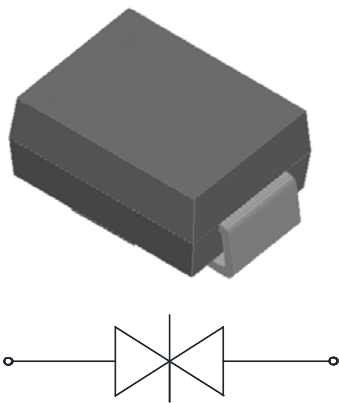


Surface Mount Transient Voltage Suppressors

Features

- Low profile package
- Ideal for automated placement
- Available in Uni-directional and Bi-directional
- 400 W peak pulse power capability with a 10/1000 μ s waveform
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- ISO7637-2 standard:
 - Pulse 1、 2a、 2b、 3a、 3b、 5b
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- ESD protection of data lines in accordance with IEC 61000-4-2, 30kV(Air),30kV (Contact)
- Part no. with suffix "Q" means AEC-Q101 qualified

Bi-directional



Typical Applications

For use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, automotive, and telecommunication.

Mechanical Data

- **Package:** DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** For uni-directional types the band denotes cathode end, no marking on bi-directional types

■Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform ⁽¹⁾ ⁽²⁾ (Fig.1)	P_{PPM}	W	400
Peak pulse current, with a 10/1000us waveform ⁽¹⁾	I_{PPM}	A	See Next Table
Power dissipation, $T_a=25^\circ\text{C}$	P_D	W	1.25
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I_{FSM}	A	40
Operating junction	T_J	$^\circ\text{C}$	-55 to +175
Storage temperature range	T_{STG}	$^\circ\text{C}$	-55 to +175

■Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum instantaneous forward voltage @ at 1A for unidirectional only	V_F	V	1.5



SMAJ60CAQ

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

Part Number(Bi)	Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @ V _{RWM} (μA)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} ⁽⁴⁾ (A)	Maximum Clamping Voltage V _c @ I _{PP} (V)
	Min(V)	Max (V)	I _T ⁽³⁾ (mA)				
SMAJ60CAQ	66.70	73.70	1	1	60.0	4.1	96.8

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	R _{θJL}	°C/W	junction to lead	30
	R _{θJA}	°C/W	junction to ambient	120

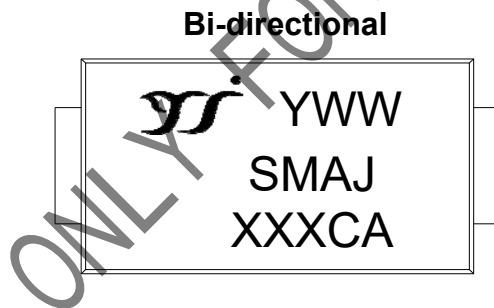
Notes:

- (1) Non-repetitive current pulse, per Fig.3 and derated above T_j= 75°C per Fig.2.
- (2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal
- (3) Pulse test: t_p≤50ms
- (4) Surge current waveform per Fig. 3 and derated per Fig.2.

■Ordering Information (Example)

PREFERED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMAJ SERIES	F2	Approximate 0.067	7500	120000	13" reel

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser printing
- 3.XXX is marking code, like 60CA marking code is 60
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

The 17th week of 2021, date code is 117

The 17th week of 2022, date code is 217



■ Characteristics (Typical)

Fig.1 Peak Pulse Power Rating Curve

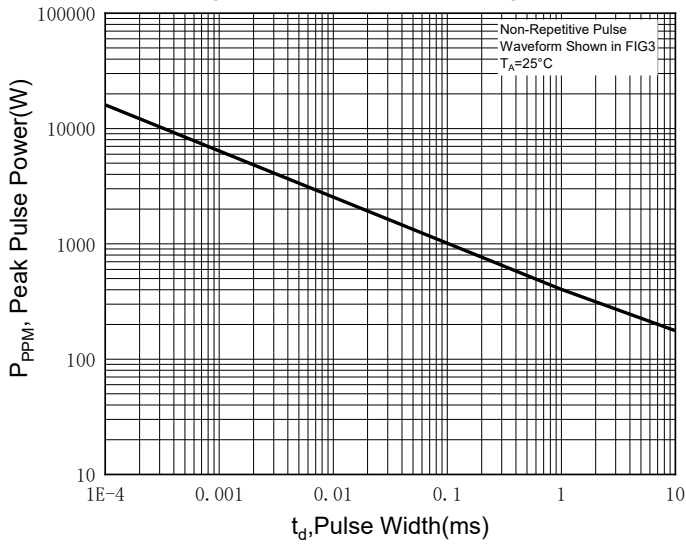


Fig.2 Pulse Power or Current vs. Initial Junction Temperature

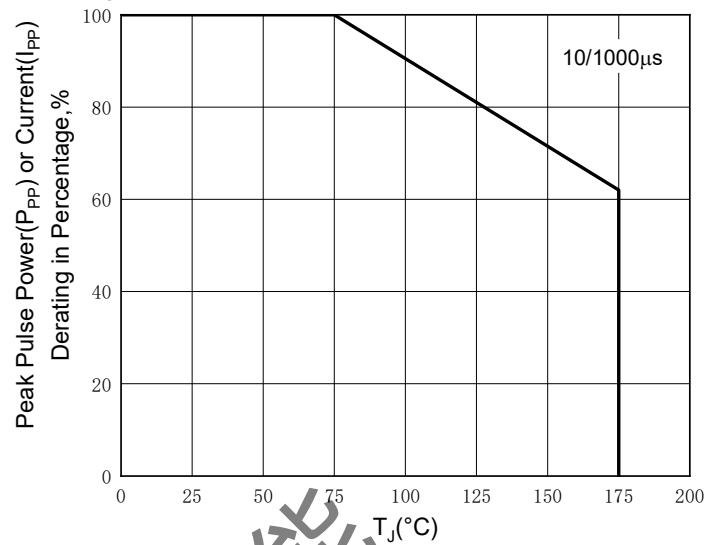


Fig.3 Pulse Waveform

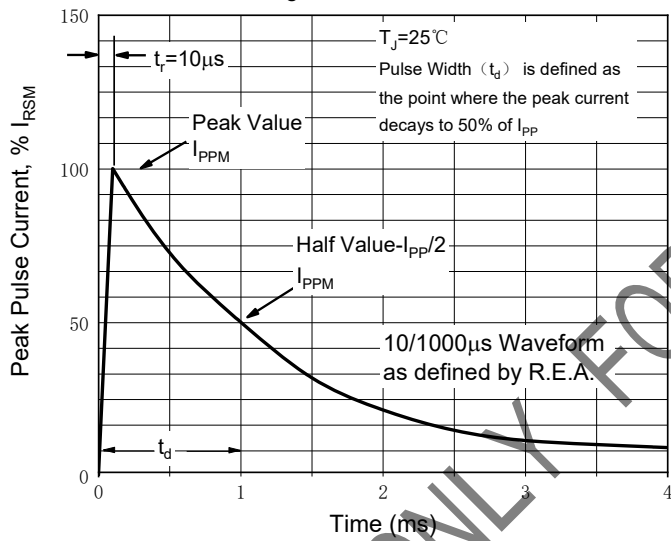


Fig.4 Typical Transient Thermal Impedance

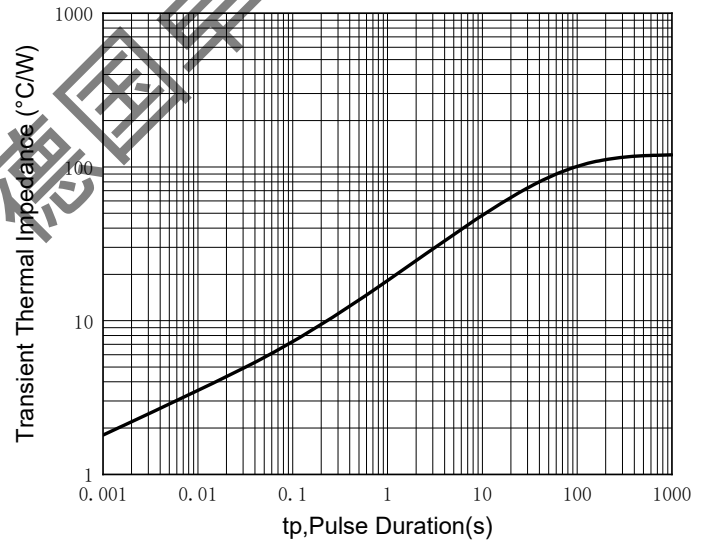


Fig.5 Maximum Non-Repetitive Forward Surge Current

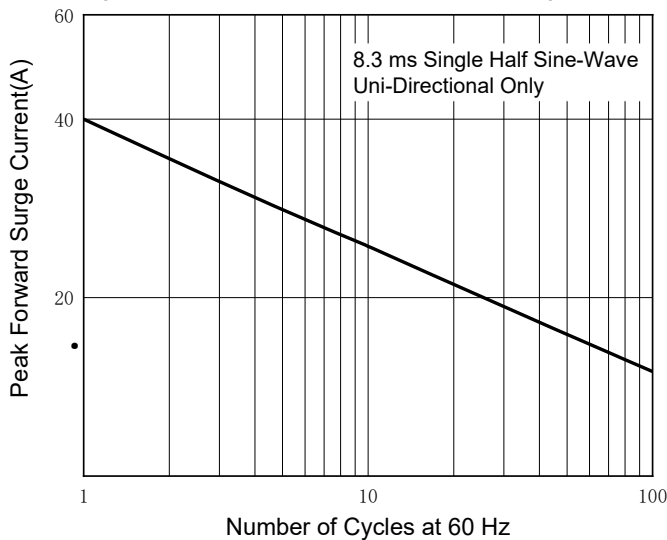
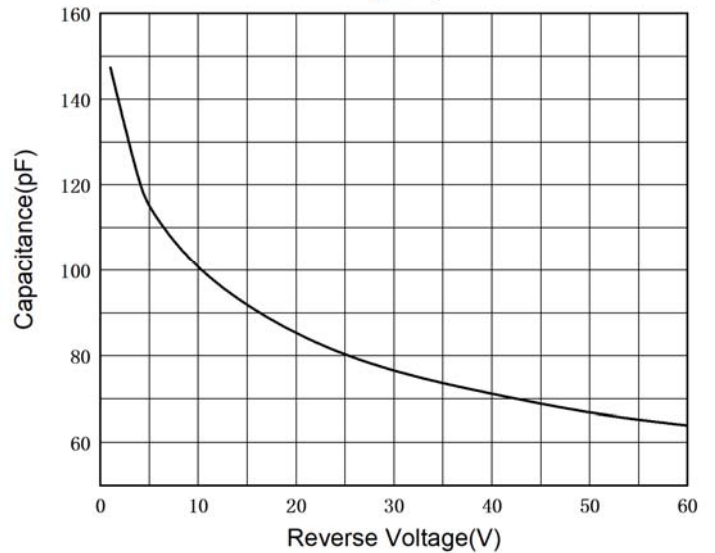


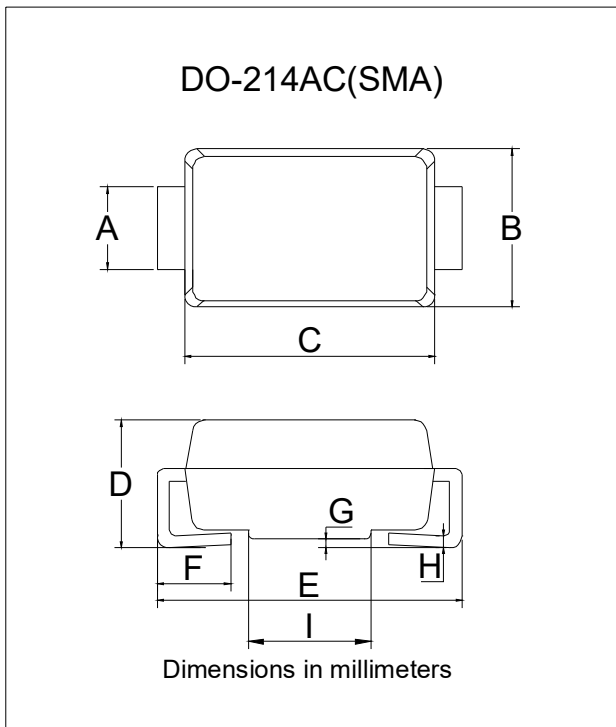
Fig.6 C_j





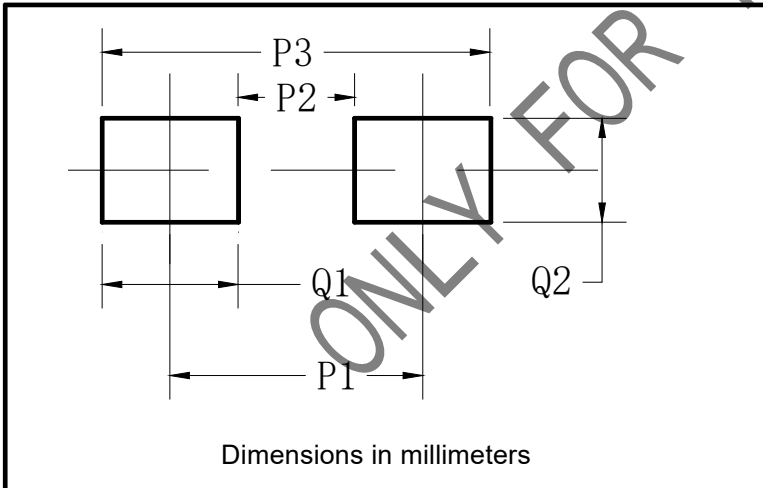
SMAJ60CAQ

■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.7	2.1

■ Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



SMAJ60CAQ

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