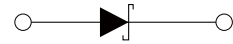


FEATURES

- | High current capacity
- | Metal to silicon rectifier. majority carrier conduction
- | High surge capacity
- | Low power loss, high efficiency
- | For use in low voltage high frequency inverters, free wheeling, and polarity protection applications



SMAF



Schematic Symbol

MECHANICAL DATA

- | Case: Molded plastic, SMAF
- | Polarity: Indicated by cathode band

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	SS 52AF	SS 53AF	SS 54AF	SS 55AF	SS 56AF	SS 58AF	SS 59AF	SS 510AF	SS 515AF	SS 520AF	Unit	
Marking		SS52	SS53	SS54	SS55	SS56	SS58	SS59	SS510	SS515	SS520		
Repetitive Peak Reverse Voltage	V _{RRM}	20	30	40	50	60	80	90	100	150	200	V	
Reverse Voltage, total RMS Value	V _{RMS}	14	21	28	35	42	56	63	70	105	140	V	
Maximum DC Blocking Voltage	V _{DC}	20	30	40	50	60	80	90	100	150	200	V	
Maximum Average Forward Rectified Current	I _{F(AV)}	5.0										A	
Surge Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load Per Diode	I _{FSM}	120										A	
Maximum Instantaneous Forward Voltage I _F =5A, T _a =25°C (Note 1)	V _F	0.55		0.75			0.85			0.95		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	T _A =25°C	0.5										mA	
	T _A =100°C	20										mA	
Typical Junction Capacitance (Note 3)	C _J	200										pF	
Typical Thermal Resistance (Note 2)	R _{θJA}	70										°C/W	
Operating Junction Temperature Range	T _J	-65 to +125					-65 to +150						°C
Storage Temperature Range	T _{STG}	-65 to +150										°C	

NOTES: 1- Pulse test: 300μs pulse width, 1% duty cycle
 2- P.C.B. mounted with 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Areas
 3- Measured at 1MHz and Applied Reverse Voltage of 4.0V D.C.

CHARACTERISTIC CURVES

Fig. 1- Forward Current Derating Curve

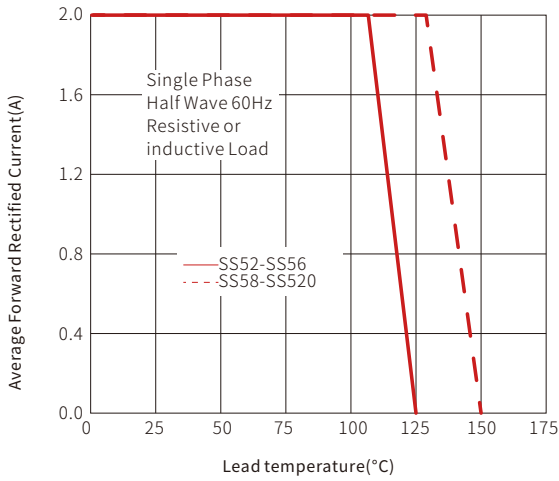


Fig. 2- Maximum Non-Repetitive Peak Forward Surge Current

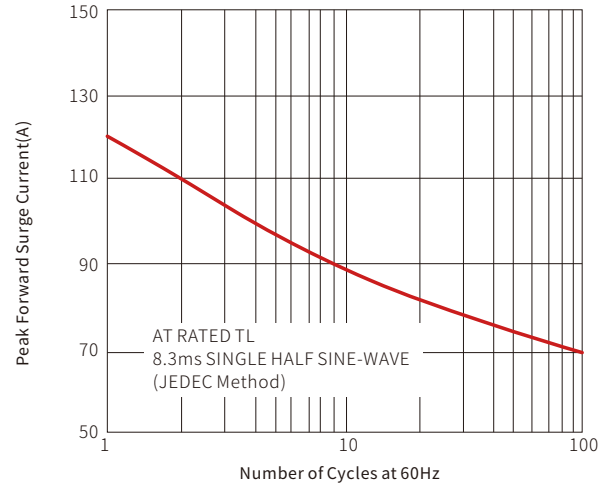


Fig. 3- Typical Reverse Characteristics

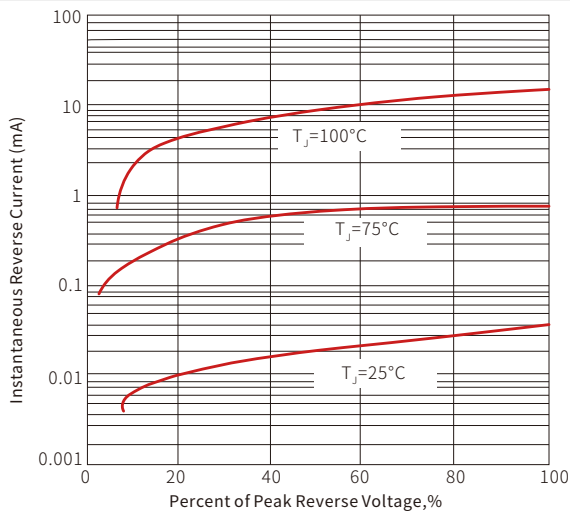


Fig. 4- Typical Forward Characteristics

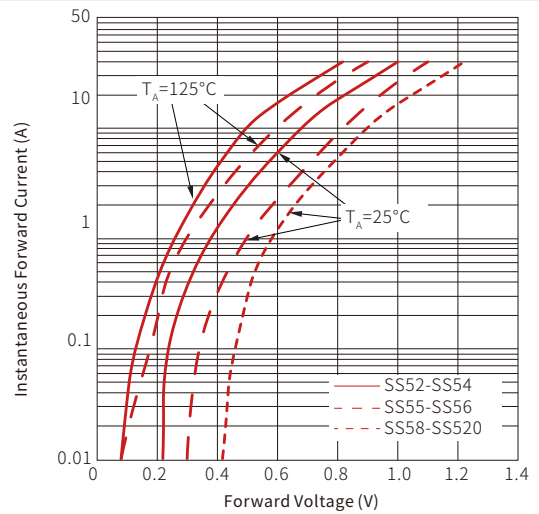
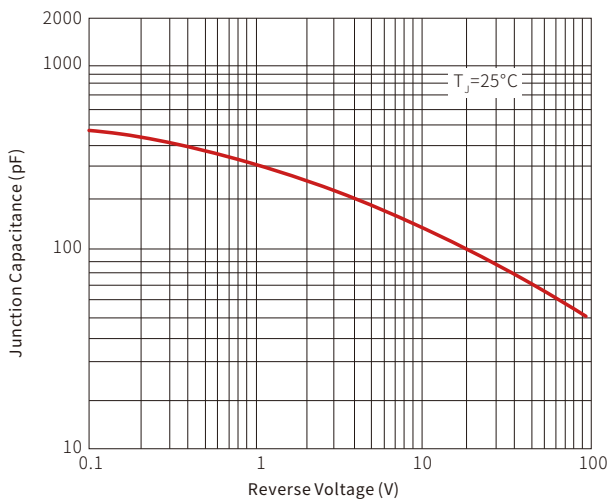
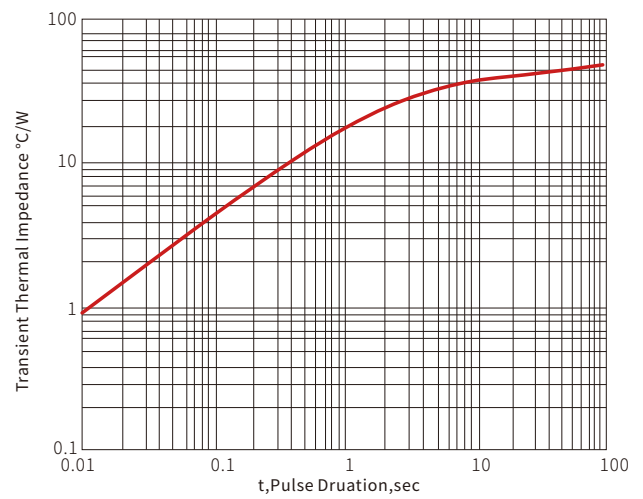
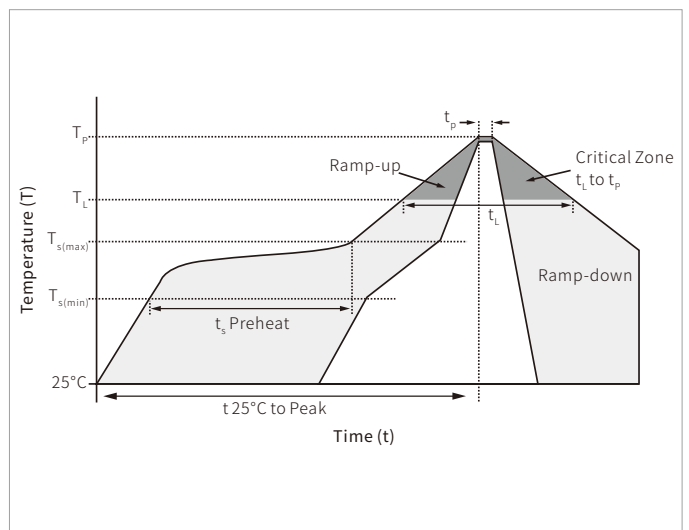


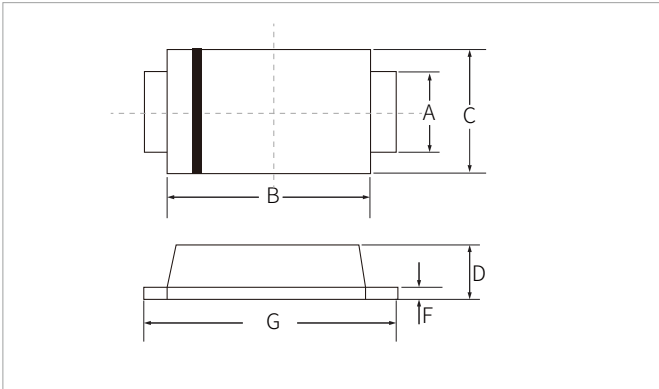
Fig. 5-Typical Junction Capacitance

Fig. 6-Typical Transient Thermal Impedance


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_i)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

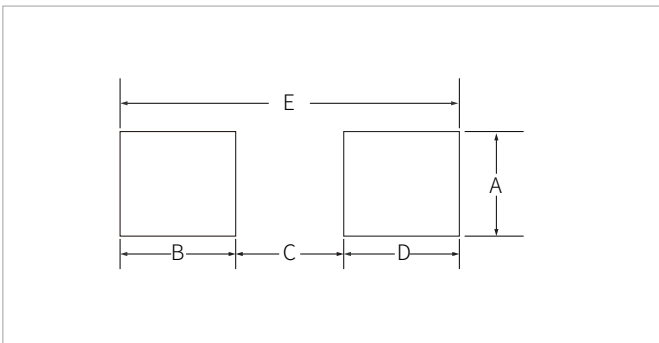


SMAF PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.35	1.60	0.053	0.063
B	3.40	3.80	0.134	0.145
C	2.40	2.80	0.094	0.110
D	0.95	1.45	0.037	0.057
F	0.15	0.22	0.006	0.009
G	4.40	4.80	0.173	0.189

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min	Max	Min	Max
A	1.70	-	0.067	-
B	2.50	-	0.098	-
C	-	1.5	-	0.059
D	2.50	-	0.098	-
E	6.50REF		0.256REF	

ORDERING INFORMATION

Part Number	Package	QTY/Reel	Reel Size
SS52AF-520AF	SMAF	5000PCS	13"

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By QR Code

Website



Wechat

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