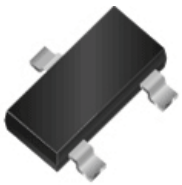
PSM712

Asymmetrical TVS Diode for Extended Common-Mode RS-485

FEATURES

- 600 watts peak pulse power (t_p = 8/20μs)
- Transient protection for asymmetrical data lines to
  IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  IEC 61000-4-5 (Lightning) 19A (8/20μs)
- Protects two +12V to -7V lines
- Low capacitance
- Low clamping voltage
- Solid-state silicon avalanche technology

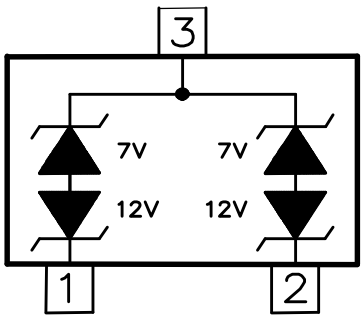
SOT-23



APPLICATIONS

- Protection of RS-485 transceivers with extended common-mode range
- Security systems
- Automatic Teller Machines
- HFC systems
- Networks

Pin Configuration

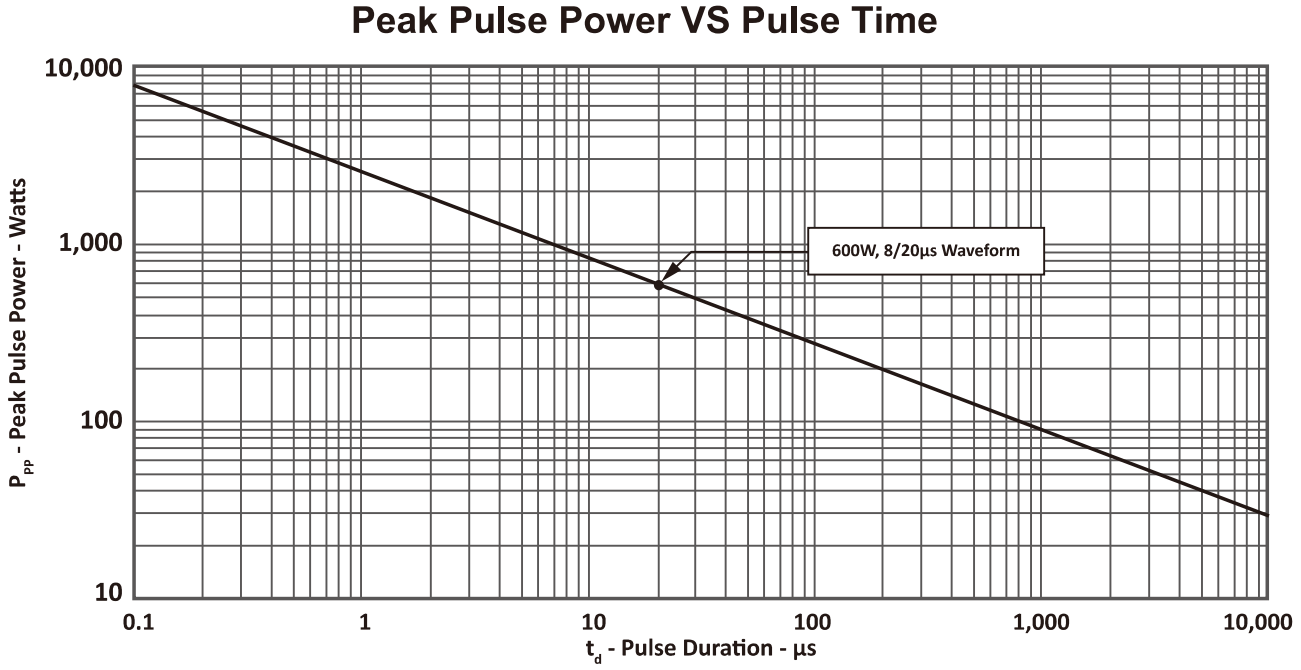


Absolute Maximum Rating (Tamb=25°C unless otherwise specified)			
Rating	**Symbol**	**Value**	**Units**
Peak Pulse Power (tp = 8/20μs)	P_{pk}	600	Watts
Peak Pulse Current (tp = 8/20μs)	I_{PP}	19	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	15 8	kV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature	T_J	-55 to +125	℃
Storage Temperature	T_{STG}	-55 to +150	℃

● Electrical Characteristics(Tamb=25 ℃)

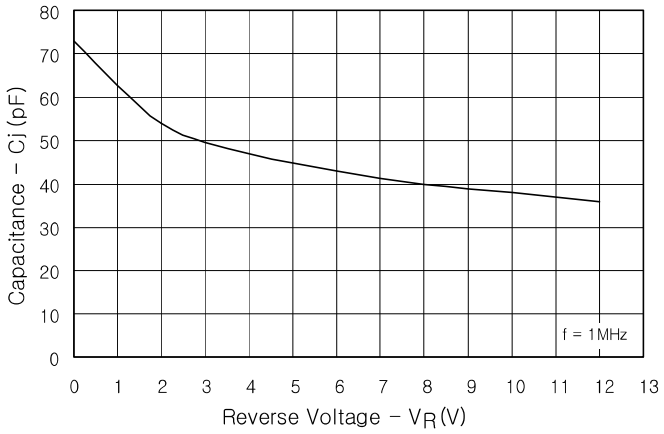
			Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			
Parameter	**Symbol**	**Conditions**	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**Units**
Reverse Stand-Off Voltage	V_{RWM}	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	V_{BR}	I_{PT} = 1mA	13.3			7.5			V
Reverse Leakage Current	I_R	$V_R = V_{RWM}$			1			20	μA
Clamping Voltage	V_C	I_{PP} = 5A, 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	pF
		$V_R = V_{RWM}$, f = 1MHz		45			45		pF

● Electrical Characteristics Curve

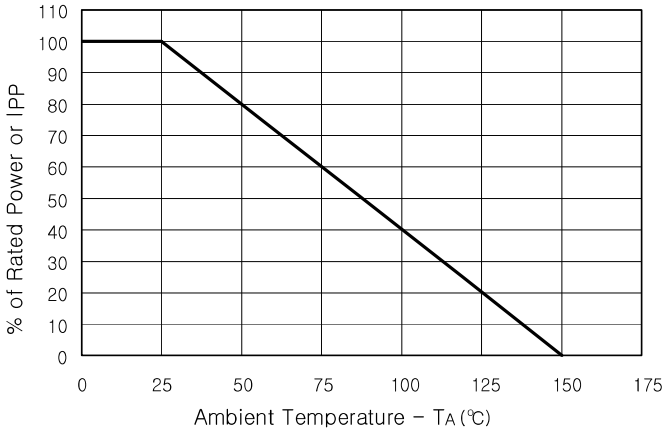


● Electrical Characteristics Curve

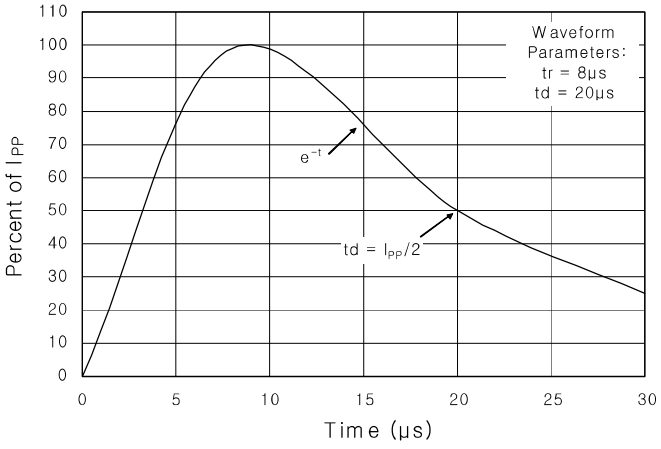
Capacitance vs. Reverse Voltage



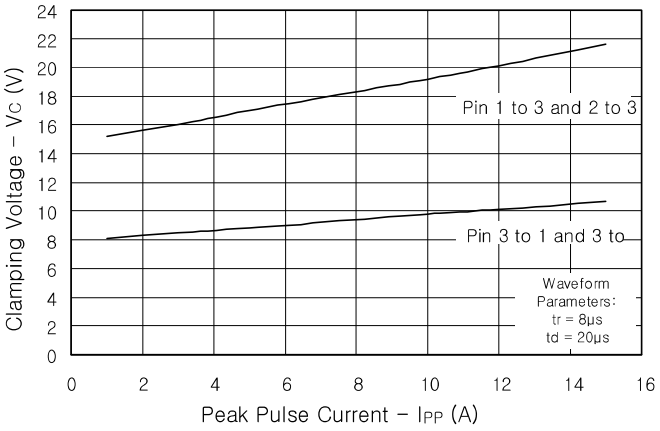
Power Derating Curve



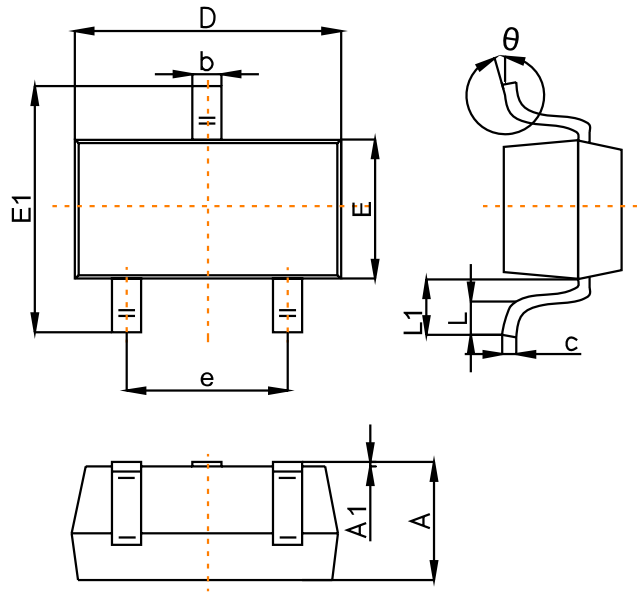
Pulse Waveform



Clamping Voltage vs. Peak Pulse Current



SOT-23 PACKAGE OUTLINE DIMENTION



Symbol	Dimensions In Millimeters		
	Min	Typ	Max
A	1.00		1.40
A1			0.10
b	0.35		0.50
c	0.10		0.20
D	2.70	2.90	3.10
E	1.40		1.60
E1	2.40		2.80
e		1.90	
L	0.10		0.30
L1	0.40		
θ	0°		10°