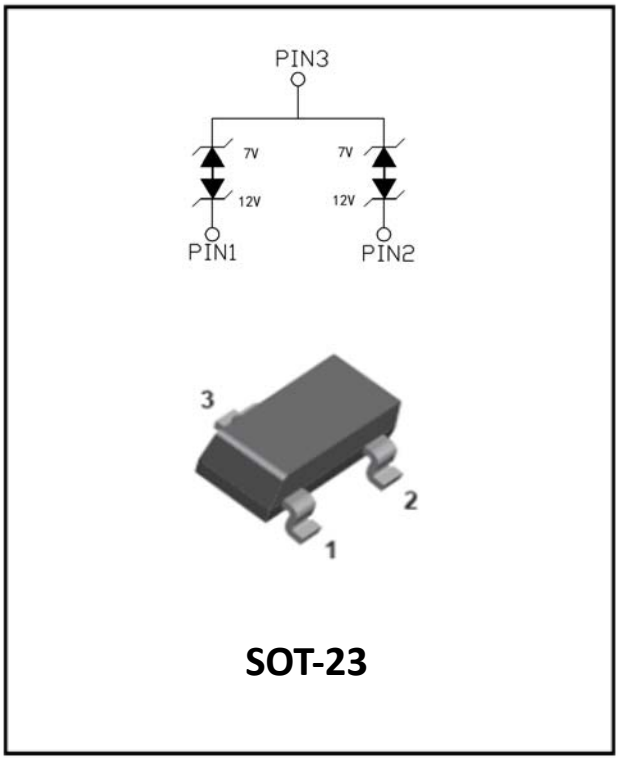
2-Line, Asymmetrical, Transient Voltage Suppressor



Features

- Stand-off voltage: 7V or 12V
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-5(surge): 17A or 12A (8/20μs)
- Low leakage current:
- Ultra low clamping voltage
- RoHS Compliant

Applications

- Wireless System
- Networks
- Portable Instrumentation
- RS485 Ports

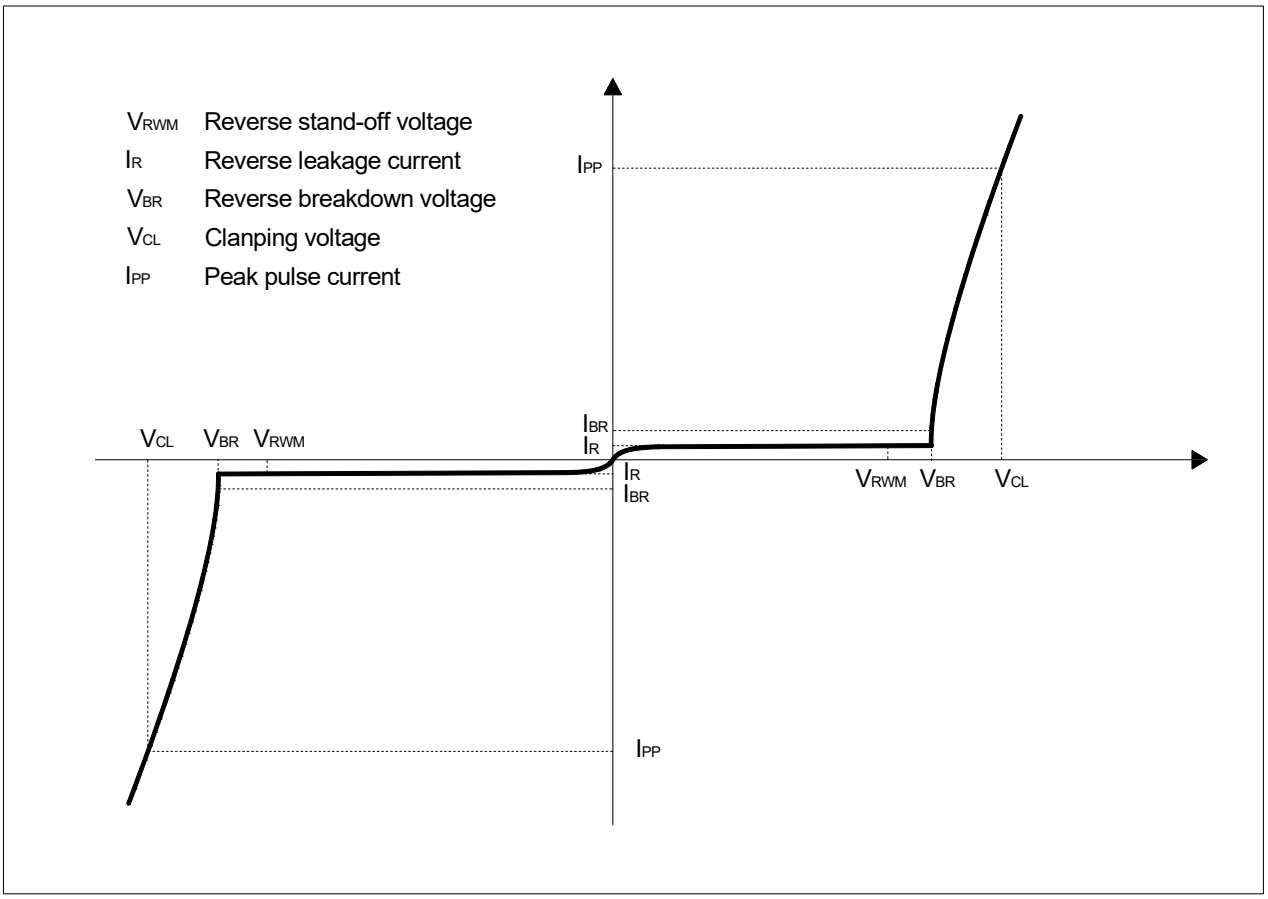
Mechanical Data

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020
- Marking Information: See Below



712Y = Device Marking Code

■Definitions of electrical characteristics



■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power (t_p = 8/20μs)	P_{pk}	240	W
Peak pulse current (t_p = 8/20μs), Pin 1,2 to Pin 3	I_{PP}	12	A
Peak pulse current (t_p = 8/20μs), Pin 3 to Pin 1,2	I_{PP}	17	A
ESD according to IEC61000-4-2 air discharge	V_{ESD}	±30	KV
ESD according to IEC61000-4-2 contact discharge		±30	
Junction temperature	T_J	-55~125	ºC
Storage temperature	T_{STG}	-55~150	ºC

■Electrical Characteristics（T_a=25℃ Unless otherwise specified）

PARAMETER	Symbol	UNIT	Conditions		Min	Typ	Max
Reverse maximum working voltage	V_{RWM}	V	Pin 1,2 to Pin 3				12
			Pin 3 to Pin 1,2				7
Reverse leakage current	I_R	μA	Pin 1,2 to Pin 3	V_{RWM} = 12V			0.5
			Pin 3 to Pin 1,2	V_{RWM} = 7V			0.5
Reverse breakdown voltage	V_{BR}	V	Pin 1,2 to Pin 3	I_T = 1mA	13.3		
			Pin 3 to Pin 1,2	I_T = 1mA	7.5		
Clamping voltage [1)]	V_{CL}	V	Pin 1,2 to Pin 3	I_{PP} = 1A, t_p = 8/20μs			17
				I_{PP} = 12A, t_p = 8/20μs			20
			Pin 3 to Pin 1,2	I_{PP} = 1A, t_p = 8/20μs			11
				I_{PP} = 12A, t_p = 8/20μs			13
				I_{PP} = 17A, t_p = 8/20μs			14.5
Junction capacitance	C_J	pF	Pin 1,2 to Pin 3	V_R = 0V, f = 1MHz		25	
				V_R = V_{RWM}, f = 1MHz		16	
			Pin 3 to Pin 1,2	V_R = 0V, f = 1MHz		25	
				V_R = V_{RWM}, f = 1MHz		20	

Notes:
(1). Non-repetitive current pulse, according to IEC61000-4-5.

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SM712Y	F2	Approximate 8	3000	30000	120000	7” reel

■ Characteristics (Typical)

Fig.1 8/20μs waveform per IEC61000-4-5

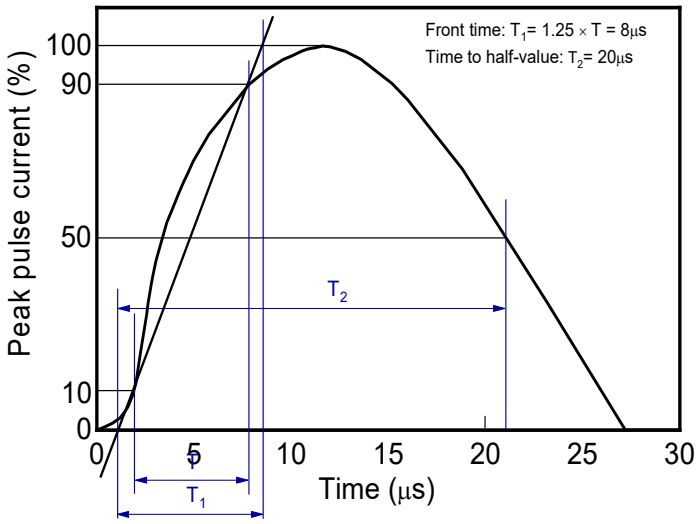


Fig.2 Contact discharge current waveform per IEC61000-4-2

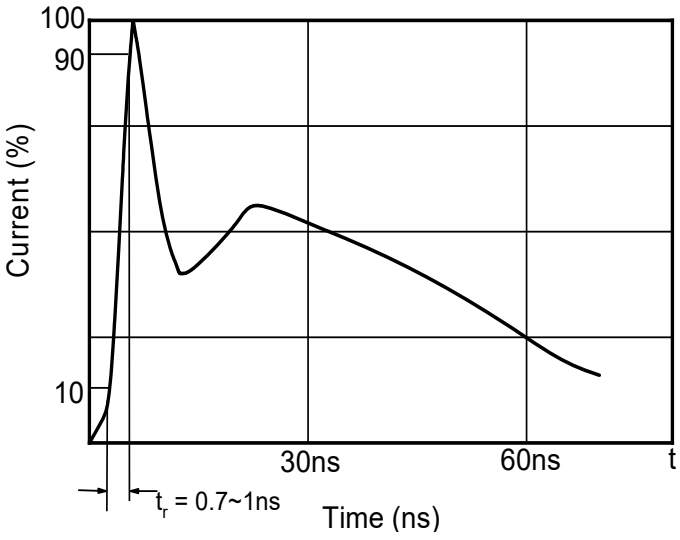


Fig.3 Clamping voltage vs. Peak pulse current

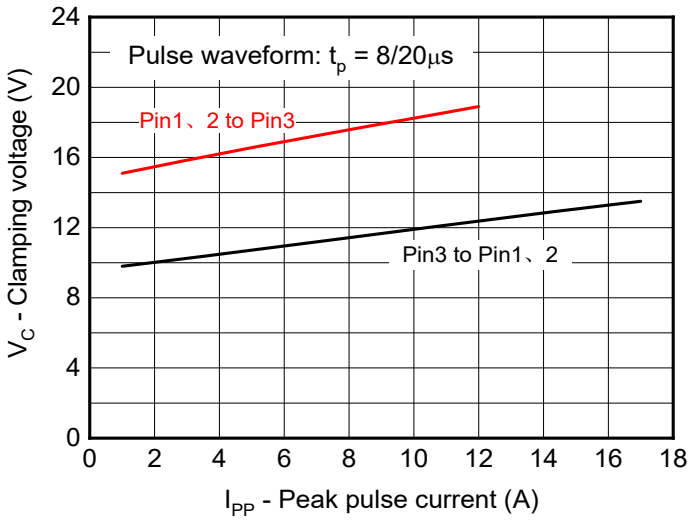


Fig.4 Capacitance vs. Reverse voltage

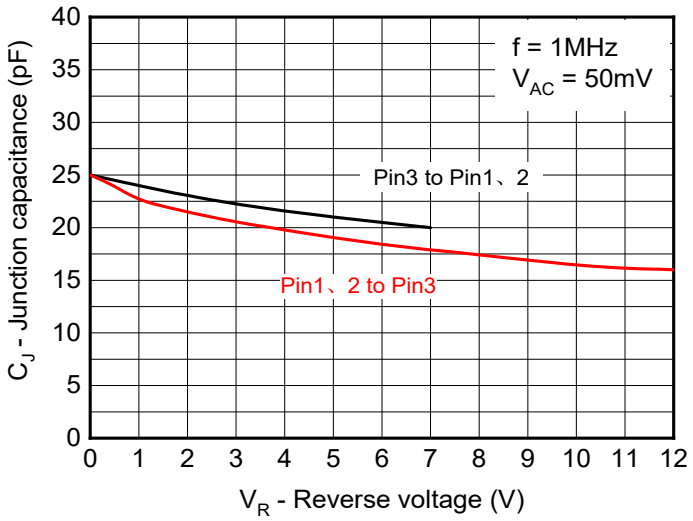


Fig.5 Non-repetitive peak pulse power vs. Pulse time

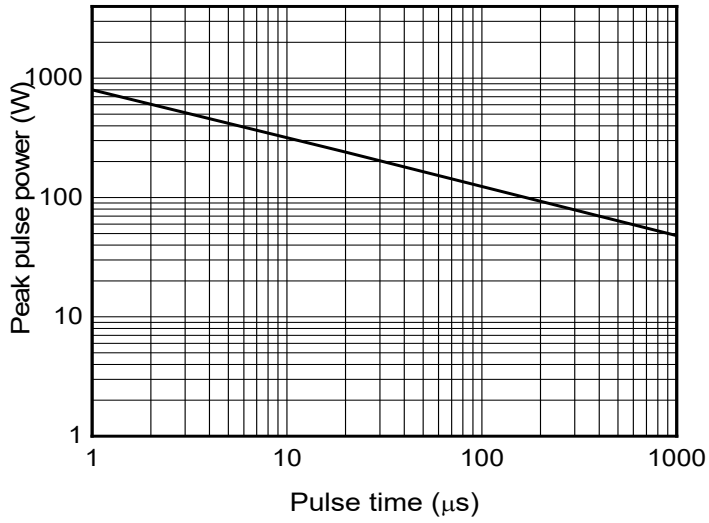


Fig.6 Power derating vs. Ambient temperature

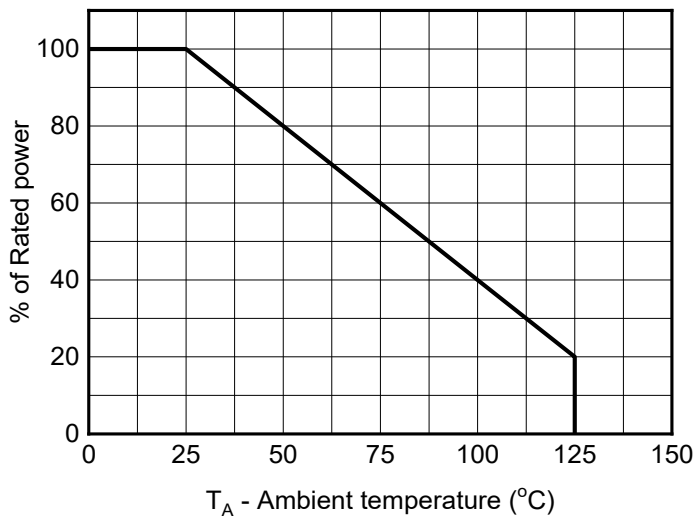
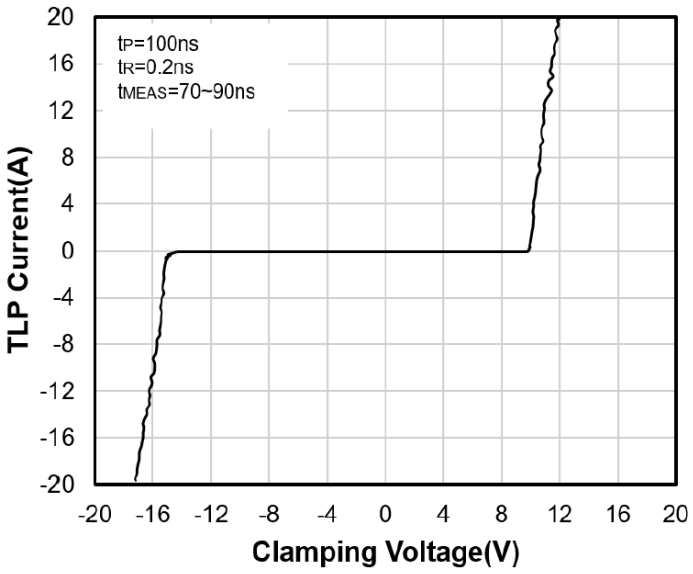
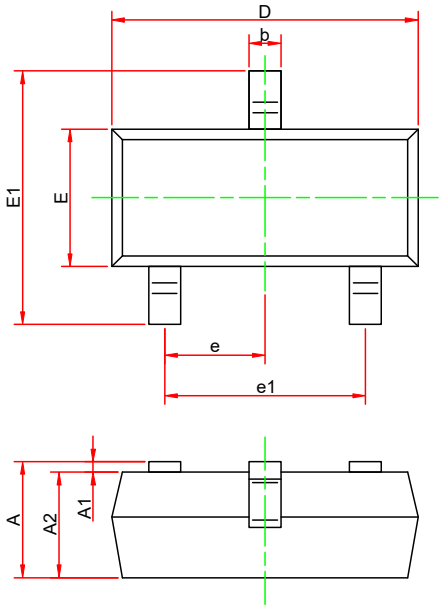
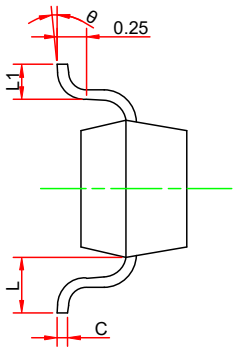


Fig.7 TLP Measurement



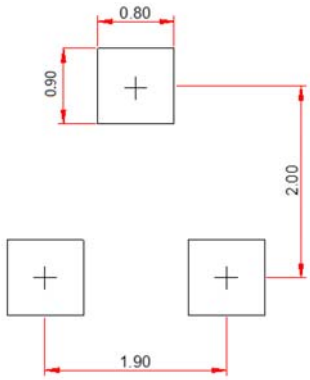
■ Outline Dimensions





Symbol	Dimensions in millimeters		
	Min.	Typ.	Max.
A	0.900	-	1.150
A1	0.000	-	0.100
A2	0.900	-	1.050
b	0.300	-	0.500
c	0.100	-	0.200
D	2.800	-	3.000
E	1.200	-	1.400
E1	2.250	-	2.550
e	0.950TYP		
e1	1.800	-	2.000
L	0.550REF		
L1	0.300	-	0.500
θ	0°	-	8°

■ Soldering Footprint



Unit:mm

Notes:
This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met

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