

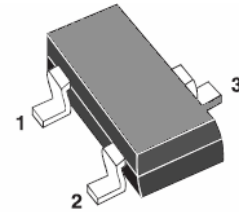


SM712

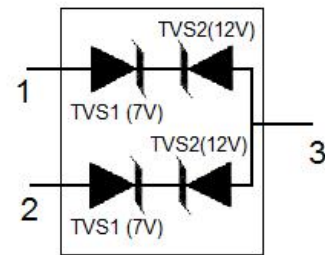
VOLTAGE 7 to 12 Volts WATT 400 Watts

Features

- Small SOT-23 Package
- Protects two +12V to -7V lines
- Peak power dissipation of 400W under 8/20 μ s waveform
- Low Leakage
- Fast Response Time < 5 ns
- Protects One Power or I/O Port
- ESD Rating of Class 3 (>16KV) per Human Body Model
- ESD Protection to IEC 61000-4-2 Level 4
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- RoHS Compliant in Lead-Free Versions



SOT23



Applications

- the SM712 transient voltage suppressor(TVS) diode is designed for asymmetrical (12v to-7v)protection in multi-point data transmission standard RS-485 applications Communication Systems & Cellular Phones
- Security Systems
- Automatic Teller Machines
- HFC Systems
- Networks

Absolute Maximum Ratings

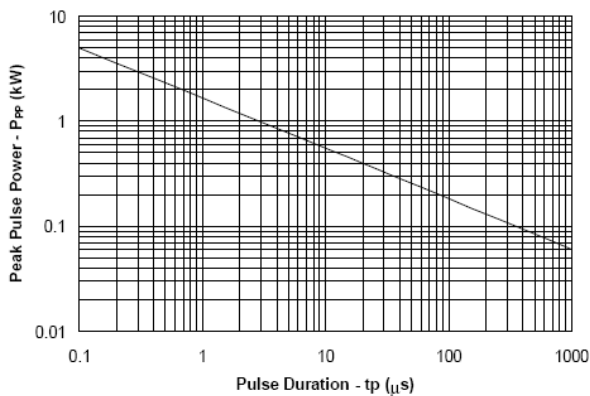
Parameter	Symbol	Value	Units
Peak Power Dissipation (Note 1.) @ $T_L = 25^\circ\text{C}$	P_{PK}	400	W
IEC 61000-4-2 (ESD)	Air CONTACT	15	KV
		8	KV
ESD Voltage	Per Human Body Model Per Machine Model	16	KV
		400	V
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

1. 8 X 20 μ s, non-repetitive

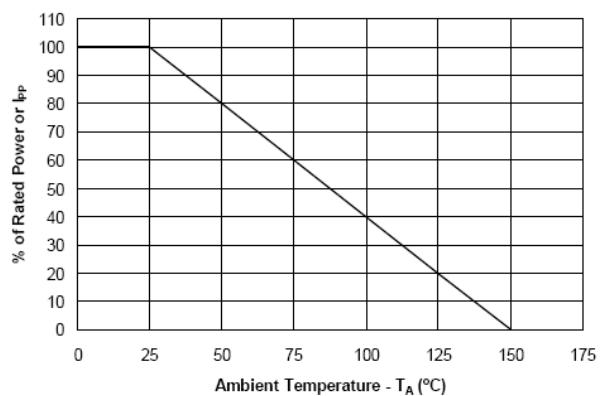
SOT23C712									
SM712			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			Units
			MIN	TYP	MAX	MIN	TYP	MAX	
Parameter	Symbol	Conditions	MIN	TYP	MAX	MIN	TYP	MAX	Units
Reverse Stand-Off Voltage	V_{RWM}	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	V_{BR}	$I_{PT} = 1mA$	13.3			7.5			V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1			20	nA
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	
		$V_R = V_{RWM}$, $f = 1MHz$		45			45		pF

Typical Characteristics

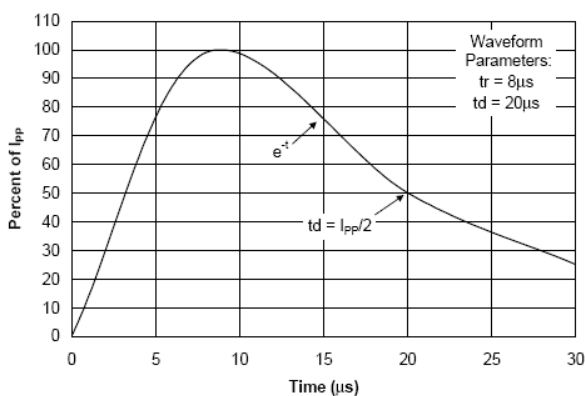
Non-Repetitive Peak Pulse Power vs. Pulse Time



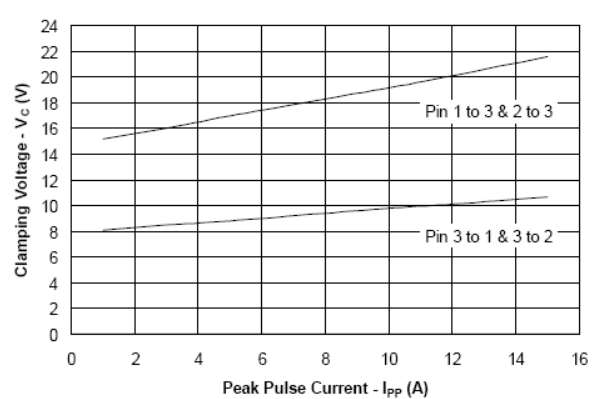
Power Derating Curve



Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



SOT-23 MECHANICAL DATA

<i>Dim</i>	<i>Millimeters</i>		
	<i>Min</i>	<i>TYP</i>	<i>Max</i>
A	1.00		1.40
A1	0		0.10
A2	1.00		1.30
b	0.35		0.50
c	0.10		0.20
D	2.70	2.90	3.10
E	2.40		2.80
E1	1.40		1.60
e	0.85		1.15
e1		1.90	
L1	0.40	.	
q	0°		10°
S	0.45		0.55

