Features

◆Metal silicon junction, majority carrier conductionl
◆For surface mounted applications
◆Low power loss, high efficiency
◆High forward surge current capability
◆For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
◆P/N suffix V means AEC-Q101 qualified, eg:SS520FV
◆P/N suffix V means Halogen-free

Pinning

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Marking Code: SS52 — SS520
Simplified outline SMAF and symbol

Mechanical Data

◆Epoxy : Device has UL flammability classification 94V-0
◆Case: SMAF

Maximum Ratings And Electrical Characteristics

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Maximum Ratings (At T_A = 25°C unless otherwise noted)

Ratings	Symbol	SS52F	SS54F	SS56F	SS58F	SS510F	SS512F	SS515F	SS520F	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	40	60	80	100	120	150	200	Volts
Maximum RMS Voltage	V_{RMS}	14	28	42	56	70	84	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	20	40	60	80	100	120	150	200	Volts
Maximum Average Forward Rectified Current at T_A = 75°C	I_O	5.0								Amps
Peak Forward Surge Current 8.3 ms single half sine wave superimposed on rated load (JEDEC method)	I_{FSM}	150								Amps
Typical Current Squared Time	I^2T	93.37								A^2S
Typical Thermaesistance (Note 2)	$R_{\theta JL}$	28								°C/W
	$R_{\theta JA}$	55								°C/W
Typical Junction Capacitance (Note 1)	C_J	250		160						pF
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to + 150								°C

Electrical Characteristics (At T_A = 25°C unless ot herwise noted)

Characteristics		Symbol	SS52F	SS54F	SS56F	SS58F	SS510F	SS512F	SS515F	SS520F	Units
Maximum Instantaneous Forward Voltage at 5.0A DC		V_F	0.45	0.55	0.70	0.85					Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	1.0								mAmps
	@T_A =150°C		50								mAmps

NOTES :
1. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
2. Thermal resistance junction to terminal, 5X5mm2 copper pads to each terminal.

Rating And Characteristics Curves (SS52FV THRU SS520FV)

Fig.1 Forward Current Derating Curve

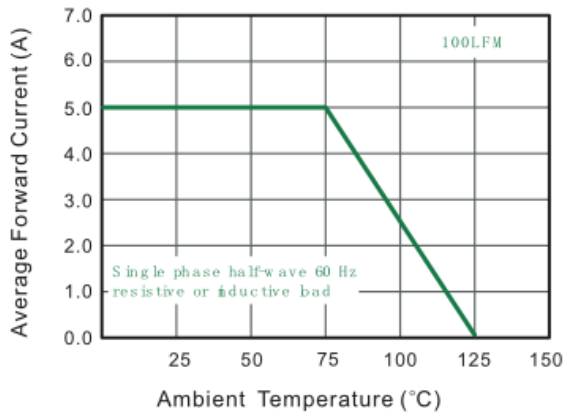


Fig.2 Typical Reverse Characteristics

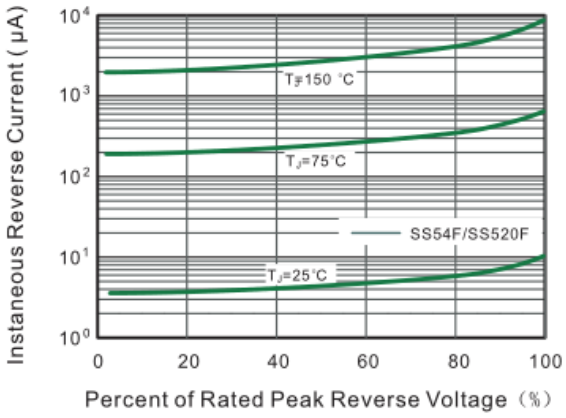


Fig.3 Typical Forward Characteristic

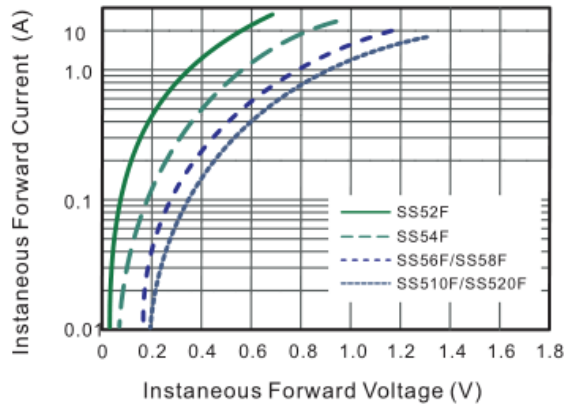


Fig.4 Typical Junction Capacitance

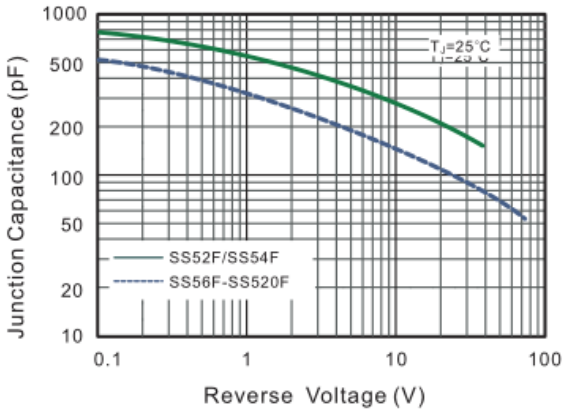


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

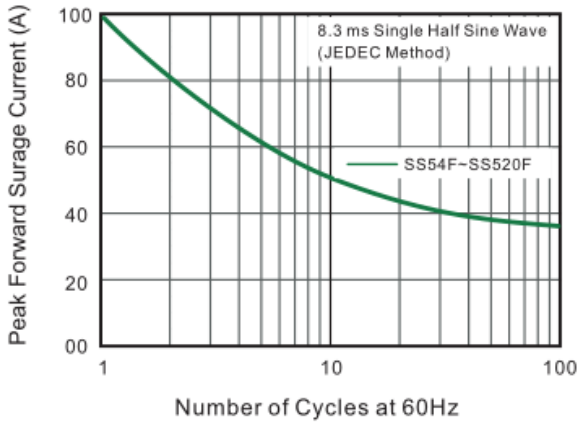
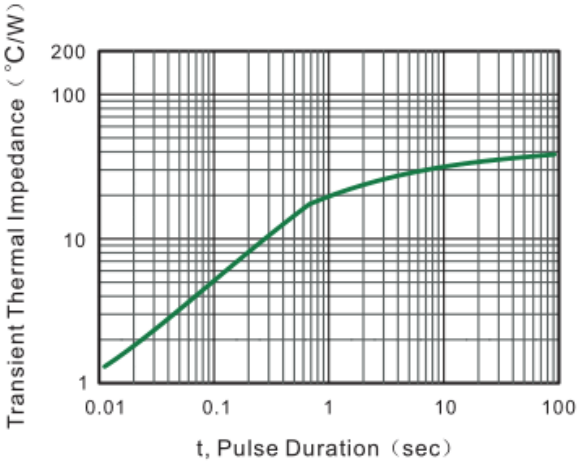
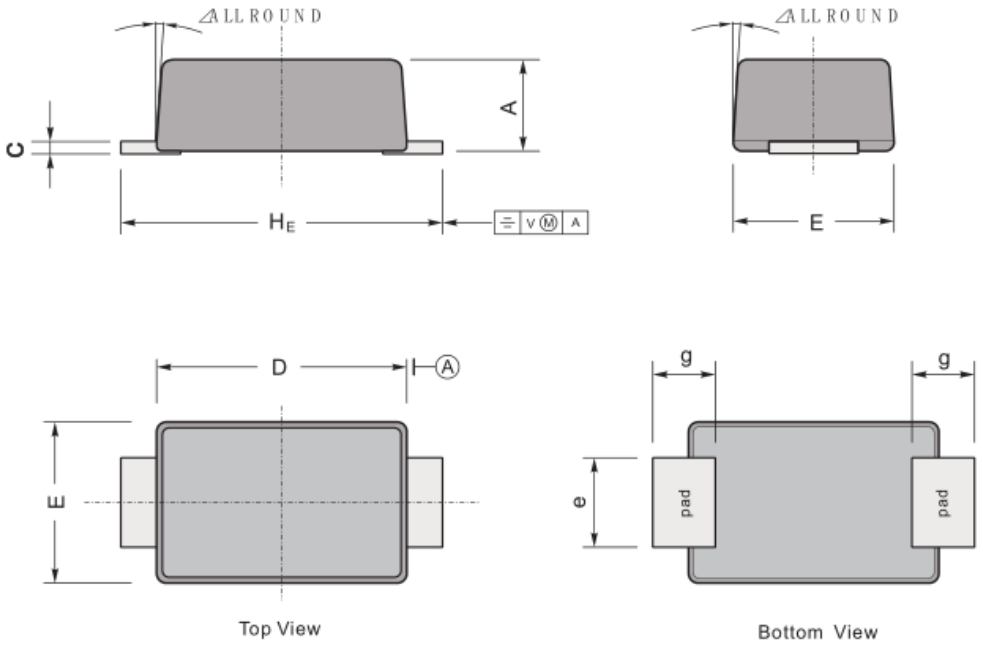


Fig.6- Typical Transient Thermal Impedance

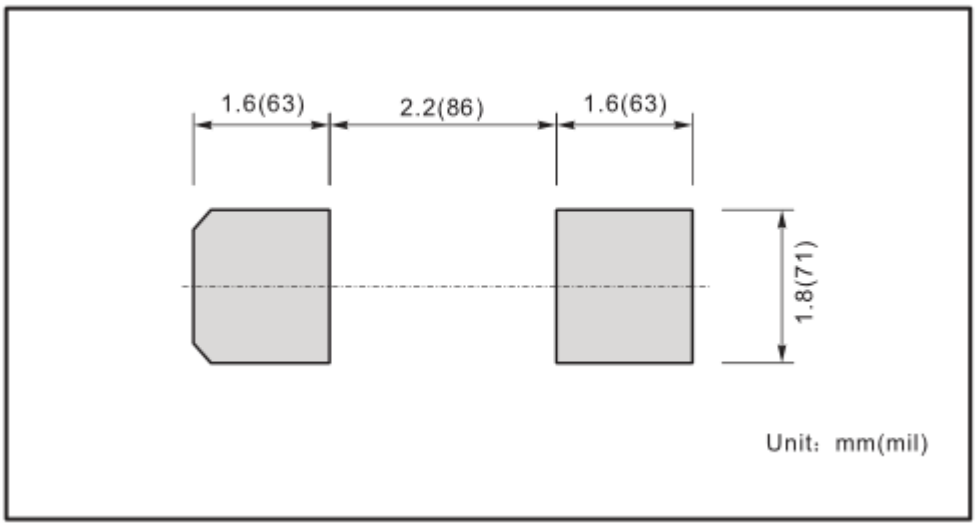


Package Outline Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.23	3.7	2.7	1.6	1.3	4.9	7°
	min	0.9	0.18	3.3	2.4	1.3	1.0	4.4	
mil	max	43	9.1	146	106	63	51	193	
	min	35	7.1	130	94	51	39	173	

The recommended mounting pad size



Marking

Type number	Marking code
SS52F	SS52
SS54F	SS54
SS56F	SS56
SS58F	SS58
SS510F	SS510
SS512F	SS512
SS515F	SS515
SS520F	SS520

Packaging Of Diode And Bridge Rectifiers

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMAF	-T	3,000	12,000	---	---	178	390*205*310	96,000	---