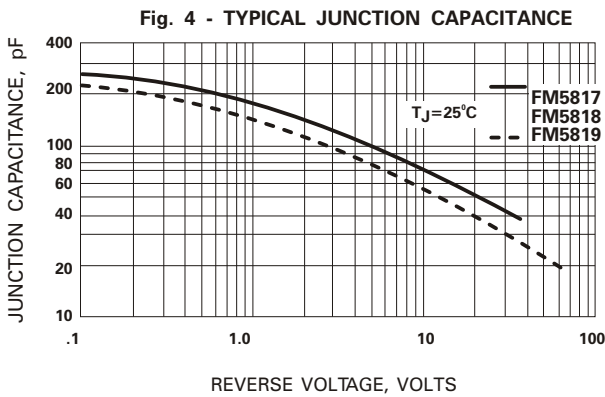
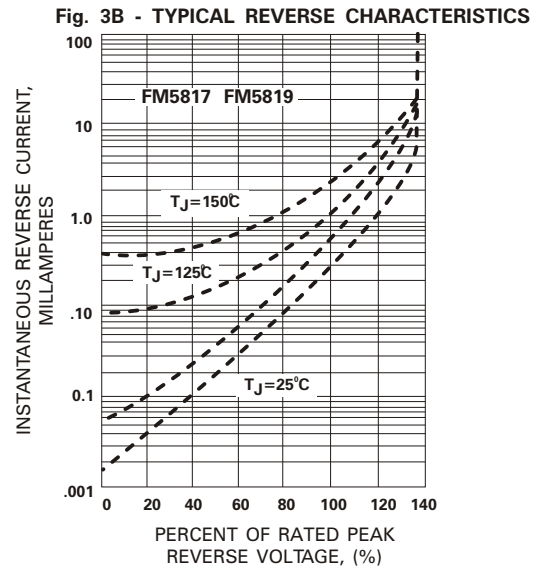
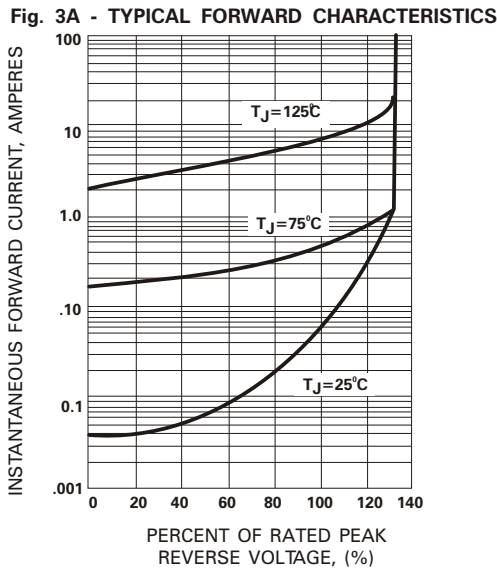
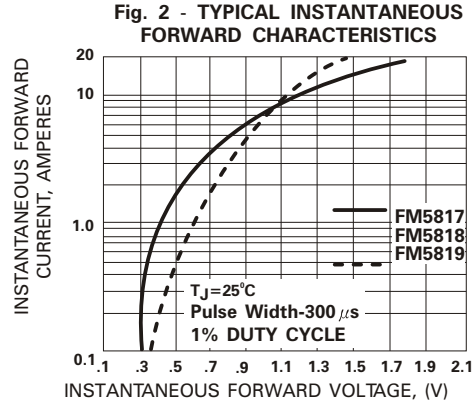
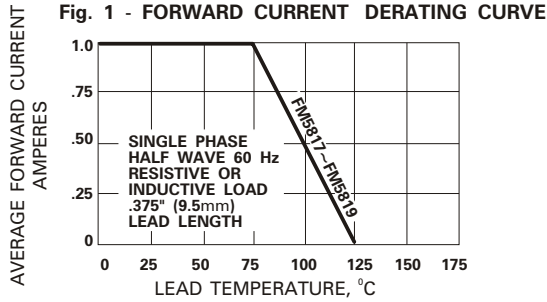
Ratings at 25°C ambient temperature unless otherwise specified  
 Single phase, half wave, 60Hz, resistive or inductive load  
 For capacitive load, derate current by 20%

	SYMBOL	FM5817	FM5818	FM5819	UNITS
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	30	40	Volts
Maximum RMS Voltage	$V_{RMS}$	14	21	28	Volts
Maximum DC Blocking Voltage	$V_{DC}$	20	30	40	Volts
Maximum Average Forward Rectified Current at $T_L$ (Figure 1)	$I_{(AV)}$	1.0			Amps
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	40			Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	0.45	0.50		Volts
Maximum DC Reverse Current (NOTE 1) $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	$I_R$	0.5 10			mA
Maximum Thermal Resistance (NOTE 2)	$R_{\theta JA}$ $R_{\theta JL}$	88 28			$^\circ\text{C} / \text{W}$
Typical Junction Capacitance (NOTE 3)	$C_J$	110			pF
Storage and Operating Temperature Range	$T_J$ $T_{STG}$	-55 to +150			$^\circ\text{C}$

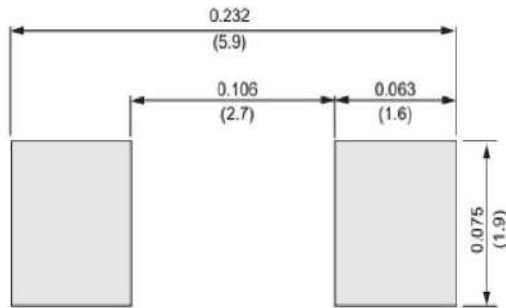
#### NOTES :

1. Pulse test with 300  $\mu\text{s}$  PULSE WIDTH, 1% duty cycle
2. P.C.B. mounted on 0.2x0.2" (5.0x5.0mm)copper pad areas
3. Measured at 1.0MHz and applied reverse voltage of 4.0 volts

## Rating and Characteristics Curves



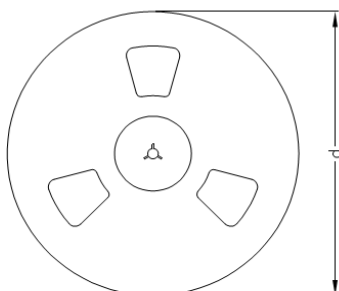
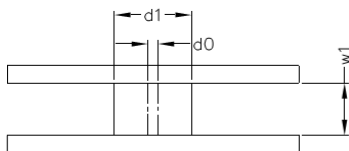
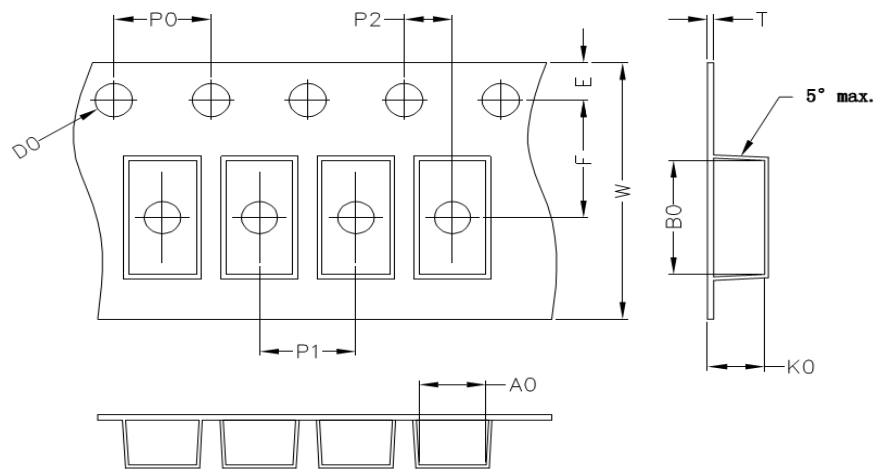
## Pad Layout



Unit: mm

## Packaging Specifications

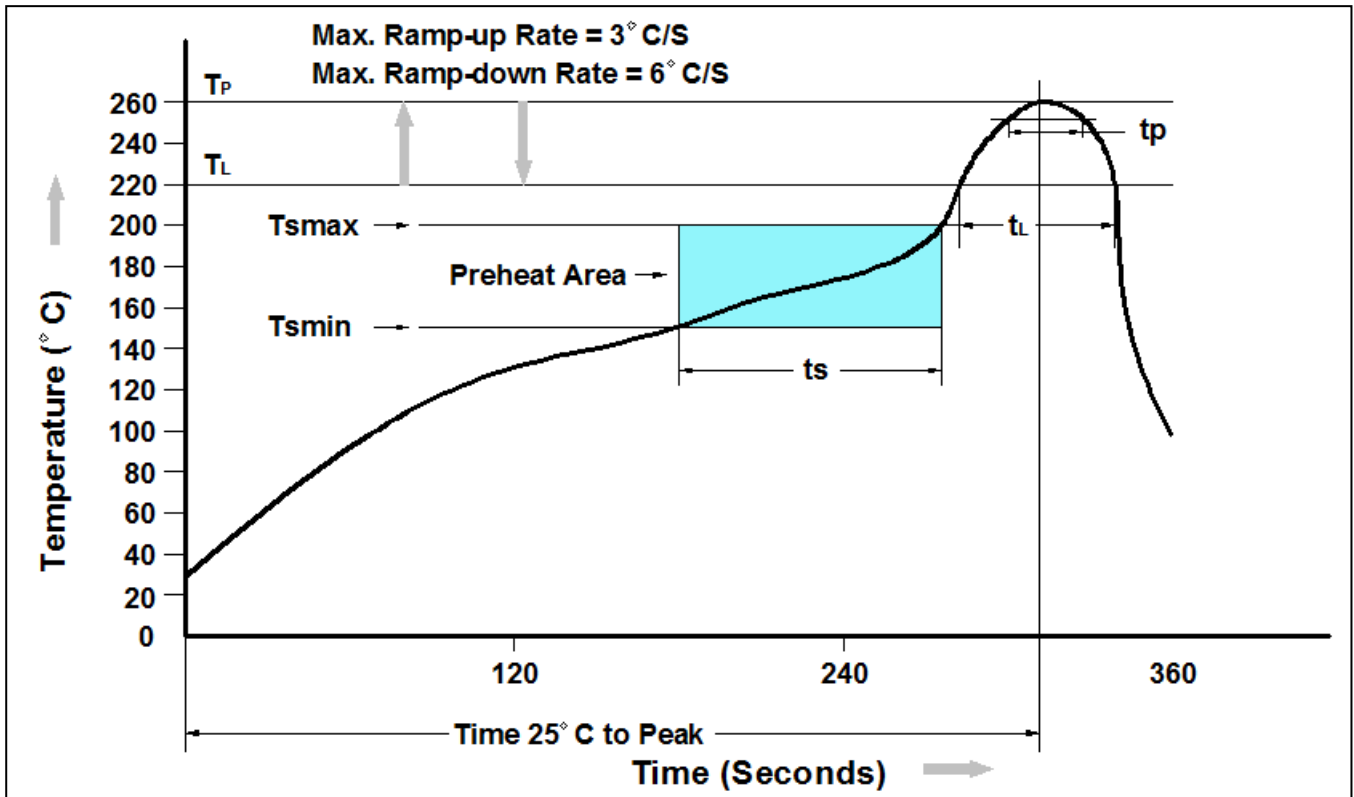
Package	A0 (mm)	B0 (mm)	K0 (mm)	D0 (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)
SMA	2.8±0.1	5.33±0.1	2.36±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	4.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMB	3.8±0.1	5.40±0.1	2.45±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	8.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMC	6.05±0.1	8.31±0.1	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 <sub>smin</sub> )	150°C
Temperature Max. (T <sub>smax</sub> )	200°C
Time (t <sub>s</sub> ) from (T <sub>smin</sub> to T <sub>smax</sub> )	60-120 seconds
Average Ramp-up Rate (t <sub>L</sub> to t <sub>P</sub> )	3°C/second max.
Liquidous Temperature (T <sub>L</sub> )	217°C
Time (t <sub>L</sub> ) Maintained Above (T <sub>L</sub> )	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (t <sub>P</sub> ) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (T <sub>P</sub> to T <sub>L</sub> )	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
FM5817~FM5819	SMA Reel	5000 pcs

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