

Primary Characteristics

I_F	8	A
V_{RRM}	20~200	V
I_{FSM}	125	A
V_F	0.55~0.90	V

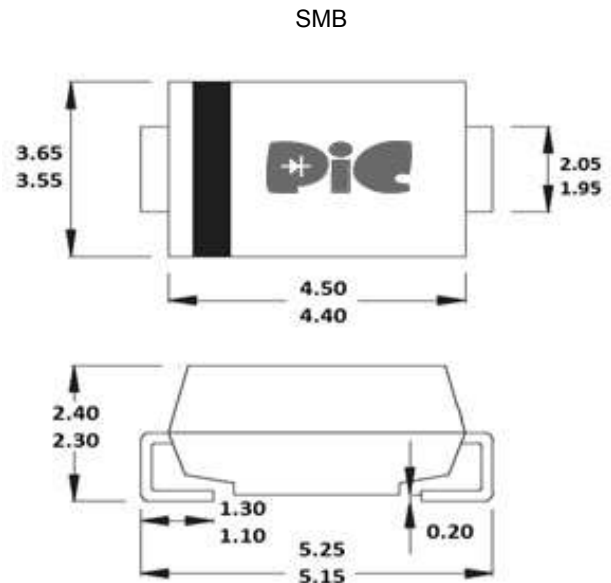
Features

- Low profile package
- Ideal for automated placement
- Guard Ring for over voltage protection
- Low forward voltage drop
- Component in accordance to RoHS 2002/95/EC

Mechanical Date

- Case: DO-214AA(SMB)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.231 grams (approximate)

Package Outline Dimensions



Dimensions in inches and millimeters

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	SK82B	SK83B	SK84B	SK85B	SK86B	SK88B	SK 810B	SK 815B	SK 820B	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V	
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V	
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V	
Maximum average forward rectified current	I_F	8.0									A	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	125.0									A	
Maximum Instantaneous Forward Voltage IF=8A @ 25°C	V_F	0.55		0.70		0.85		0.87		0.90	V	
Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C	I_R	0.5 30				0.2 10					mA	
Typical Junction Capacitance(NOTE1)	C_j	420		300		260		230		200	pF	
Typical Thermal Resistance(NOTE2)	$R_{\theta Ja}$ $R_{\theta Jc}$	80 50									°C/W	
Operating Temperature Range	T_J	-55 to +125					-55 to +150					°C
Storage Temperature Range	T_{STG}	-55 to +150									°C	

NOTES:

- 1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC
- 2.Device mounted on FR-4 substrate, 1"*1", 2oz, single-sided, PC boards with 0.1"*0.15" copper pad.

Rating and Characteristics Curves

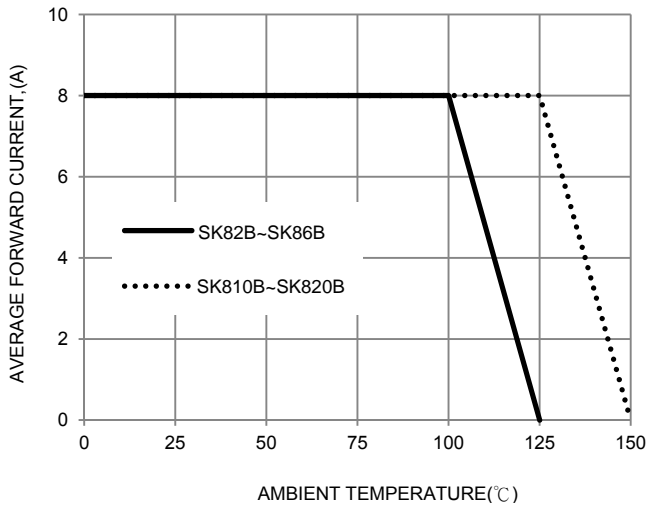


FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

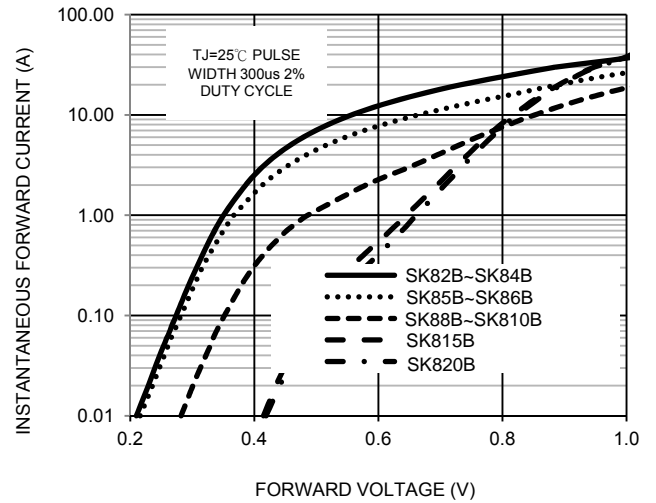


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

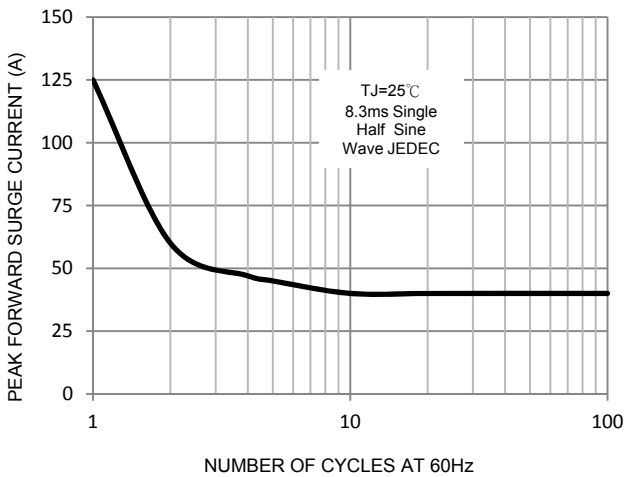


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

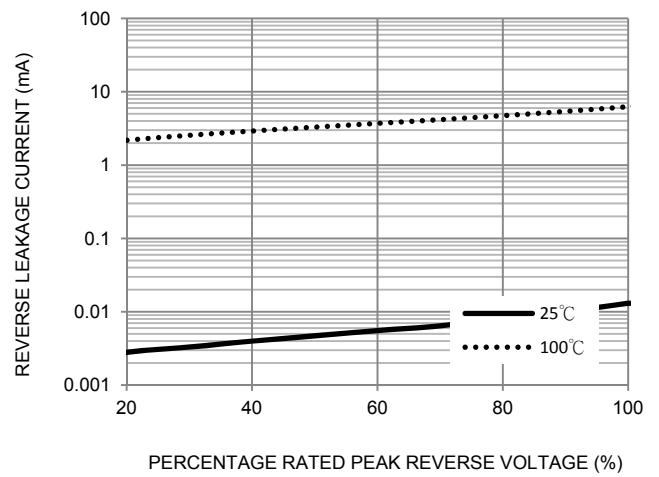


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

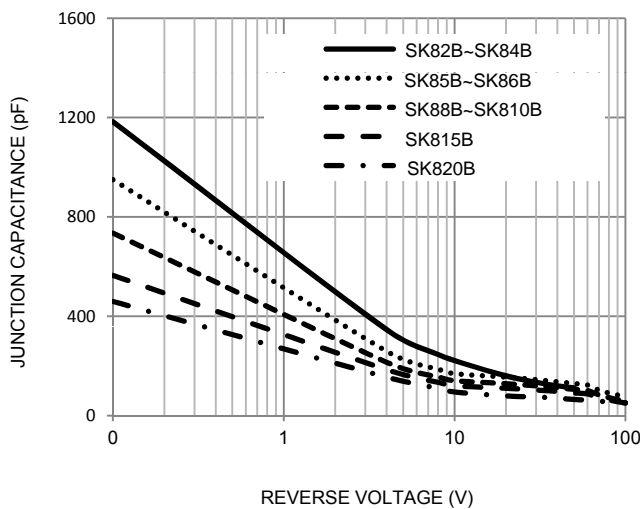
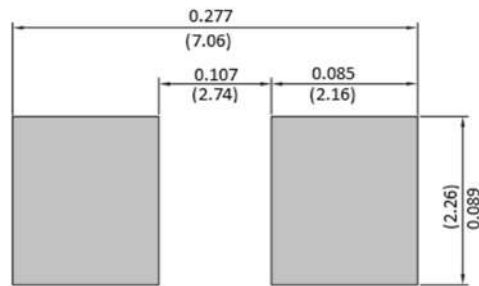


FIG. 5-TYPICAL JUNCTION CAPACITANCE

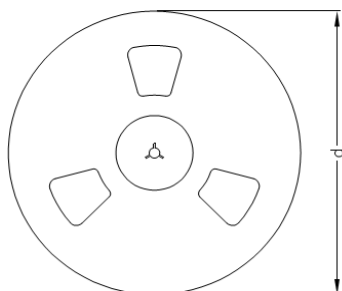
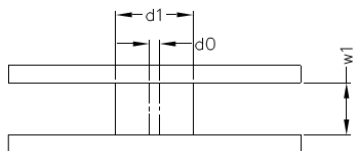
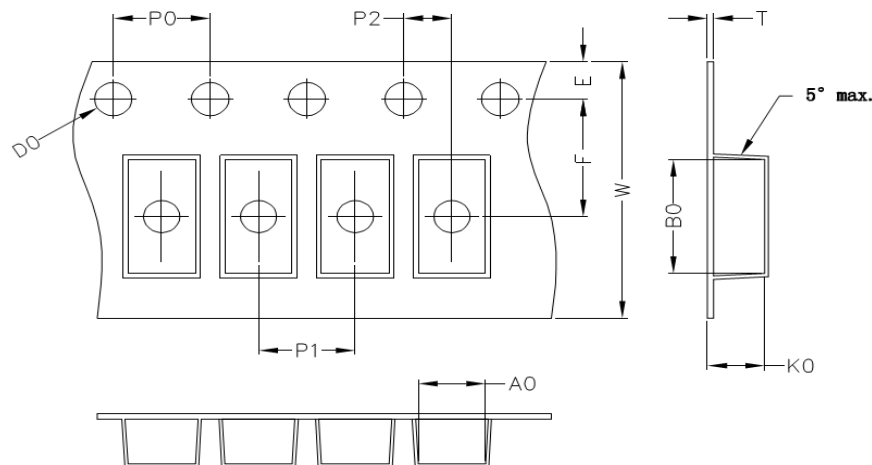
Pad Layout



Unit: mm

Packaging Specifications

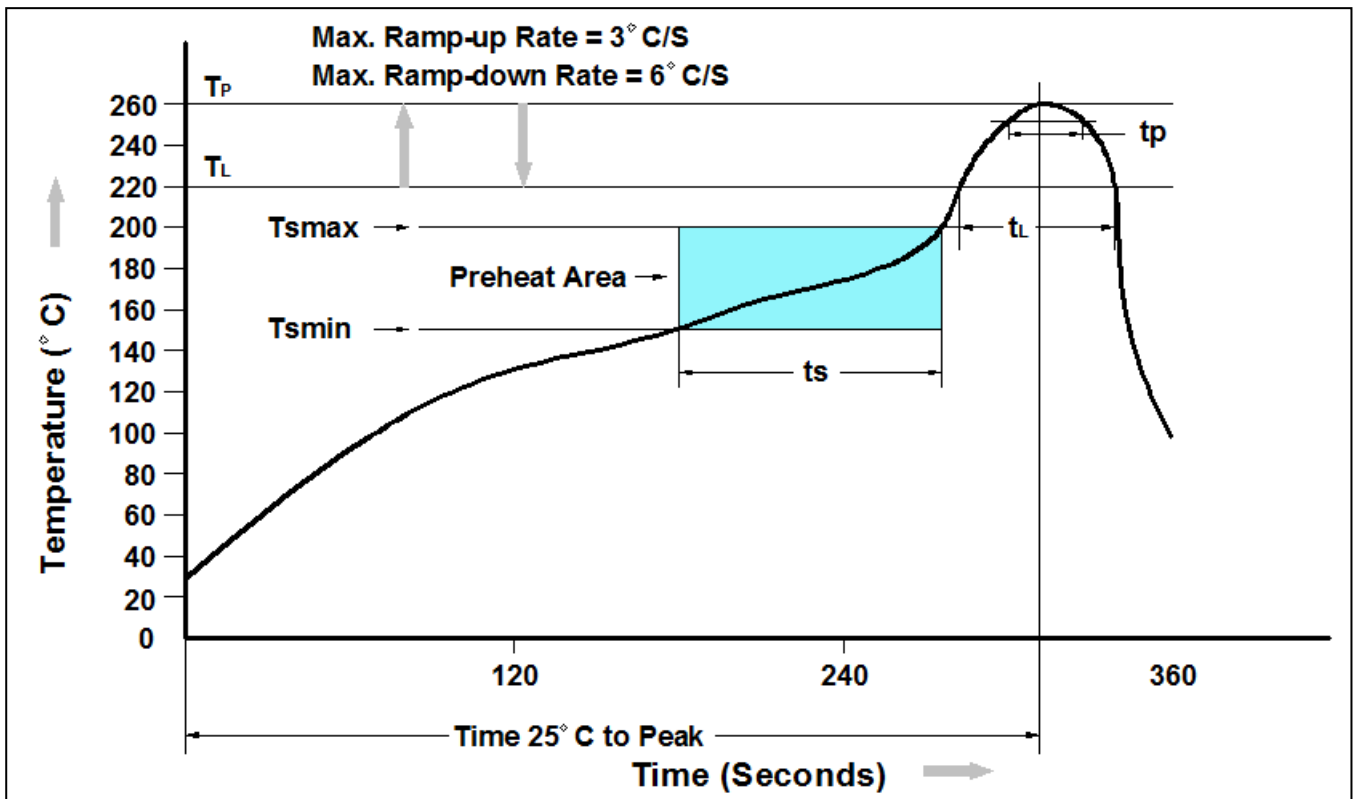
Package	A0 (mm)	B0 (mm)	K0 (mm)	D0 (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)
SMA	2.8±0.1	5.33±0.1	2.36±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	4.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMB	3.8±0.1	5.40±0.1	2.45±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	8.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMC	6.05±0.1	8.31±0.1	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 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
SK82B~SK820B	SMB Reel	3000 pcs

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