



ABSOLUTE MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, derate by 20 %

Parameter	Symbol	SM 520AF	SM 540AF	SM 560AF	SM 580AF	SM 5100AF	SM 5120AF	SM 5150AF	SM 5200AF	Unit
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	40	60	80	100	120	150	200	V
Maximum RMS Voltage	V_{RMS}	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	V_{DC}	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0								A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	150								A
Max Instantaneous Forward Voltage at 5A	V_F	0.45	0.55	0.70			0.85			V
Maximum DC Reverse Current at Rated DC Reverse Voltage	I_R	$T_A=25^\circ\text{C}$ 1.0				$T_A=100^\circ\text{C}$ 50				mA
Typical Junction Capacitance ^{NOTE1}	C_j	800			500					pF
Typical Thermal Resistance ^{NOTE2}	$R_{\theta JA}$	55								°C/W
Operating Junction Temperature Range	T_J	-55 ~ +125								°C
Storage Temperature Range	T_{STG}	-55 ~ +150								°C

NOTE1: Measured at 1MHz and applied reverse voltage of 4 V D.C.

NOTE2: P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper pad areas.



TYPICAL PERFORMANCE CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

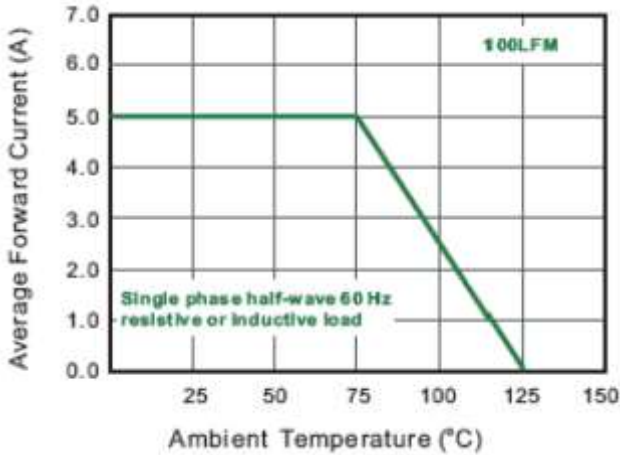


Figure. 2 Typical Reverse Characteristics

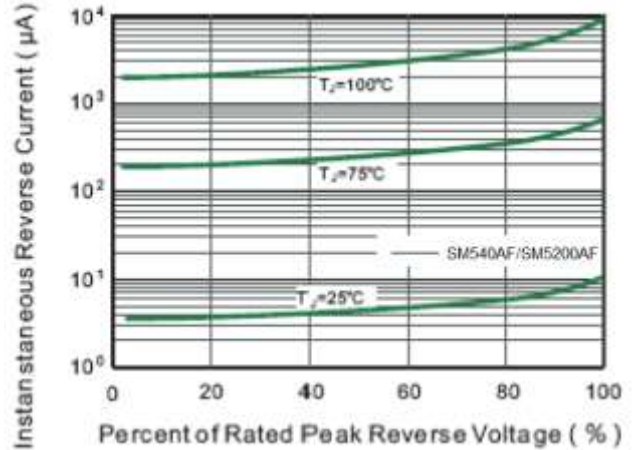


Figure. 3 Typical Forward Characteristic

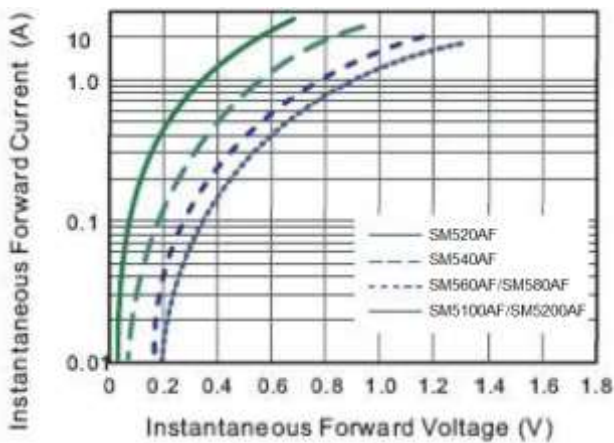


Figure. 4 Typical Junction Capacitance

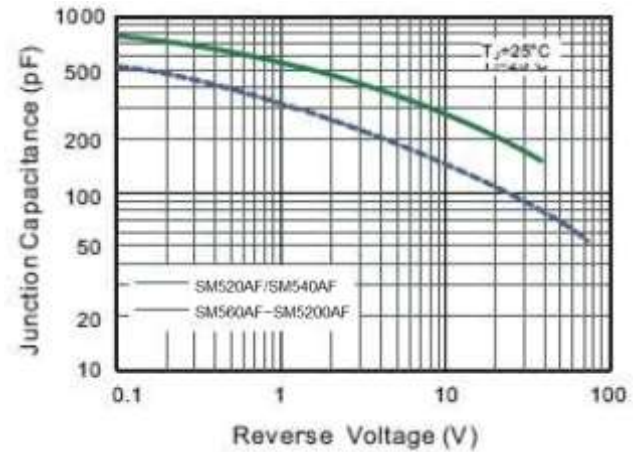


Figure. 5 Maximum Non-repetitive Peak Forward Surge Current

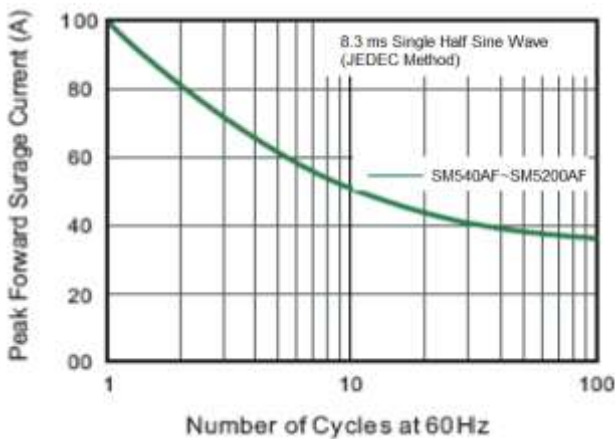
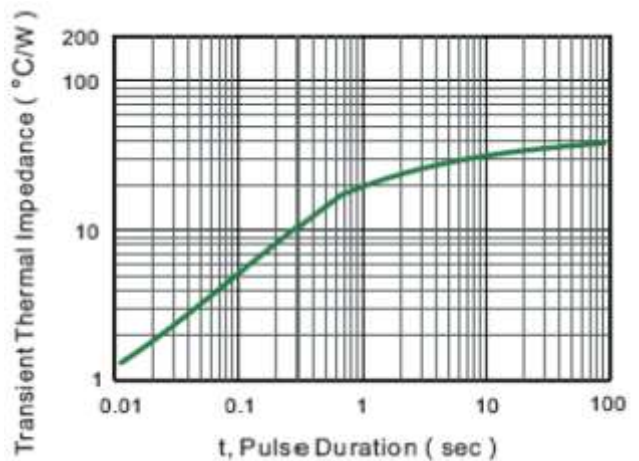


Figure. 6 Typical Transient Thermal Impedance

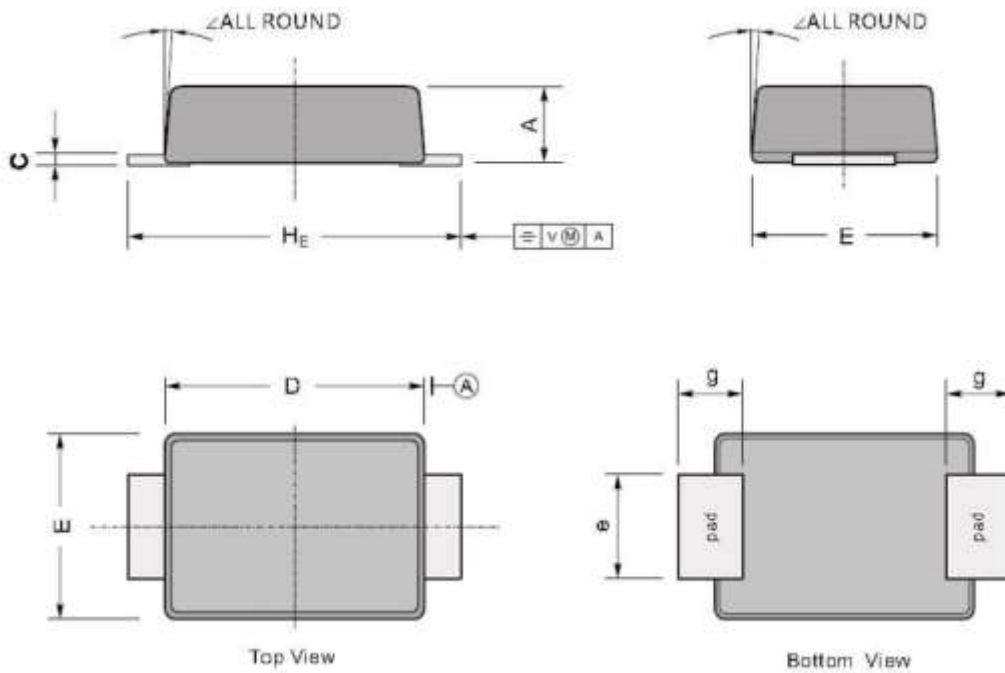




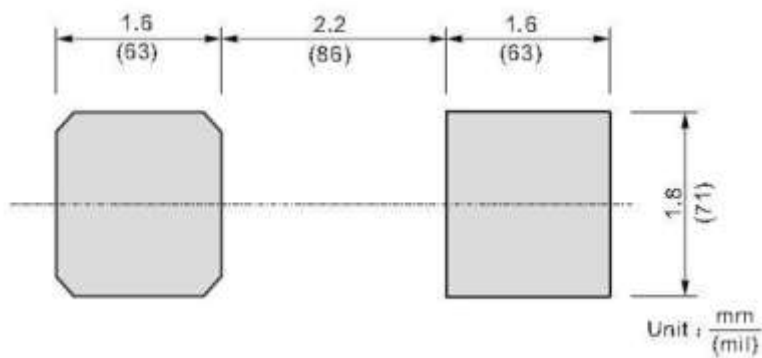
PACKAGE INFORMATION

Dimension in SMAF Package (Unit: mm)

Plastic surface mounted package; 2 leads



The recommended mounting pad size



UNIT		A	C	D	E	e	g	H _E	\sphericalangle
mm	Max	1.1	0.20	3.7	2.7	1.6	1.2	4.9	7°
	Min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	Max	43	7.9	146	106	63	47	193	
	Min	35	4.7	130	94	51	31	173	



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