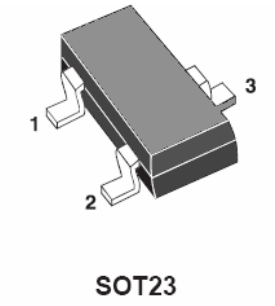
Asymmertrical TVS Diode for Extended Common-Mode Rs-485



SOT23

Features

- Small SOT-23 Package
- Protects two +12V to -7V lines
- Peak power dissipation of 400W under 8/20 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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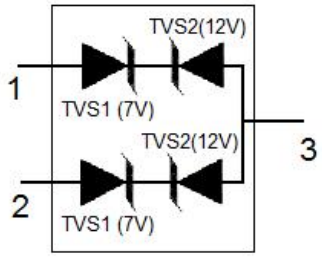
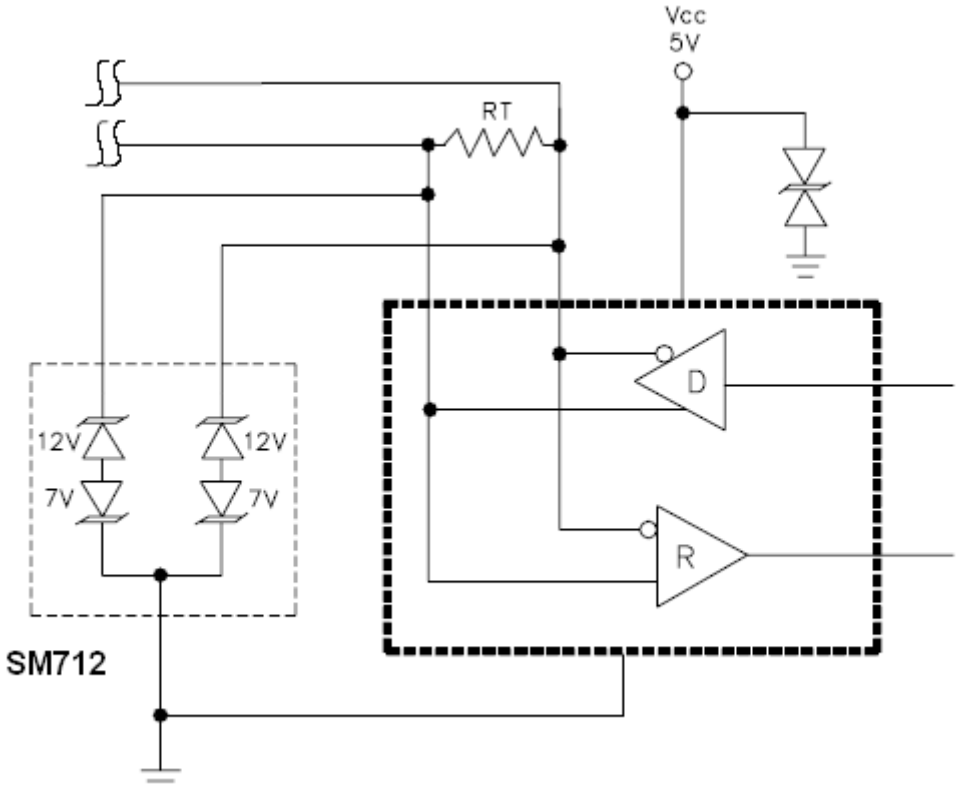
- RoHS Compliant in Lead-Free Versions



Applications

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

Marking:C72



Absolute Maximum Ratings

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

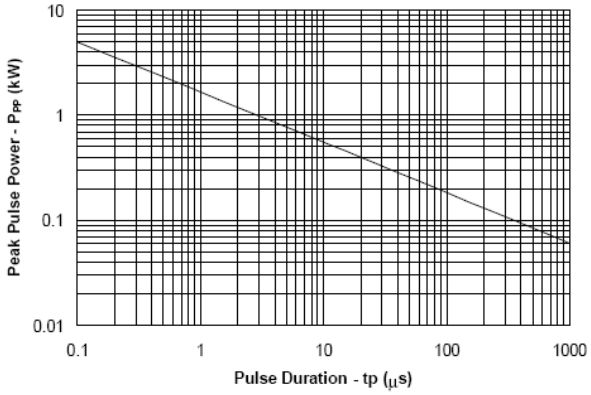
1. 8 X 20 us, non–repetitive

SM712

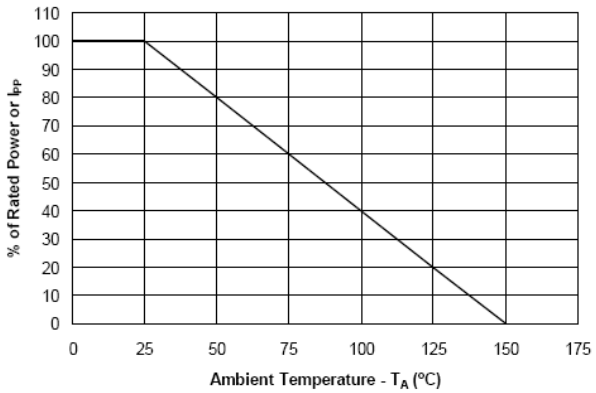
			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			
Parameter	**Symbol**	**Conditions**	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**Units**
Reverse Stand-Off Voltage	V_{RWM}	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	V_{BR}	I_{PT} = 1mA	13.3			7.5			V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1			20	nA
Clamping Voltage	V_C	I_{PP} = 5A, tp = 8/20μs			20			10	V
Clamping Voltage	V_C	I_{PP} = 17A, tp = 8/20μs			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

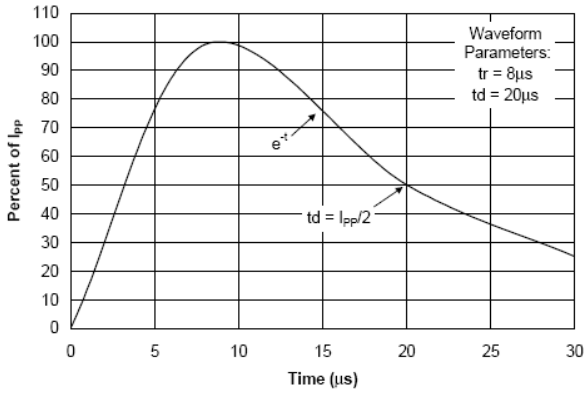
Non-Repetitive Peak Pulse Power vs. Pulse Time



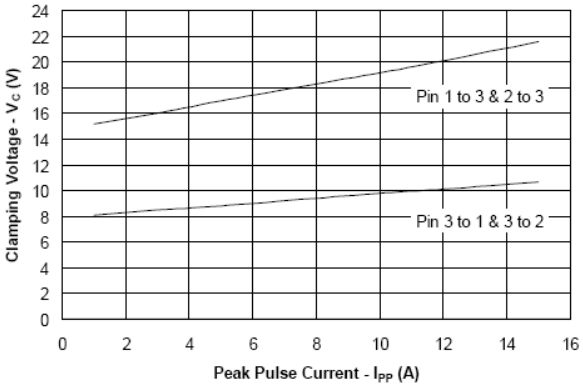
Power Derating Curve



Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



SOT-23 MECHANICAL DATA

Dim	*Millimeters*		
	Min	*TYP*	*Max*
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