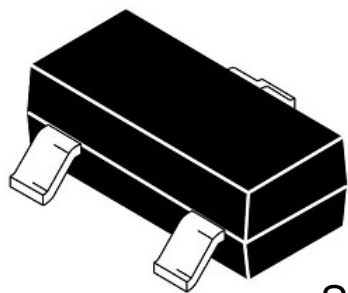
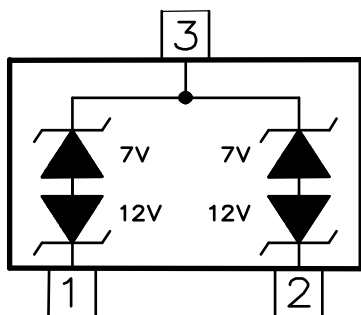


## ESD PROTECTION



**SOT-23**



### Features

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

### Mechanical Data

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

### ■ Maximum Ratings ( $T_a=25^\circ C$ Unless otherwise specified)

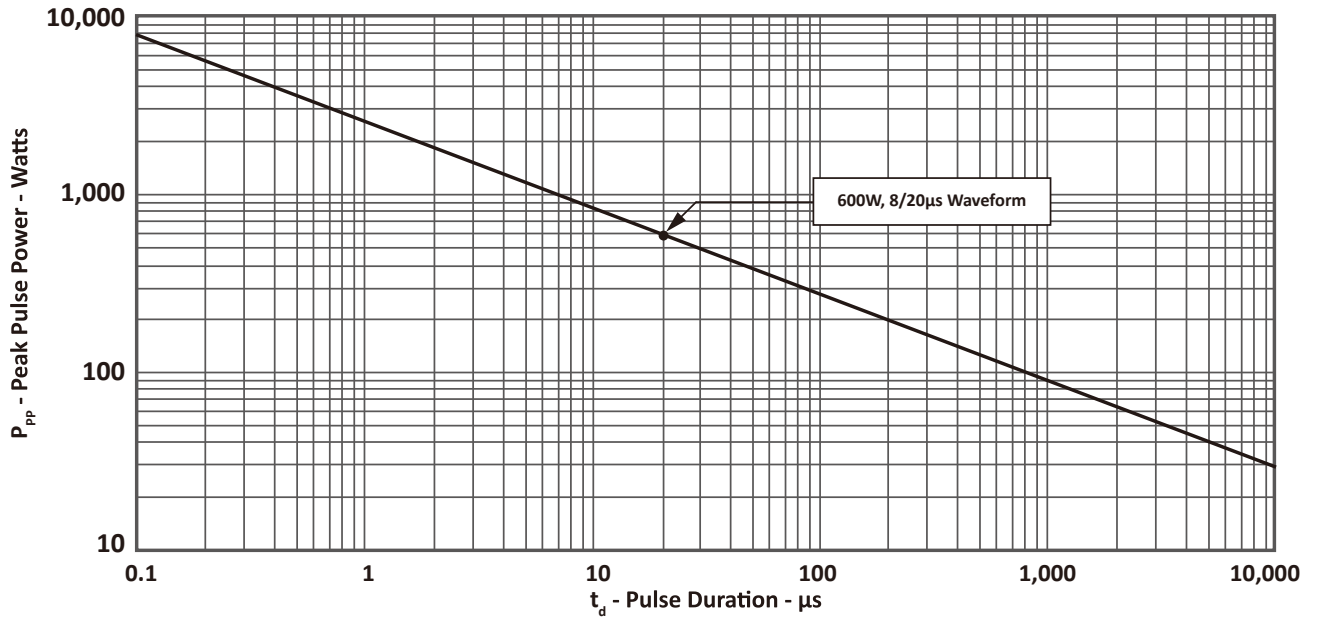
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{pk}$	400	Watts
Peak Pulse Current ( $t_p = 8/20\mu s$ )	$I_{pp}$	17	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	15 8	kV
Lead Soldering Temperature	$T_L$	260 (10 sec.)	$^\circ C$
Operating Temperature	$T_J$	-55 to +125	$^\circ C$
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ C$

### ■ Electrical Characteristics ( $T_a=25^\circ C$ Unless otherwise specified)

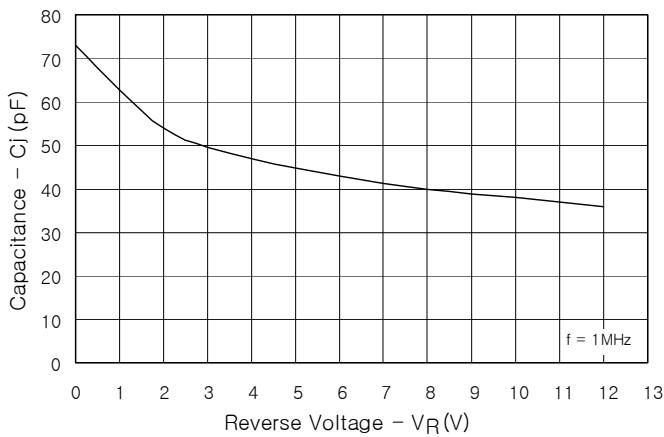
Parameter	Symbol	Conditions	Pins 1 to 3 and 2 to 3 (12V TVS)			Pins 3 to 1 and 3 to 2 (7V TVS)			Units
			MIN	TYP	MAX	MIN	TYP	MAX	
Reverse Stand-Off Voltage	$V_{RWM}$	Pin 3 to 1 or Pin 2 to 1			12			7	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{PT} = 1mA$	13.3			7.5			V
Reverse Leakage Current	$I_R$	$V_R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

■ **Characteristics (Typical)**

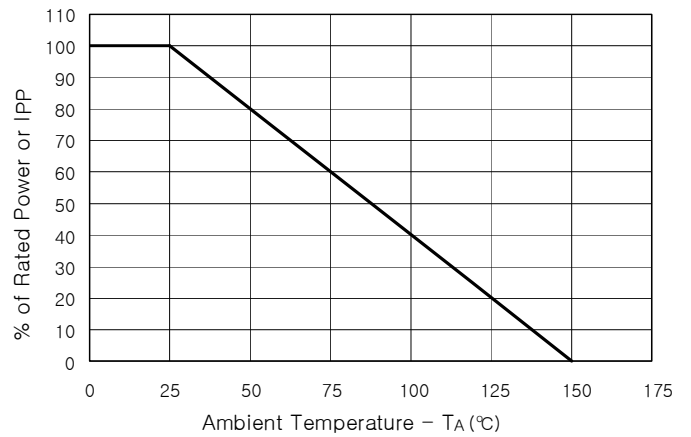
**Peak Pulse Power VS Pulse Time**



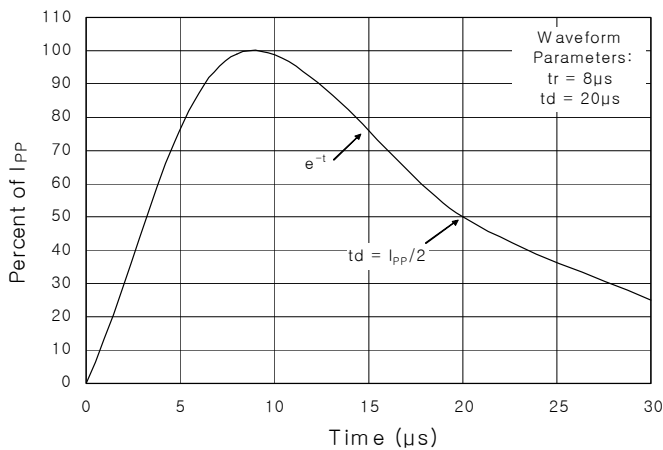
**Capacitance vs. Reverse Voltage**



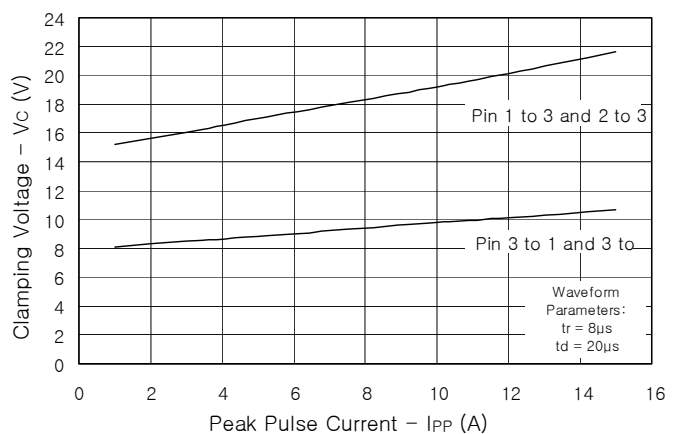
**Power Derating Curve**



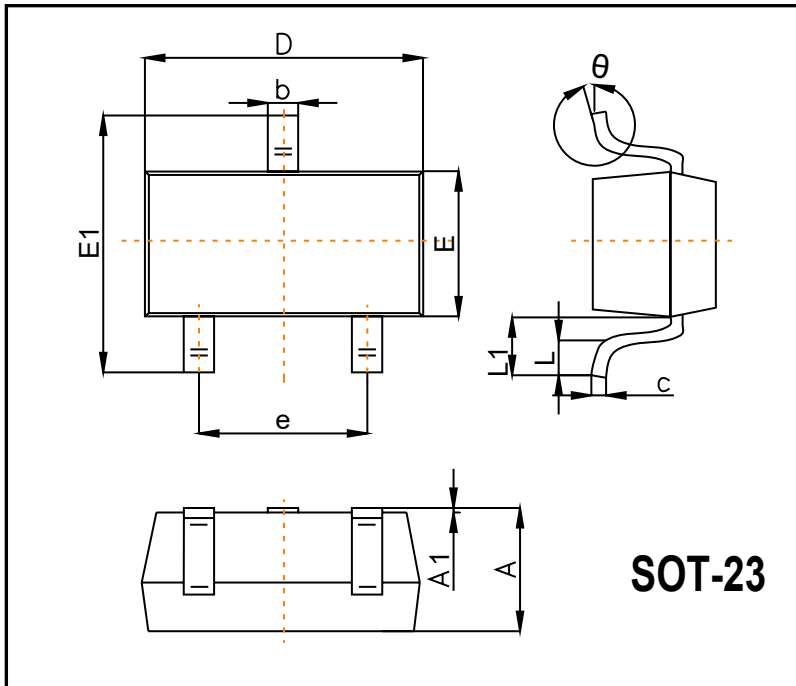
**Pulse Waveform**



**Clamping Voltage vs. Peak Pulse Current**



■ Outline Dimensions



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		
$\theta$	0°		10°