

**FEATURES**

- ◇ 350 watts peak pulse power per line ( $t_P=8/20\mu s$ )
- ◇ Protects two I/O lines with uni-directional
- ◇ Low clamping voltage
- ◇ Working voltage:3.3V
- ◇ Low leakage current
- ◇ Meet MSL 1 requirements
- ◇ RoHS compliant
- ◇ Compliant to Halogen - free

**MAIN APPLICATIONS**

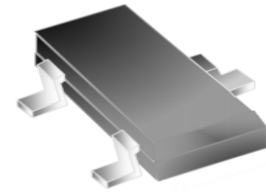
- ◇ RS-232, RS-422 & RS-485
- ◇ Servers, notebook, and desktop
- ◇ Cellular handsets and accessories
- ◇ Control & monitoring systems
- ◇ Portable electronics
- ◇ Wireless bus protection
- ◇ Set-top box

**PROTECTION SOLUTION TO MEET**

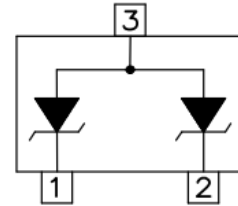
- ◇ IEC61000-4-2 (ESD)  $\pm 15kV$  (air),  $\pm 8kV$  (contact)
- ◇ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◇ IEC61000-4-5 (lightning) 25A (8/20 $\mu s$ )

**MECHANICAL CHARACTERISTICS**

- ◇ SOT-23 package
- ◇ Molding compound flammability rating: UL 94V-0
- ◇ Quantity per reel: 3,000pcs
- ◇ Reel size: 7 inch
- ◇ Lead finish: lead free
- ◇ Marking code: 3M2



SOT-23



Pin Configuration

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P <sub>PP</sub>	350	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V <sub>ESD</sub>	+/- 15 +/- 8	kV
Lead soldering temperature	T <sub>L</sub>	260 (10 sec.)	°C
Operating junction temperature range	T <sub>J</sub>	-55 to +125	°C
Storage temperature range	T <sub>STG</sub>	-55 to +150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

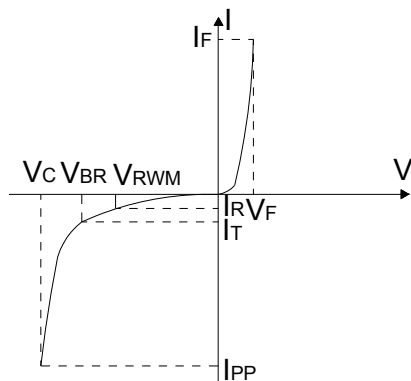
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V <sub>RWM</sub>				3.3	V
Reverse breakdown voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	4			V
Reverse leakage current	I <sub>R</sub>	V <sub>RWM</sub> =3.3V			5	μA
Clamping voltage	V <sub>C</sub>	I <sub>PP</sub> <sup>①</sup> =1A, t <sub>P</sub> =8/20μs			8	V
		I <sub>PP</sub> <sup>①</sup> =25A, t <sub>P</sub> =8/20μs			14	V
Junction capacitance	C <sub>J</sub> <sup>②</sup>	V <sub>RWM</sub> =0V, f=1MHz		200	240	pF

① Surge waveform: 8/20μs

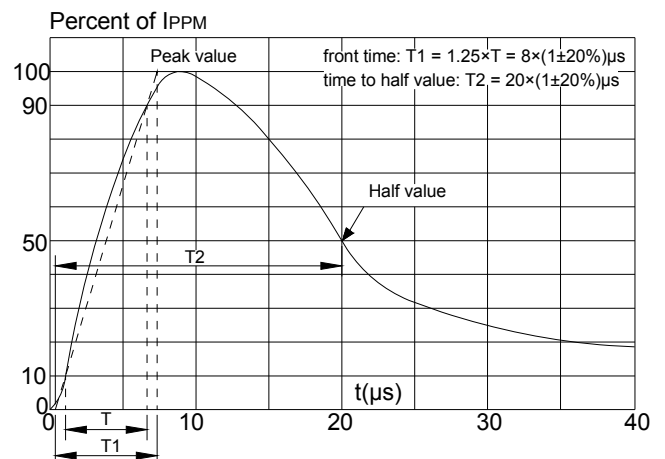
② C<sub>J</sub> measured @V<sub>RWM</sub>=0V, 1MHz (pin1 to pin3, pin2 to pin3)

### RATINGS AND V-I CHARACTERISTICS CURVES (T<sub>A</sub>=25°C, unless otherwise noted)

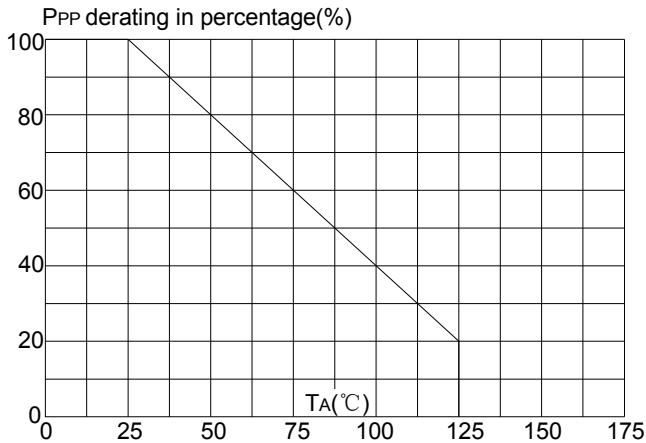
**FIG.1: V- I curve characteristics (Uni-directional)**



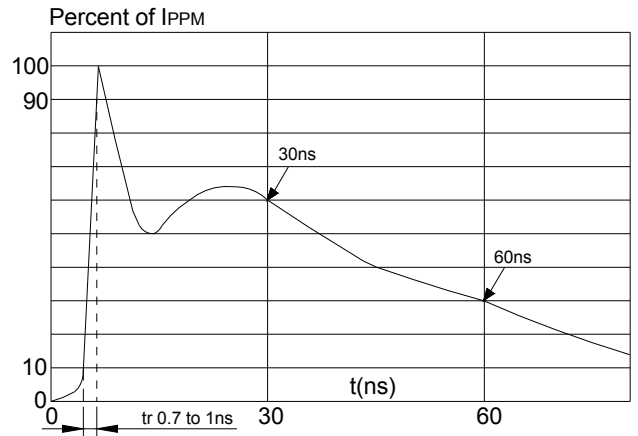
**FIG.2: Pulse waveform (8/20μs)**



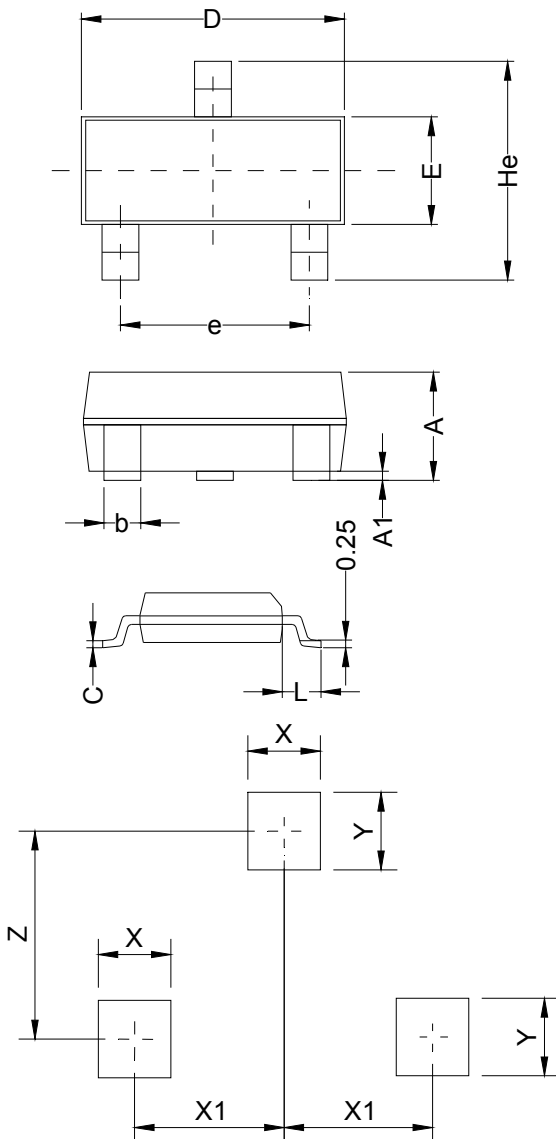
**FIG.3: Pulse derating curve**



**FIG.4: ESD clamping (8kV contact)**



### PACKAGE MECHANICAL DATA



**Land Pattern**

Symbol	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.25	0.325	0.010	0.013
C	0.22	0.25	0.009	0.010
D	2.80	3.00	0.110	0.118
e	1.80	1.90	0.071	0.075
E	1.20	1.40	0.047	0.055
L	0.30	0.50	0.012	0.020
He	2.25	2.55	0.089	0.100
X	0.80		0.031	
X1	0.95		0.037	
Y	0.80		0.031	
Z	2.02		0.080	