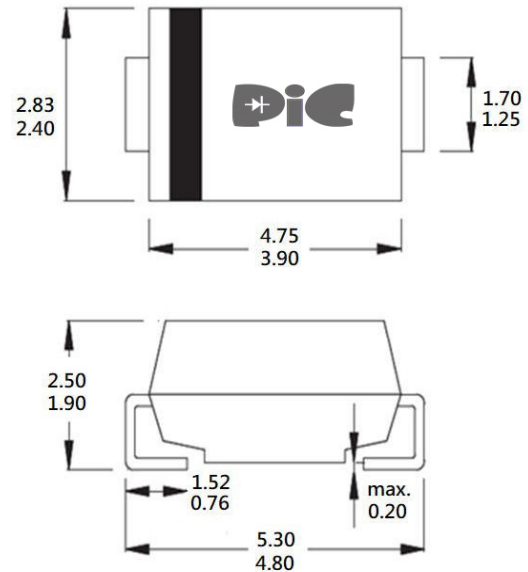


Characteristics

I _o	1.0	A
V _{RRM}	50~600	V
I _{FSM}	30.0	A
V _F	0.95~1.70	V

Package Outline Dimensions

SMA



Unit : millimeters

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast speed switching for high efficiency
- Glass Passivated Junction chip
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed 250°C/10 seconds at terminals

Mechanical Data

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

Maximum Ratings (TA=25°C unless otherwise noted)

	Symbol	ES1A	ES1B	ES1D	ES1G	ES1J	UNITS
Marking Code	-	ES1A	ES1B	ES1D	ES1G	ES1J	-
Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	Volts
RMS Voltage	V _{RMS}	35	70	140	280	420	Volts
DC Blocking Voltage	V _R	50	100	200	400	600	Volts
Average Forward Current	I _{F(AV)}	1.0					Amps
Peak Forward Surge Current 8.3ms single half sine -wave superimposed on rated load (JEDEC Method)	I _{FSM}	30					Amps
Forward Voltage at 1.0A	V _F	0.95			1.25	1.7	Volts
DC Reverse Current at Rated DC Blocking Voltage T _J =25°C	I _R	5					µA
Typical Thermal Resistance (NOTE 1)	R _{θJA}	60					°C/W
Operating Junction and Storage Temperature Range	T _J ,T _{STG}	-55~+150					°C
Reverse Recovery Time (NOTE 2)	T _{rr}	35					n S

Notes:

- (1) P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas
- (2) Reverse recovery time test condition: I_F=0.5A I_R=1.0A I_{rr}=0.25A

Rating and Characteristics Curves

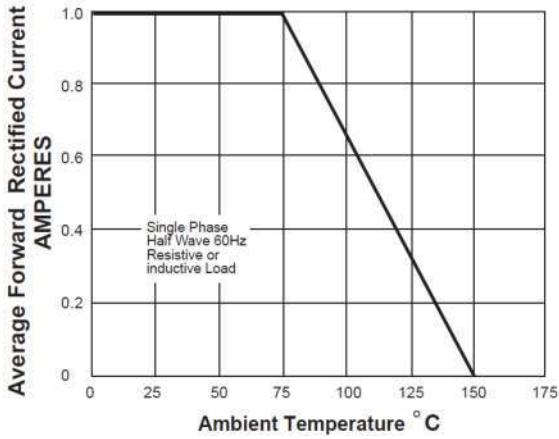


Fig. 1 Forward Current Derating Curve

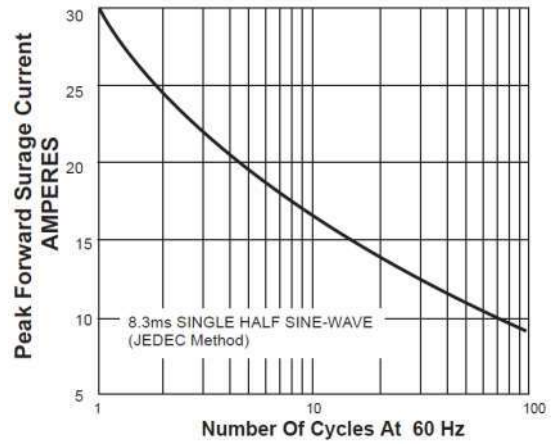


Fig. 2 Typical Junction Capacitance

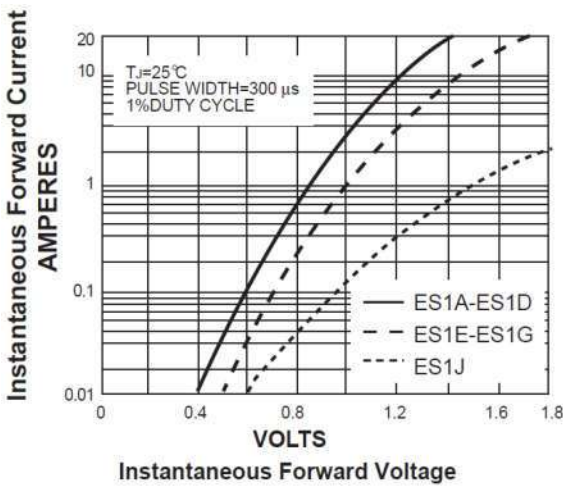


Fig.3 Typical Reverse Characteristics

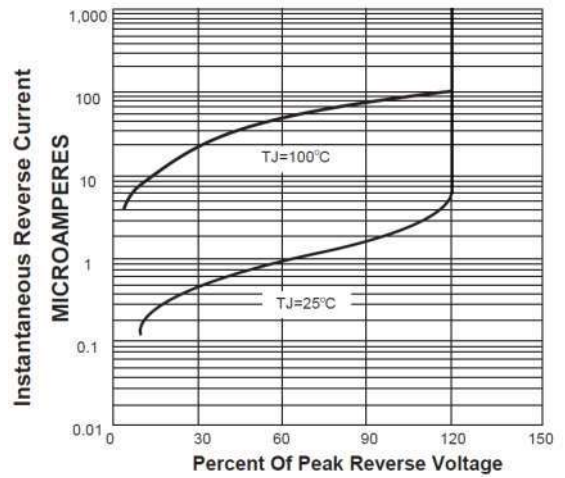


Fig. 4 Typical Forward Characteristics

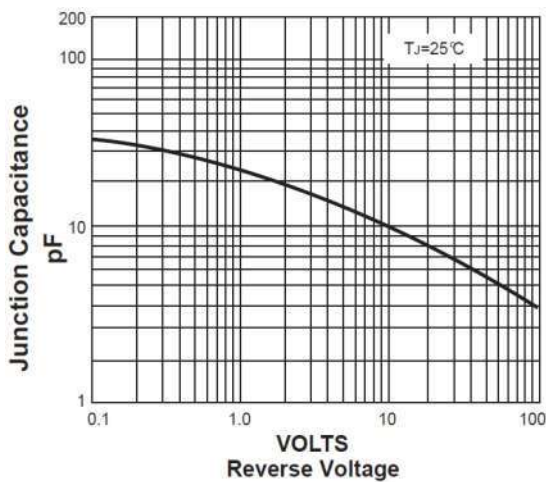


Fig.5 Typical Reverse Characteristics

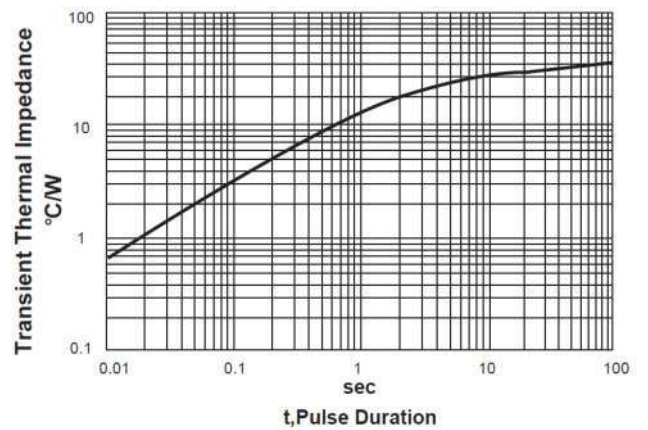
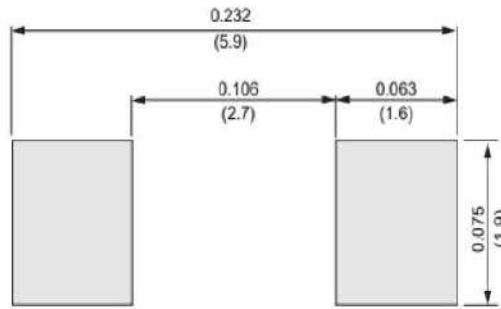


Fig. 6 Typical Transient Thermal Impedance

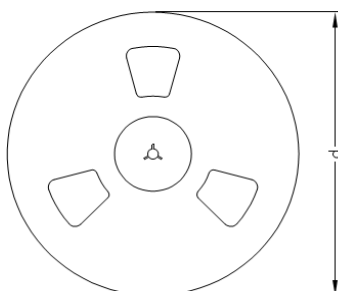
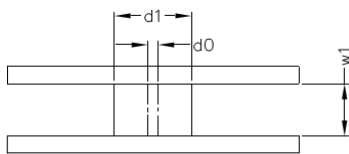
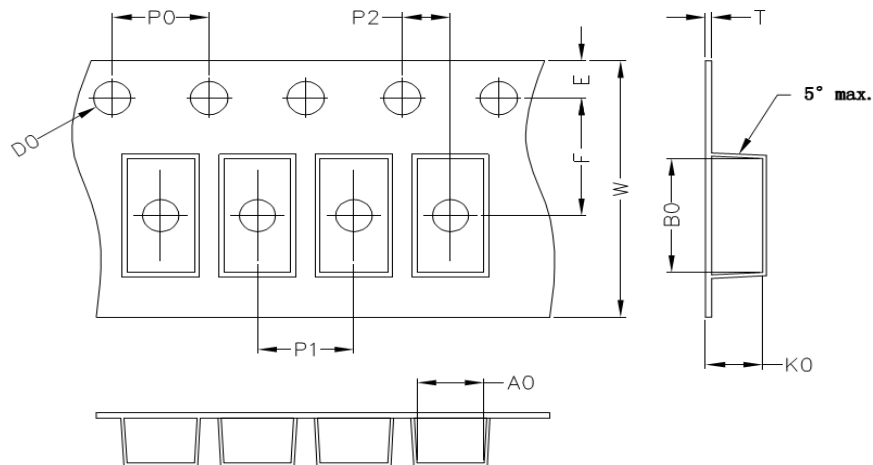
Pad Layout



Unit:mm

Packaging Specifications

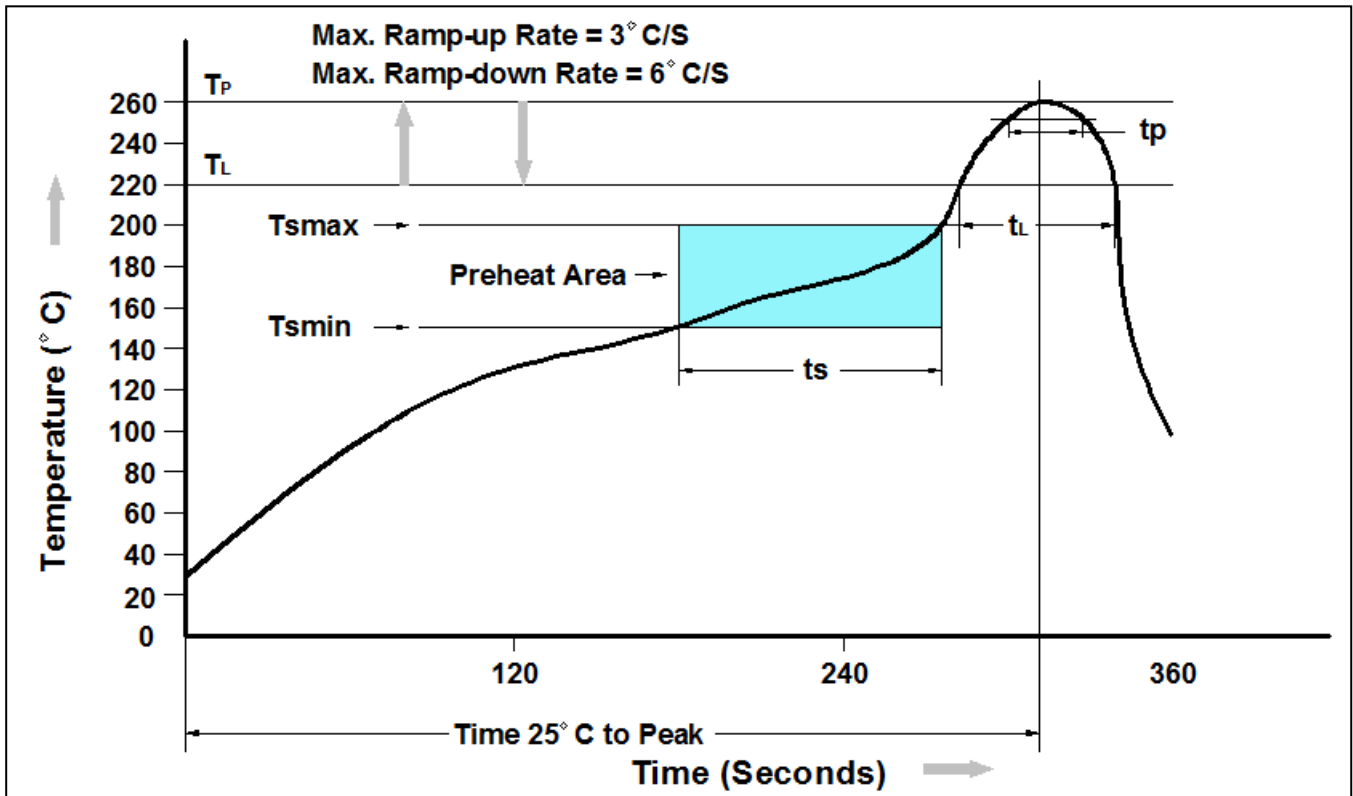
Package	A0 (mm)	B0 (mm)	K0 (mm)	D0 (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)
SMA	2.8±0.1	5.33±0.1	2.36±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	4.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMB	3.8±0.1	5.40±0.1	2.45±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	8.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMC	6.05±0.1	8.31±0.1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

Ordering Information

Part Number	Description	Quantity
ES1A~ES1J	SMA Reel	5000 pcs

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