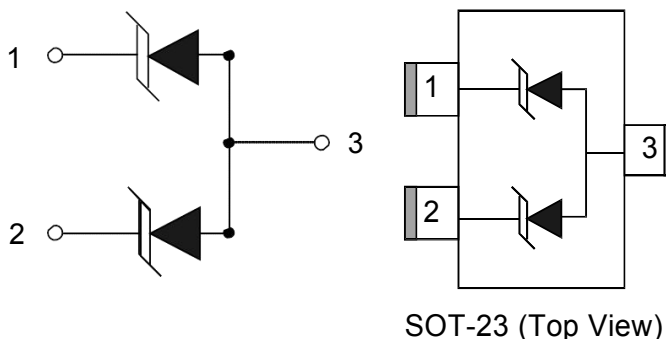


## Features

- 300 W peak pulse power ( $t_p = 8/20\mu s$ )
- Bidirectional and unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Low capacitance ( $C_j = 60$  pF typ.)
- Protection two data lines
- IEC 61000-4-2  $\pm 30$  kV contact  $\pm 30$  kV air
- IEC 61000-4-4 (EFT) 40A(5/50ns)
- IEC 61000-4-5 (Lightning) 12A(8/20 $\mu s$ )



## Applications

- Dataline
- Automatic Teller Machines
- Net works
- Power line

## Mechanical Data

- SOT23-3L package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Absolute Maximum Rating

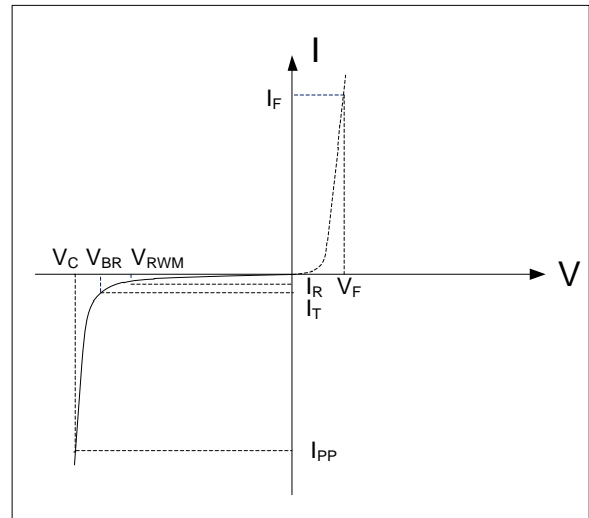
Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ )	$P_{pp}$	300	W
Peak Pulse Current ( $t_p = 8/20\mu s$ ) (note1)	$I_{pp}$	12	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	30 30	kV
Lead Soldering Temperature	$T_L$	260	°C
Junction Temperature	$T_J$	-55 to +125	°C
Storage Temperature	$T_{stg}$	-55 to +125	°C

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	13.3	15	17	V
Reverse Leakage Current	$I_R$	$V_{RWM}=12V, T=25^{\circ}C$		0.5	1	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p=8/20\mu s$			10	A
Clamping Voltage	$V_C$	$I_{PP}=12A, t_p=8/20\mu s$			30	V
Junction Capacitance	$C_j$	$V_R = 0V, f=1MHz$ (Pin1 · Pin2 to Pin3)		60	65	pF

### Electrical Parameters (TA = 25°C unless otherwise noted)

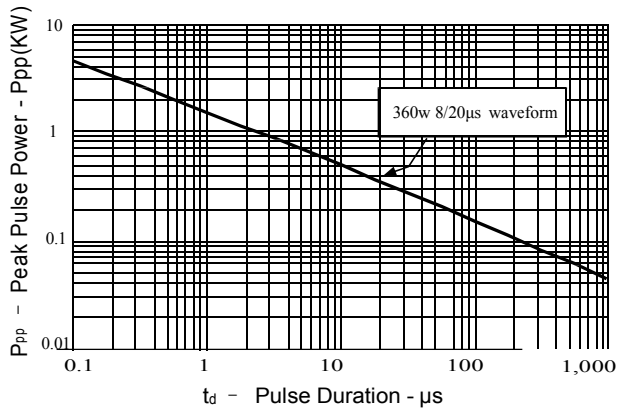
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current



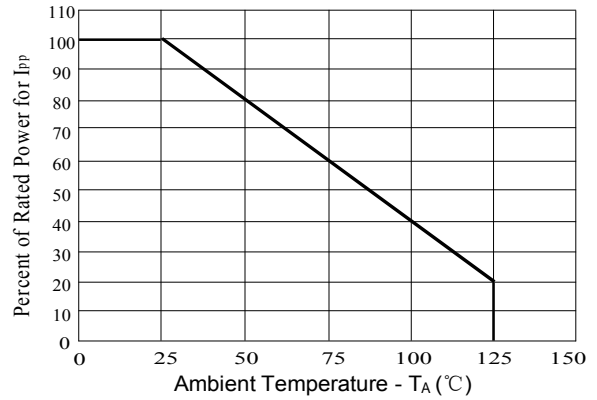
Note: 8/20 $\mu s$  pulse waveform.

**Typical Characteristics**

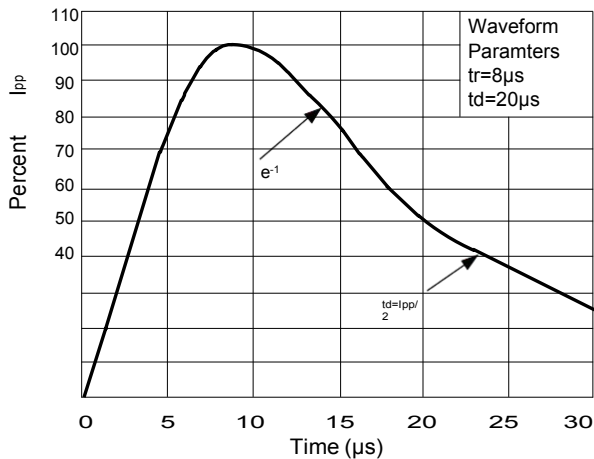
**Figure 1: Peak Pulse Power vs. Pulse Time**



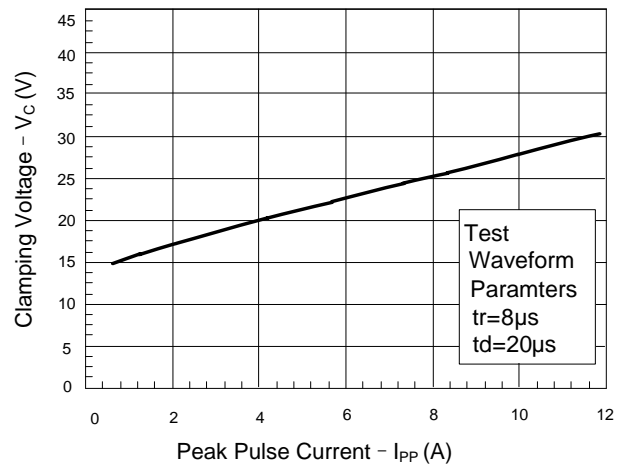
**Figure 2: Power Derating Curve**



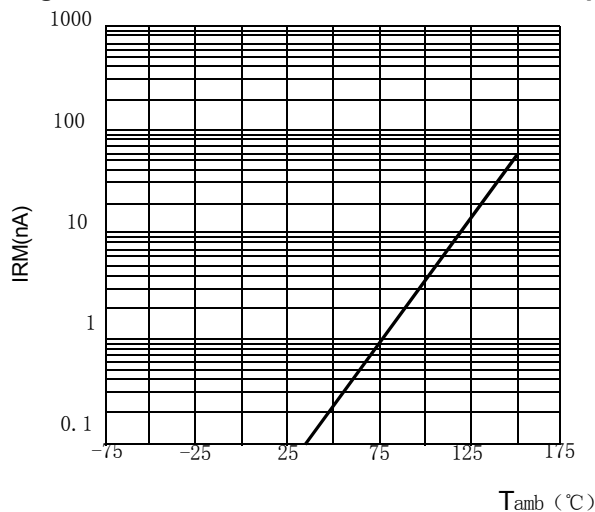
**Figure 3: Pulse Waveform**



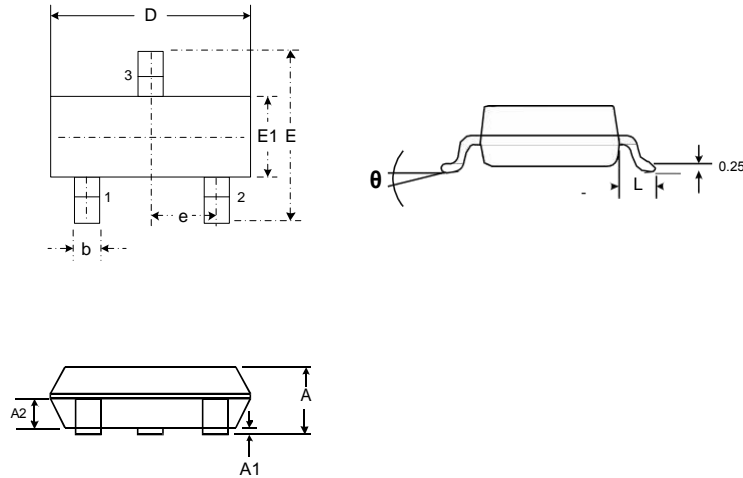
**Figure 4: Clamping Voltage vs. Ipp**



**Figure 5: Peak Pulse Power Vs Junction Temperature**

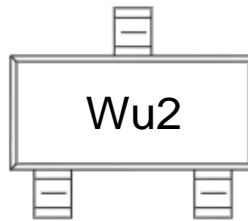


**Outline Drawing – SOT23-3L**



SYMBOL	DIMENSIONS			
	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.89	1.13	0.035	0.044
A1	0.015	0.11	0.0006	0.0043
A2	0.60	0.70	0.0236	0.0275
D	2.72	3.12	0.1070	0.1228
E	2.60	3.00	0.1024	0.118
E1	1.40	1.80	0.0551	0.0709
e	0.95 BSC		0.0374 BSC	
L	0.30	0.60	0.0118	0.0236
θ	0	8°	0	8°

**Marking**



**Ordering information**

Order code	Package	Base qty	Delivery mode
PESD12VS2UT	SOT23-3L	3000	Tape and reel