SHENZHEN FAITH TECHNOLOGY CO.,LTD

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SS52F THRU SS510F

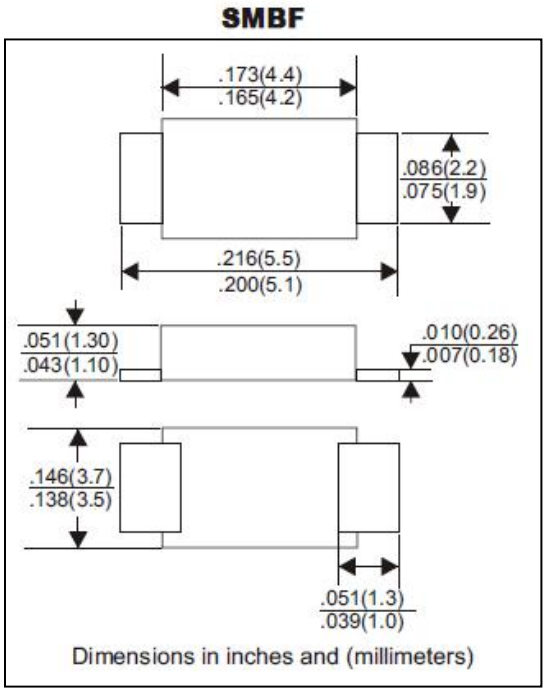
VOLTAGE RANGE 20 to 100 Volts

CURRENT 5.0 Ampere

RoHS COMPLIANT

Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Metal silicon junction,majority carrier conduction
- Low power loss,high efficiency
- Built-in strain relief,ideal for automated placement
- High forward surge current capability
- High temperature soldering guaranteed: 260 C/10 seconds at terminals



Mechanical Data

- Case: Transfer molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead :Solder plated, solderable per MIL-STD-750 method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.002ounce, 0.066 gram

Maximum Ratings and Electrical Characteristics

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

TYPE NUMBER		SYMBOLS	SS 52F	SS 54F	SS 55F	SS 56F	SS 58F	SS 510F	UNIT
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	20	40	50	60	80	100	Volts
Maximum RMS Voltage		V_{RMS}	14	28	35	42	56	70	Volts
Maximum DC Blocking Voltage		V_{DC}	20	40	50	60	80	100	Volts
Maximum Average Forward Rectified Current at $T_L$see figure 1 T_L =75℃		$I_{(AV)}$	5.0						Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)		I_{FSM}	100						Amps
Maximum Instantaneous Forward Voltage @ 5.0A(Note1)		V_F	0.50		0.70		0.85		Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	T_A = 25℃	I_R	0.5						mA
	T_A = 100℃		10						
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$	135						℃/W
		$R_{\theta JL}$	25						
Diode junction capacitance (Note 3)		C_J	300		200				pF
Operating Junction Temperature		T_J	-45 to +150						℃
Storage Temperature Range		T_{STG}	-45 to +150						℃

Notes:

1. Pulse test:300μs pulse width,1% duty cycle.
2. Thermal resistance from Junction to ambient and from junction to lead mounted on PCB. with 0.3×0.3"(8.0 × 8.0mm)copper pad areas.
3. f=1MHz and applied 4V DC reverse voltage.

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Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

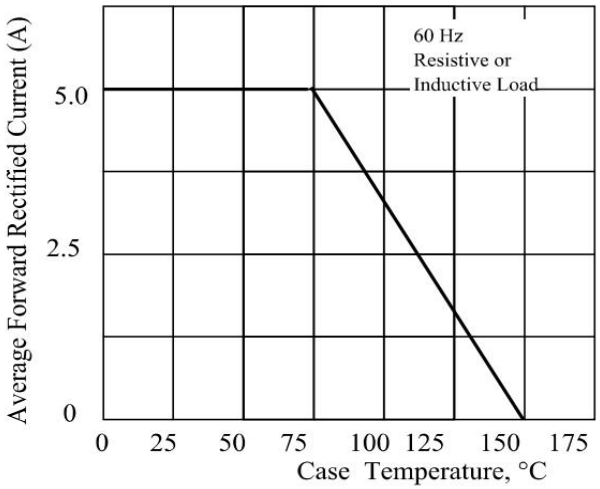


Fig. 2 – Maximum Non-repetitive Peak Forward Surge Current

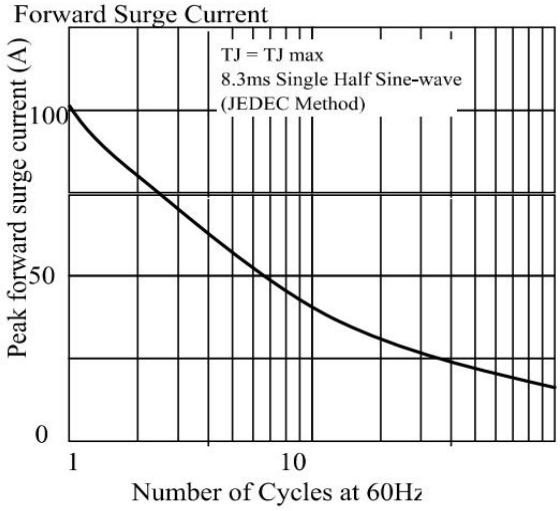


Fig 3. – Typical Instantaneous Forward Characteristics

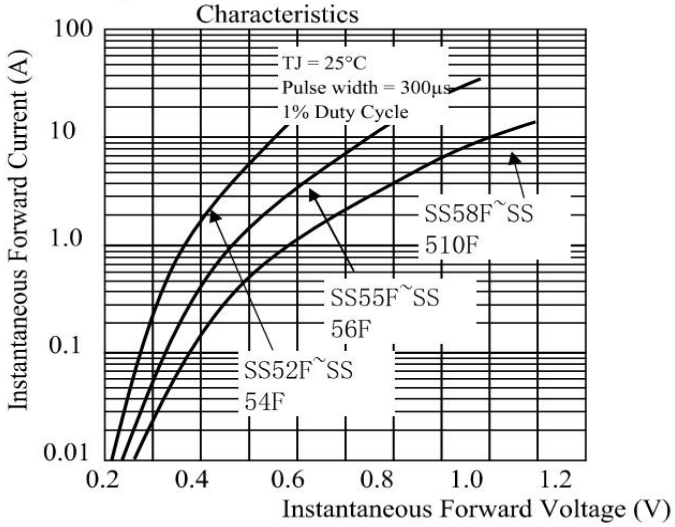


Fig 4. – Typical Reverse Characteristics

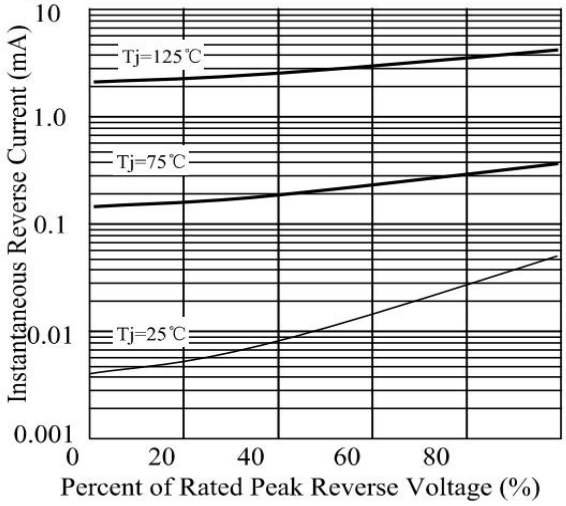


Fig 5. – typical transient thermal impedance

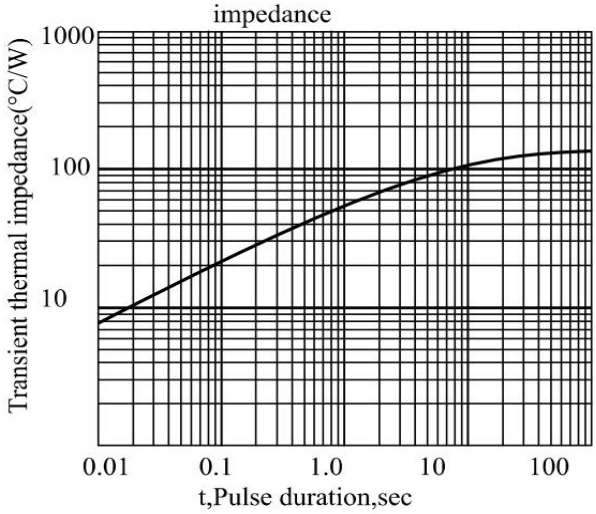
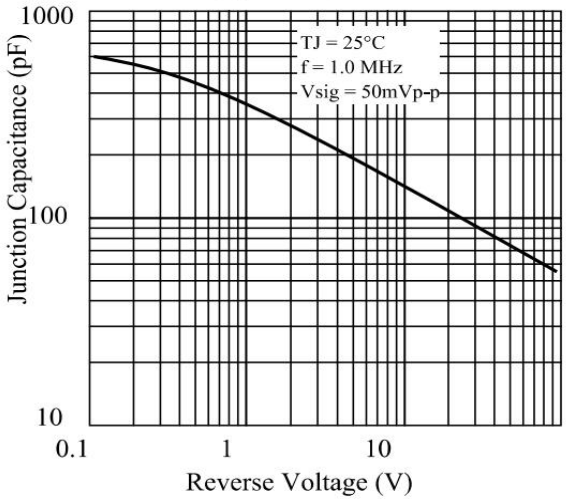


Fig 6. – Typical Junction Capacitance



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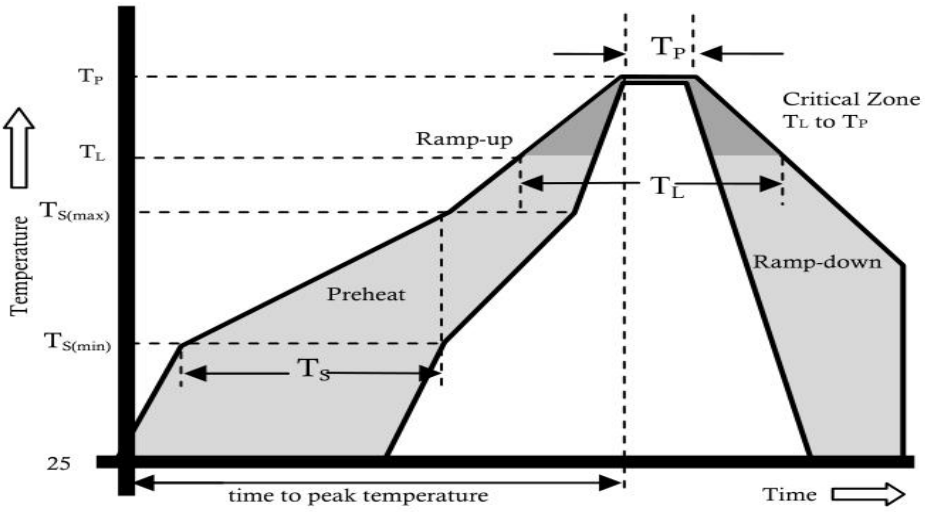
Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp(T_L) to peak)		3°C/sec. Max.
T_S(max) to T_L - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature (T_L)(Liquidus)	+217°C
	Temperature (T_L)	60-150 secs.
Peak Temp (T_P)		+(260+0/-5)°C
Time within 5°C of actual Peak Temp (T_P)		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp (T_P)		8 min. Max.
Do not exceed		+260°C