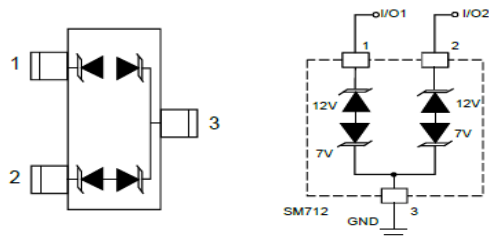
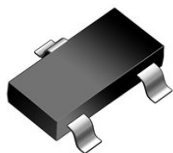




SOT-23



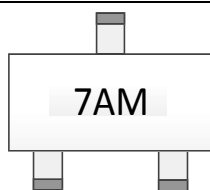
Features

400Watts peak pulse power($t_p=8/20\mu s$)
Protects two -7V to 12V lines
Low clamping voltage
Low leakage current
Glass passivated junction
IEC 61000-4-2 $\pm 30KV$ contact $\pm 30KV$ air
Halogen free and RoHS compliant

Mechanical Data

CASE: SOT23 Molded Plastic
Molding compound flammability rating: UL 94V-0
Mounting Position:Any

Making Code & Ordering information



Ordercode	Package	Base qty	Deliverymode
SM712	SOT-23	3000	Tape and reel

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	400	Watts
Peak Pulse Current ($t_p=8/20\mu s$)(note1)	I_{PP}	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	30 30	kV
Lead Soldering Temperature	T_L	260(10seconds)	°C
Junction Temperature	T_J	-55 to + 125	°C
Storage Temperature	T_{stg}	-55 to + 125	°C

Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			
Parameter	Symbol	Conditions	Min	Typ	Max	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	V_{BR}	$I_{PT} = 1mA$	13.3			7.5			V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1			20	μA
Clamping Voltage	V_C	$I_{PP} = 5A$, $t_p = 8/20\mu s$			20			10	V
Clamping Voltage	V_C	$I_{PP} = 17A$, $t_p = 8/20\mu s$			26			12	V
Junction Capacitance	C_j	$V_R = 0V$, $f = 1MHz$			75			75	pF
		$V_R = V_{RWM}$, $f = 1MHz$		45			45		pF

Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

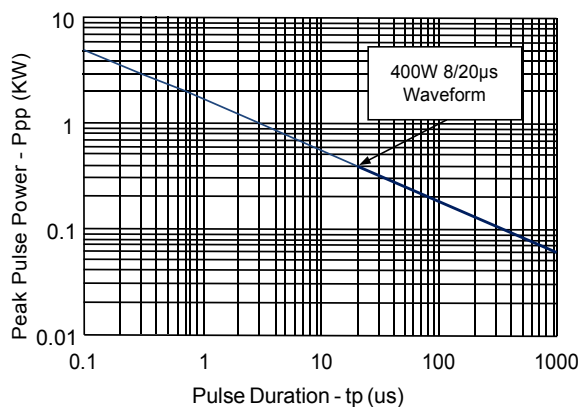


Figure 1: Peak Pulse Power vs. Pulse Time

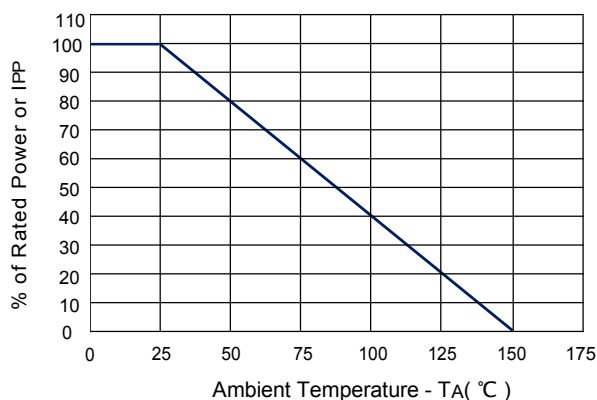


Figure 2: Power Derating Curve

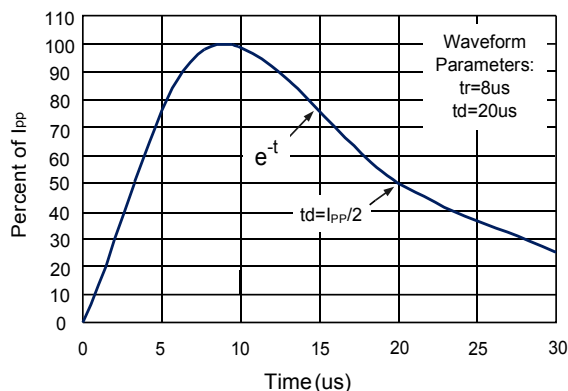


Figure3: Pulse Waveform

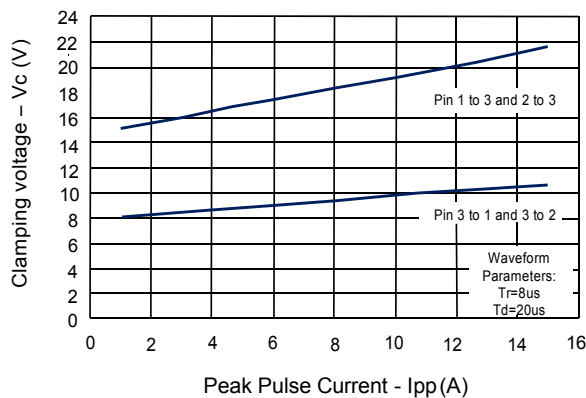
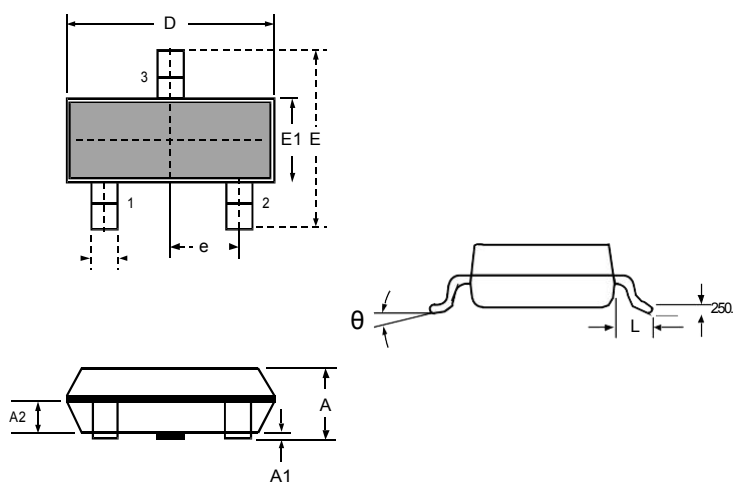


Figure 4: Clamping Voltage vs. IPP

Package Outline Dimensions: SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°