



DESCRIPTION

The SM120A~SM1200A are available in SMA Package.

ORDERING INFORMATION

Package Type	Part Number
SMA	SM120A
	SM140A
	SM160A
	SM180A
	SM1100A
	SM1120A
	SM1150A
	SM1200A
Note	SPQ: 5,000pcs/Reel
AiT provides all RoHS Compliant Products	

FEATURES

- Metal silicon junction, majority carrier conduction
- 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
- Available in SMA Package

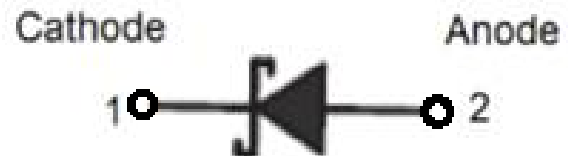
MECHANICAL DATA

Case: SMA

Terminals: Solderable per MIL-STD-750,
Method 2026

Approx. Weight: 70mg / 0.0025oz

PIN DESCRIPTION





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 120A	SM 140A	SM 160A	SM 180A	SM 1100A	SM 1120A	SM 1150A	SM 1200A	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	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A
Max Instantaneous Forward Voltage at 1A	V_F	0.55		0.70		0.85		0.90		V
Maximum DC Reverse Current at Rated DC Reverse Voltage	I_R	$T_A=25^\circ C$		0.3		0.2		0.1		mA
		$T_A=100^\circ C$		10		5		2		
Typical Junction Capacitance ^{NOTE1}	C_j	110		80						pF
Typical Thermal Resistance ^{NOTE2}	$R_{\theta JA}$	90								°C/W
Operating Junction Temperature Range	T_J	-55 to +125								°C
Storage Temperature Range	T_{STG}	-55 to +150								°C

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

NOTE2: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



TYPICAL PERFORMANCE CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

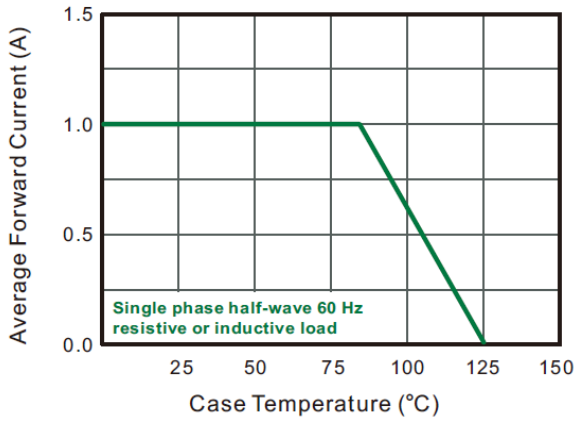


Figure. 2 Typical Reverse Characteristics

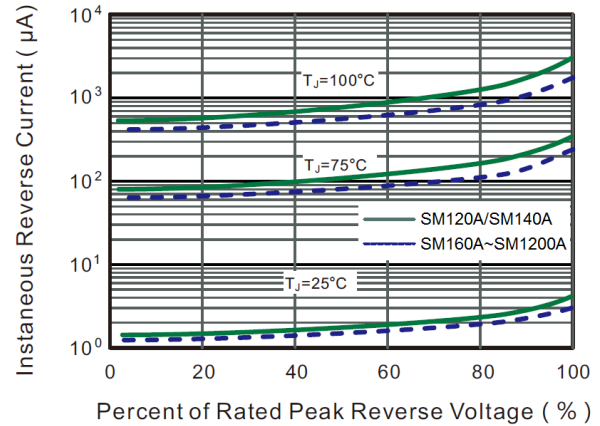


Figure. 3 Typical Forward Characteristic

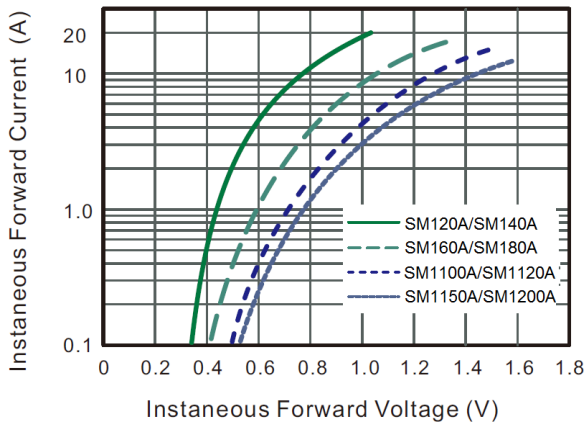


Figure. 4 Typical Junction Capacitance

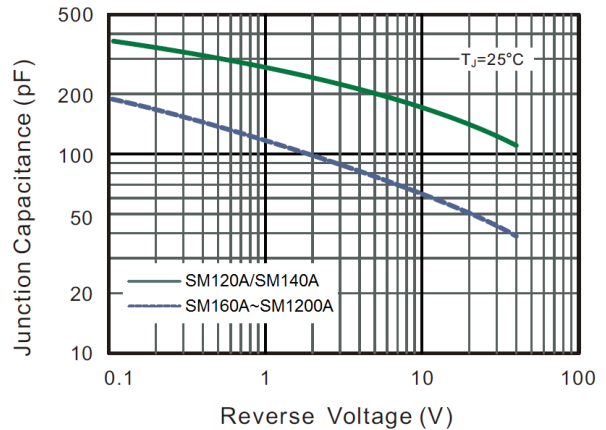


Figure. 5 Maximum Non-Repetitive Peak Forward Surge Current

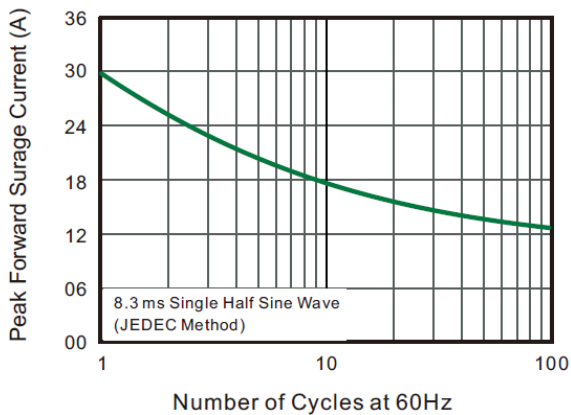
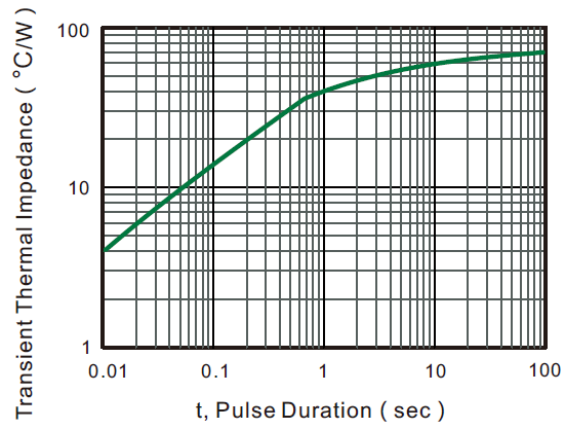


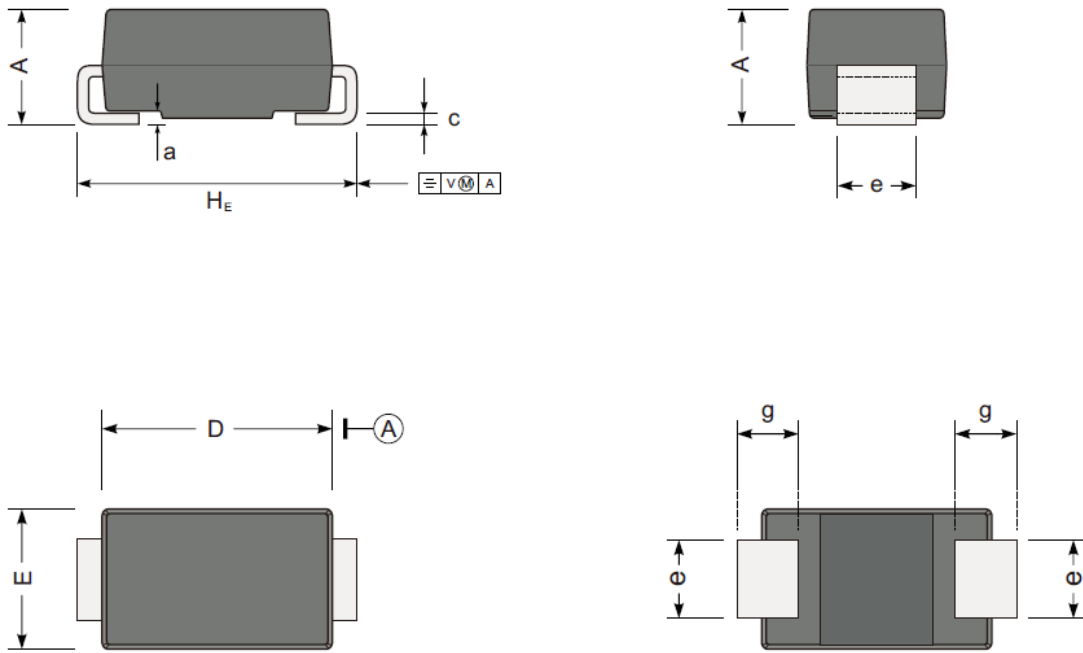
Figure. 6 Typical Transient Thermal Impedance



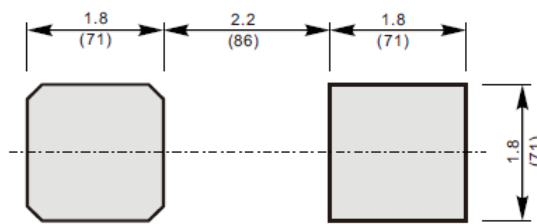


PACKAGE INFORMATION

Dimension in SMA Package (Unit: mm)



The recommended mounting pad size



Unit : $\frac{\text{mm}}{\text{mil}}$

UNIT		A	D	E	H _E	c	e	g	a
mm	Min	1.9	4.0	2.3	4.7	0.15	1.3	0.9	0.3
	Max	2.2	4.5	2.7	5.2	0.31	1.6	1.5	
mil	Min	75	157	91	185	6	51	35	12
	Max	87	181	106	205	12	63	59	



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