

Characteristics

I_o	5.0	A
V_{RRM}	40~200	V
I_{FSM}	100	A
V_F	0.55~0.95	V

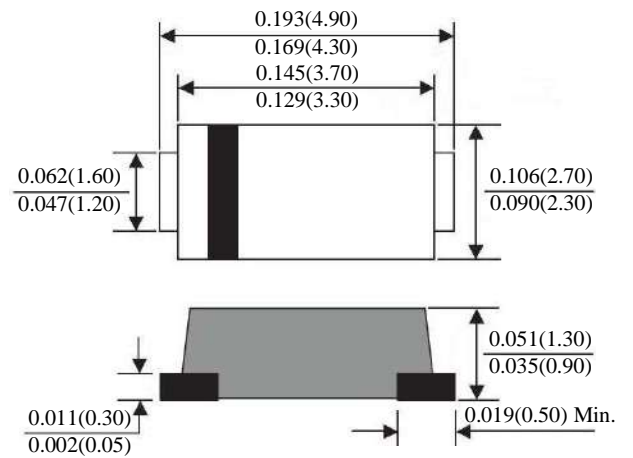
Features

- Low forward voltage drop
- Low power loss, high efficiency
- High forward surge current capability
- Suffix "H" indicates Halogen-free parts, ex. SS54AFH

Mechanical Data

- Case : Molded plastic, SMAF
- Terminals : Solder plated, solderable per MIL-STD-750, method 2026 guaranteed
- Polarity : Color band denotes cathode end

SMAF



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Parameter	Symbols	SS54AF	SS56AF	SS510AF	SS515AF	SS520AF	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	40	60	100	150	200	Volts
Maximum RMS Voltage	V_{RMS}	28	42	70	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	40	60	100	150	100	Volts
Maximum Average Forward Rectified Current T_L (see FIG. 1)	$I_{(AV)}$	5.0					Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	100					Amp
Maximum Forward Voltage at 5.0A	V_F	0.55	0.70	0.85	0.95		Volts
Maximum Reverse Current at $T_A=25^\circ C$ at Rated DC Blocking Voltage $T_A=100^\circ C$	I_R	0.5		0.2			mAmp
		20.0		10.0			
Typical Thermal Resistance from Junction to Ambient (Note 1)	$R_{\theta JA}$	65					$^\circ C/W$
Typical Thermal Resistance from Junction to Lead (Note 1)	$R_{\theta JL}$	20					$^\circ C/W$
Operating Junction Temperature Range	T_J	-65 to +125			-65 to +150		$^\circ C$
Storage Temperature Range	T_{stg}	-65 to +150					$^\circ C$

NOTES:

1. Thermal resistance from junction to ambient mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas
2. Ratings at 25 $^\circ C$ ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Rating and Characteristics Curves

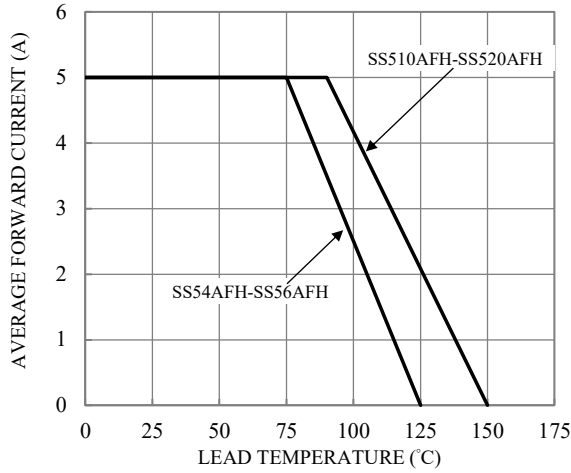


Fig.1-FORWARD CURRENT DERATING CURVE

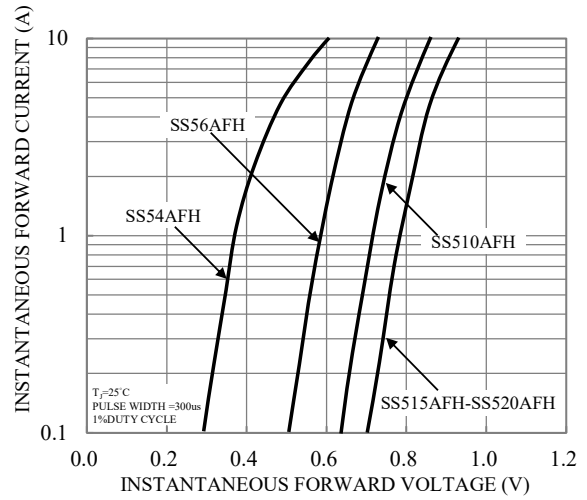


Fig.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

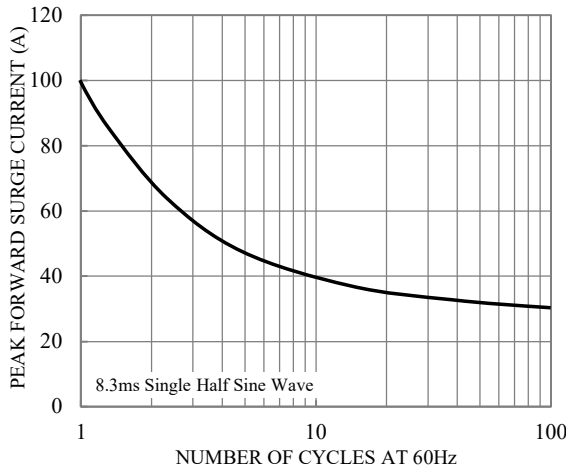


Fig.3-MAXIMUM NON-REPETITIVE SURGE CURRENT

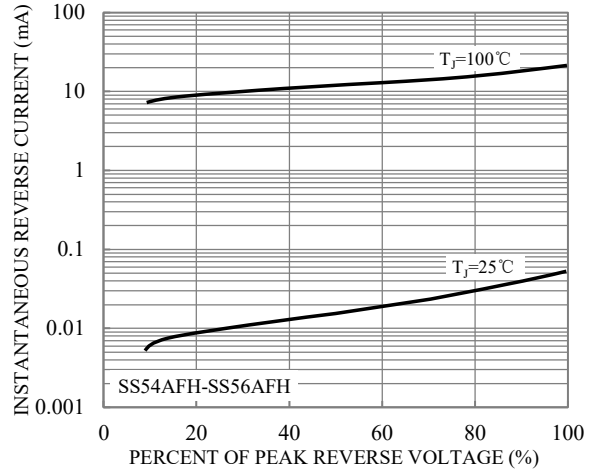


Fig.4-TYPICAL REVERSE CHARACTERISTICS

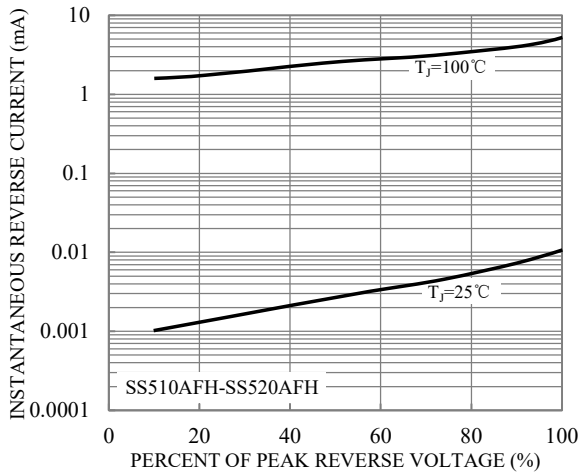
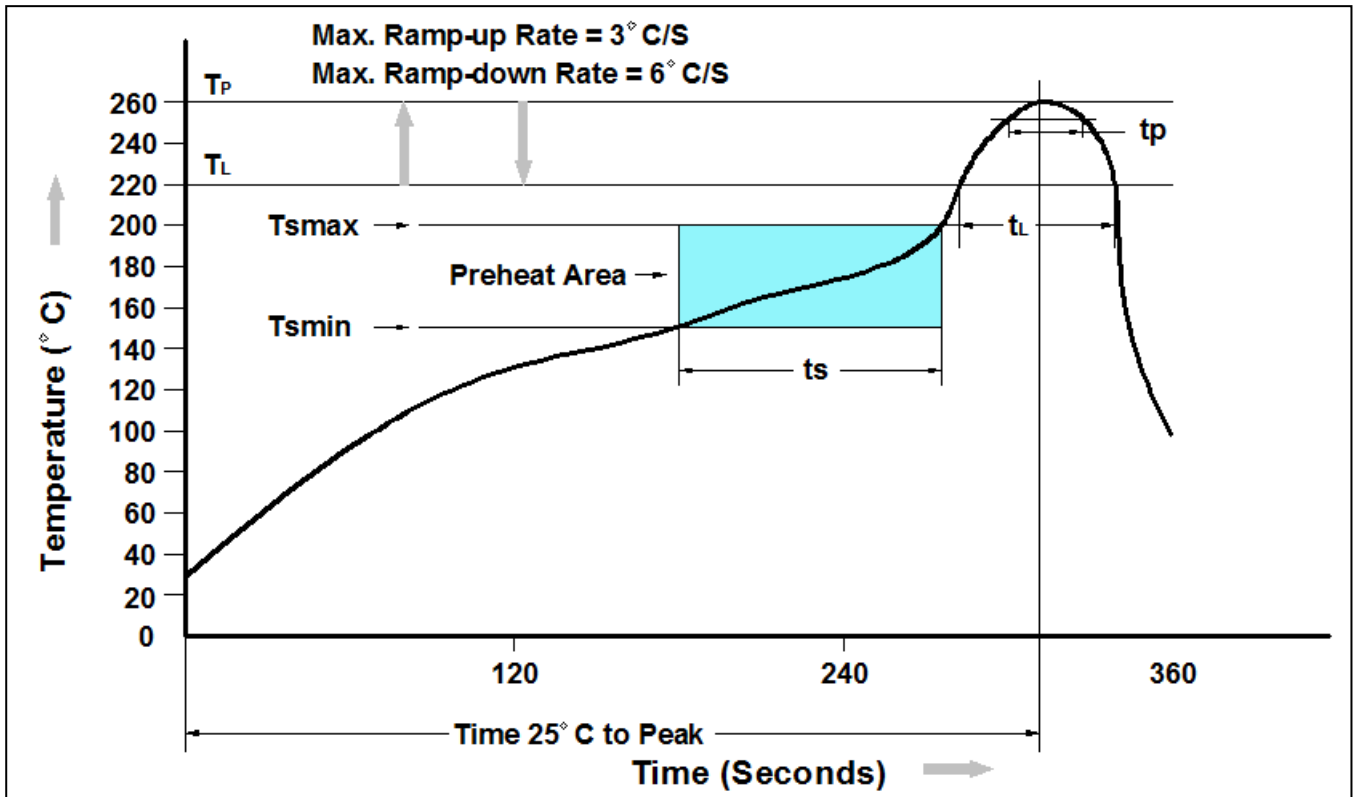


Fig.5-TYPICAL REVERSE CHARACTERISTICS

Recommand 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
SS54AF ~ SS520AF	SMAF Reel	5000 pcs

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