

Description

Surface mount transient voltage suppressor, 3000W peak pulse power capability at 10/1000 μ s waveform, Reverse Stand-Off Voltage: 11V~48V, SMC package.

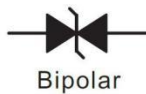
Features

- Glass passivated junction
- Low inductance
- For surface mounted applications
- Qualified to AEC-Q101 Standards for High Reliability
- Halogen-free Product

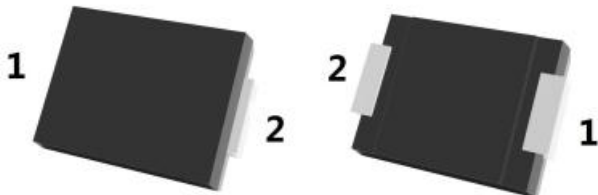
Applications

- General purpose
- Meet the stringent requirements of automotive applications

Equivalent Circuit

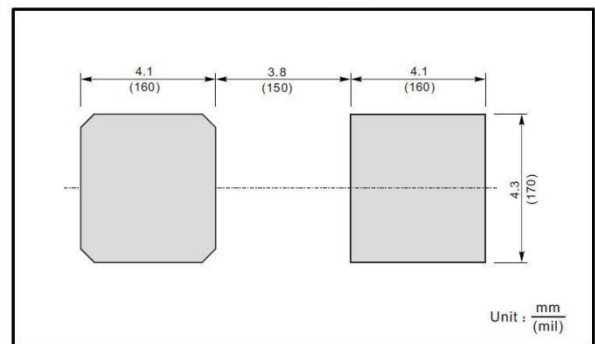


Pinning



PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



Marking

- See Marking Instructions.
- Marking Information: See Below

Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Peak power dissipation with a 10/1000us waveform (Note 1)	P _{PPM}	3000	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	250	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _F	3.5	V
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 ~ 150	°C
Typical Thermal Resistance Junction to Lead	R _{θJL}	20.8	°C/W
Typical Thermal Resistance Junction to Ambient (Note 2)	R _{θJA}	100	°C/W

Notes:

1. Non-repetitive current, per fig.3 and derated above TA=25°C per fig.2.
2. Mounted on recommended pad layout.

Electrical Characteristics(Ta=25°C)

Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Clamp Voltage	Max. Peak Pulse Current	Max.Rev erse Leakage	Package	
			V _{BR} @ I _T						SMC	
		V _{RMW}	Min	Max	I _T	V _C @ I _{PP}	I _{PP}	I _R @ V _R	Device Marking Ccode	
UNI	BI	V	V	V	mA	V	A	uA	UNI	BI
CTSMDJ11AQ	CTSMDJ11CAQ	11.0	12.2	13.5	1	18.2	165.0	5	AHDZ	AIDZ
CTSMDJ12AQ	CTSMDJ12CAQ	12.0	13.3	14.8	1	20.0	150.6	5	AHEE	AIEE
CTSMDJ13AQ	CTSMDJ13CAQ	13.0	14.4	16.0	1	21.6	139.4	5	AHEG	AIEG
CTSMDJ14AQ	CTSMDJ14CAQ	14.0	15.6	17.4	1	23.2	129.4	5	AHEK	AIEK
CTSMDJ15AQ	CTSMDJ15CAQ	15.0	16.7	18.5	1	24.4	123	5	AHEM	AIEM
CTSMDJ16AQ	CTSMDJ16CAQ	16.0	17.8	20.0	1	26	115.4	5	AHEP	AIEP
CTSMDJ17AQ	CTSMDJ17CAQ	17.0	18.9	20.9	1	28.2	106.6	5	AHER	AIER
CTSMDJ18AQ	CTSMDJ18CAQ	18.0	20.0	22.8	1	29.2	102.8	5	AHET	AIET
CTSMDJ20AQ	CTSMDJ20CAQ	20.0	22.2	25.0	1	32.4	92.6	5	AHEV	AIEV
CTSMDJ22AQ	CTSMDJ22CAQ	22.0	24.4	27.5	1	35.7	84.4	5	AHEX	AIEX
CTSMDJ24AQ	CTSMDJ24CAQ	24.0	26.7	30.2	1	38.9	77.2	5	AHEZ	AIEZ
CTSMDJ26AQ	CTSMDJ26CAQ	26.0	28.9	32.7	1	42.3	71.2	5	AHFE	AIFE
CTSMDJ28AQ	CTSMDJ28CAQ	28.0	31.1	35.3	1	45.6	66.0	5	AHFG	AIFG
CTSMDJ30AQ	CTSMDJ30CAQ	30.0	33.3	37.8	1	48.4	62.0	5	AHFK	AIFK
CTSMDJ33AQ	CTSMDJ33CAQ	33.0	36.7	41.7	1	53.7	56.2	5	AHFM	AIFM
CTSMDJ36AQ	CTSMDJ36CAQ	36.0	40.0	45.5	1	58.2	51.6	5	AHFP	AIFP
CTSMDJ40AQ	CTSMDJ40CAQ	40.0	44.4	50.6	1	64.7	46.4	5	AHFR	AIFR
CTSMDJ43AQ	CTSMDJ43CAQ	43.0	47.8	54.4	1	69.5	43.2	5	AHFT	AIFT
CTSMDJ45AQ	CTSMDJ45CAQ	45.0	50.0	57.0	1	72.9	41.2	5	AHFV	AIFV
CTSMDJ48AQ	CTSMDJ48CAQ	48.0	53.3	60.8	1	77.4	38.8	5	AHFX	AIFX

Electrical Characteristic Curve

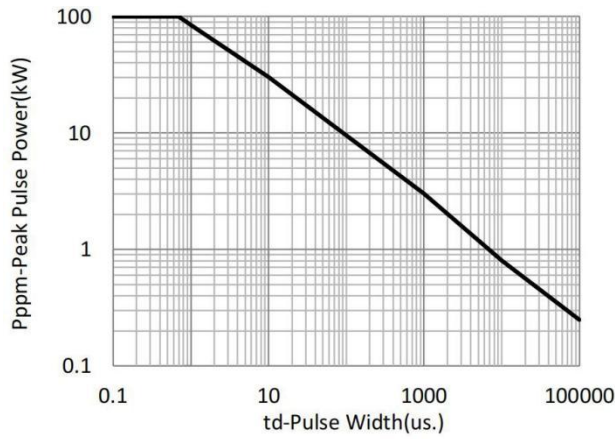


Figure 1. Peak Pulse Power Derating Curve

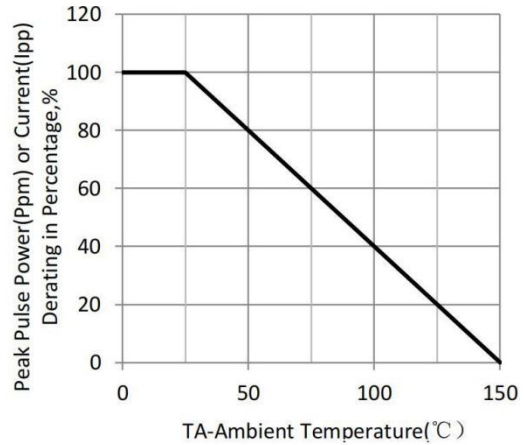


Figure 2. Peak Pulse Power Derating Curve

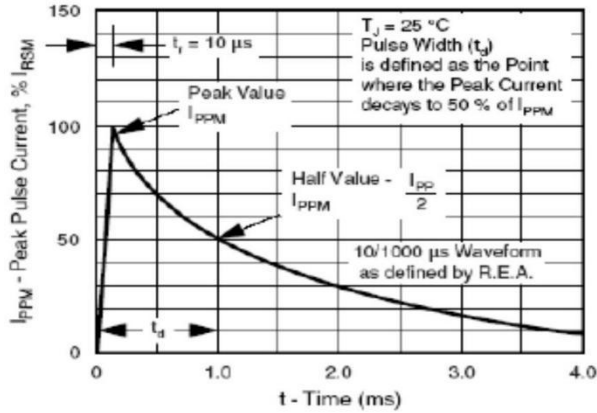


Figure 3. Non-repetitive Pulse Waveform

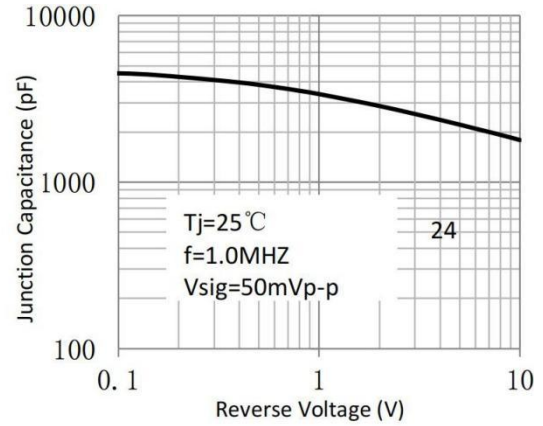


Figure 4. Typical Junction Capacitance

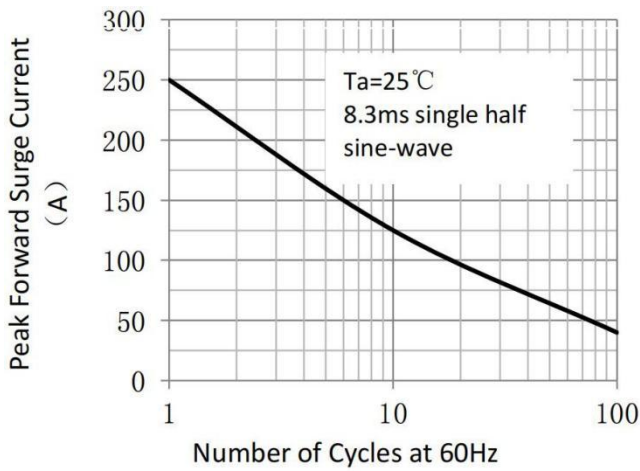


Figure 5 - Maximum Non-Repetitive Peak Forward Surge Current
Uni-Directional Only

Marking Instructions



Note:

AHFM : Product Type Code

** : Lot No. Code

Marking Instructions



Note:

AIFM : Product Type Code

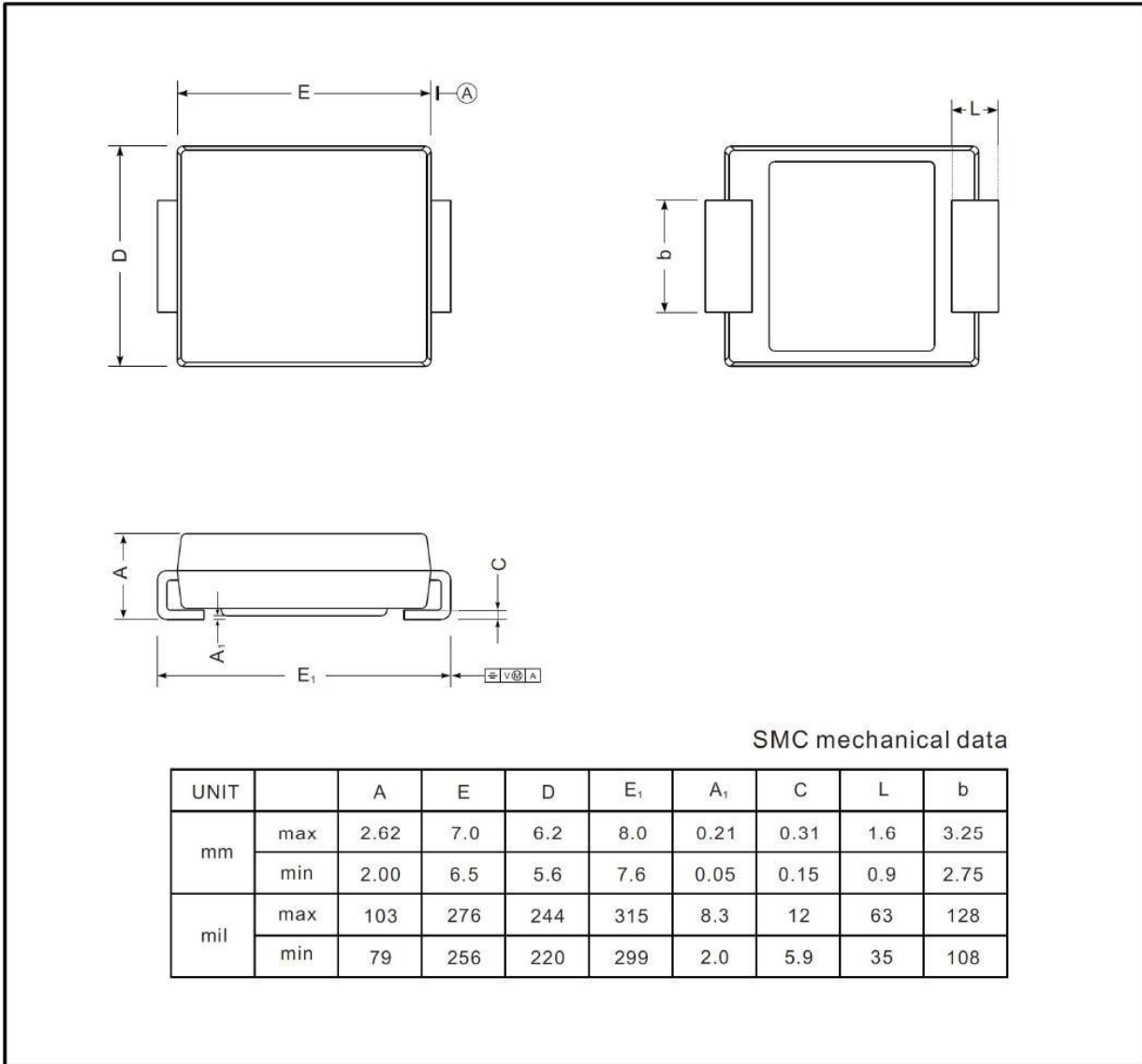
** : Lot No. Code

Packaging SPEC.

Package Type	Units					Dimension (unit: mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SMC	3000	2	6000	6	36000	13" × 16	337X337X49	380X335X366

Package Dimensions

SMC



SMC mechanical data

UNIT		A	E	D	E ₁	A ₁	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108