



## 1. Features

- For Use in Low Voltage Application
- Low Power Loss, High Efficiency
- Ideally Suited for Automatic Assembly
- Plastic Case Material has UL Flammability Classification Rating 94V-0

SMBF



## 2. Mechanical Data

- Case: Molded Plastic, SMBF
- Mounting Position: Any
- Terminals: Plated Leads Solderable per MIL-STD-750, Method-2026
- Marking: Type Number

Cathode  Anode

## 3. Maximum Ratings and Electrical Characteristics

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%

Type Number	Symbol	SK 32F	SK 33F	SK 34F	SK 345F	SK 35F	SK 36F	SK 38F	SK 310F	SK 315F	SK 320F	SK 325F	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	20	30	40	45	50	60	80	100	150	200	250	V
Maximum DC Blocking Voltage	$V_{DC}$												
Maximum RMS Voltage	$V_{RMS}$	14	21	28	31	35	42	56	70	105	140	175	
Average Rectified Output Current @ $T_L=100^\circ\text{C}$	$I_{F(AV)}$												A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	$I_{FSM}$												A
$I^2t$ Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$												$\text{A}^2\text{s}$
Forward Voltage per element @ $I_F=3\text{A}$	$V_{FM}$				0.55		0.70		0.85		0.92		V
Peak Reverse Current @ $T_A=25^\circ\text{C}$	$I_R$				0.1					0.05			mA
At Rated DC Blocking Voltage @ $T_A=100^\circ\text{C}$					10					5			
Typical Junction Capacitance (Note1)	$C_J$				110					70			pF
Typical Thermal Resistance	$R_{\theta JA}$						65						°C/W
Operating Temperature Range	$T_J$						-55 to +150						°C
Storage Temperature Range	$T_{STG}$						-55 to +150						°C

Note:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.



#### 4. Rating And Characteristic Curves

Fig. 1 Forward Current Derating Curve

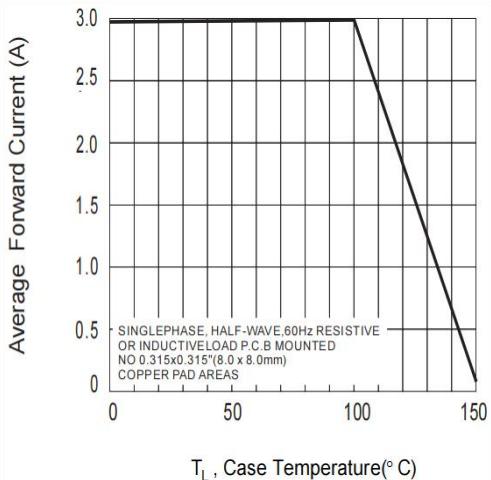


Fig. 2 Typical Forward Characteristics

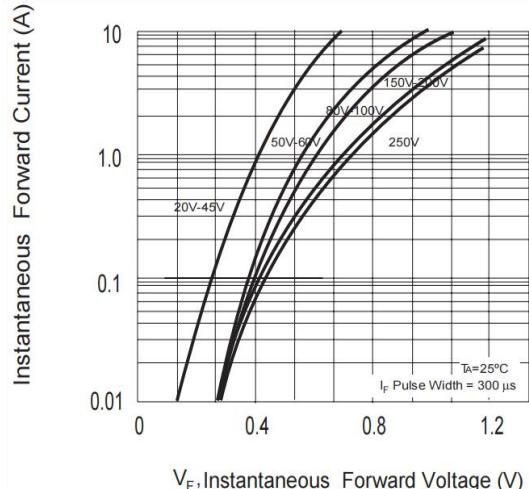


Fig.3 Forward Surge Current Capability

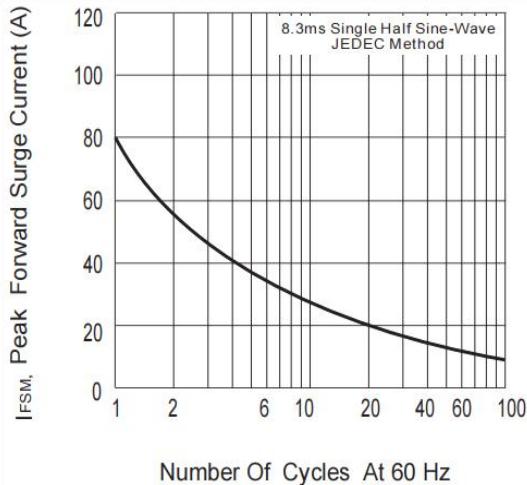


Fig. 4 Typical Reverse Characteristics

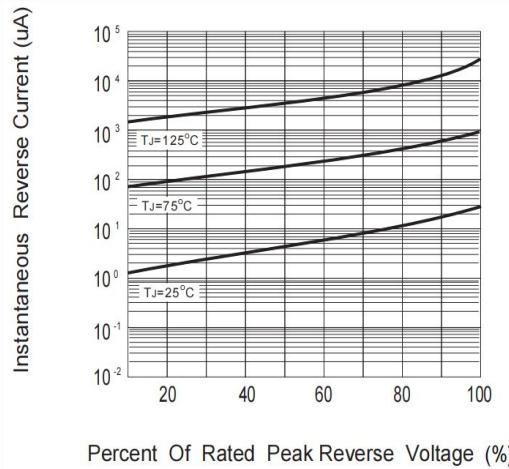
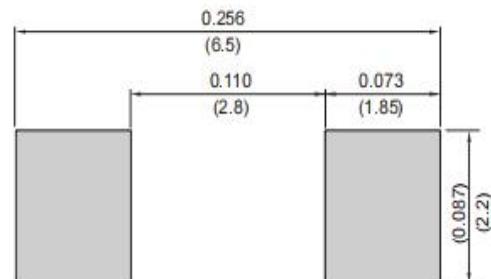
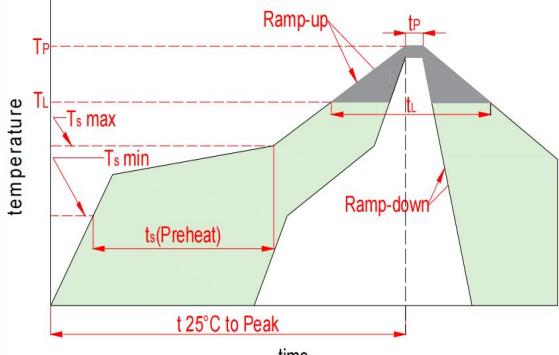


Fig.5 Mounting PAD Layout



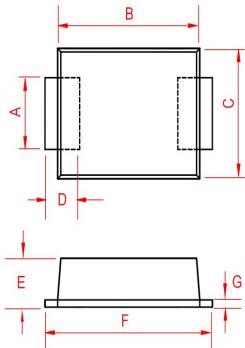


## 5. Soldering Parameters

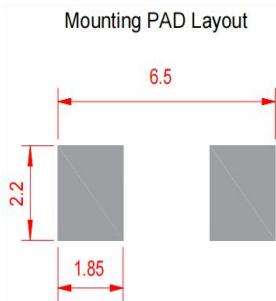


Reflow Condition		Lead-free
Pre Heat	Temp. min( $T_s$ (min))	150 °C
	Temp. max( $T_s$ (min))	200 °C
	Time(min to max)( $t_s$ )	60~120s
Reflow	Aver. ramp up rate(Liquidus Temp.)( $T_L$ )to peak	3 °C/s max
	$T_s$ (max) to $T_L$ -Ramp-up Rate	3 °C/s max
	Temp.( $T_L$ )(Liquidus)	217 °C
Reflow	Temp.( $t_L$ )(Liquidus)	60~150s
	Peak Temp.( $T_p$ )	260 <sup>+0/-5</sup> °C
	Time within actual peak Temp.( $t_p$ )	30s max
	Ramp-down Rate	6 °C/s max
Time 25°C to peak Tempe.( $T_p$ )		8 minutes max
Do not exceed		260 °C

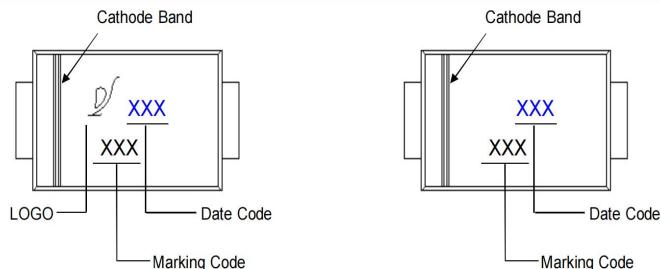
## 6. Dimensions



Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	0.071	0.087	1.80	2.20
B	0.169	0.185	4.30	4.70
C	0.134	0.150	3.40	3.80
D	0.022	0.057	0.55	1.45
E	0.049	0.057	1.25	1.45
F	0.201	0.217	5.10	5.50
G	0.006	0.010	0.15	0.25



## 7. Part Marking System



## 8. Package Information

Package	Tape Width (mm)	Reel Size		Quantity(pcs)
		mm	Inch	
SMBF	13	330	13	5000



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