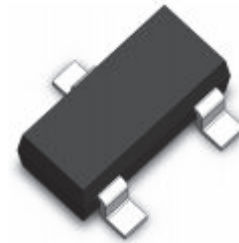
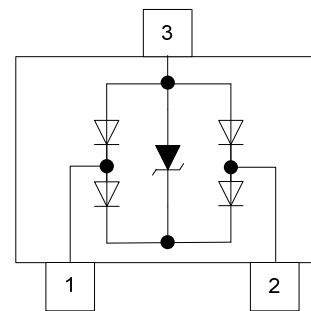


### FEATURES

- ✧ 60 watts peak pulse power per line ( $t_P=8/20\mu s$ )
- ✧ Protects two I/O lines with uni-directional
- ✧ Low clamping voltage
- ✧ Ultra-low capacitance:  $C_J=0.4pF$  typ.
- ✧ Working voltage:5V
- ✧ Low leakage current
- ✧ RoHS compliant
- ✧ Compliant to Halogen-free



SOT-23



Pin Configuration

### MAIN APPLICATIONS

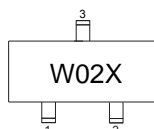
- ✧ USB 2.0 and USB 3.0
- ✧ HDMI 1.3 and HDMI 1.4
- ✧ SATA and eSATA
- ✧ DVI
- ✧ PCI Express
- ✧ Portable Electronics
- ✧ IEEE 1394

### PROTECTION SOLUTION TO MEET

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

### MECHANICAL CHARACTERISTICS

- ✧ SOT-23 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Lead finish: lead free
- ✧ Marking code: W02X



X:Control Code

### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

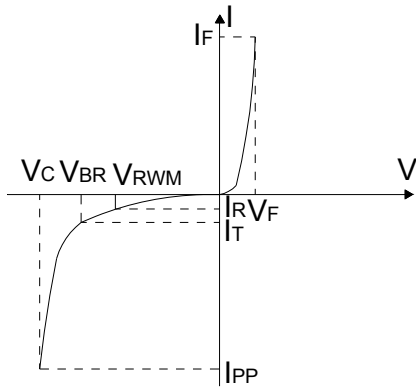
Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20 $\mu\text{s}$ waveform	$P_{PP}$	60	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	$V_{ESD}$	+/- 20 +/- 20	kV
Lead soldering temperature	$T_L$	260 (10 sec.)	$^{\circ}\text{C}$
Operating junction temperature range	$T_J$	-55 to +125	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ )

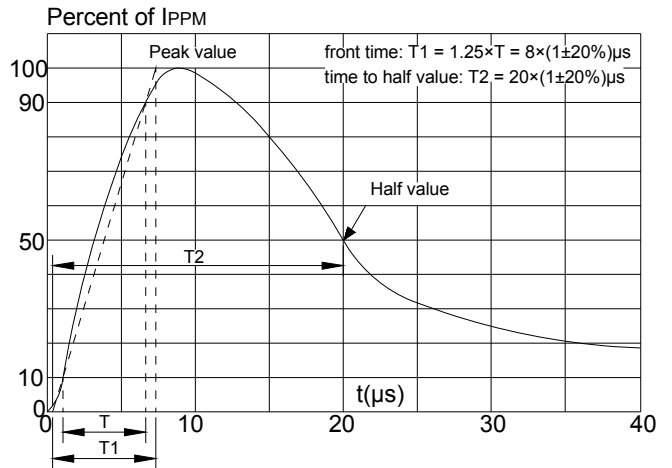
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	$V_{RWM}$				5.0	V
Reverse breakdown voltage	$V_{BR}$	$I_T=1\text{mA}$ Any I/O pin to GND	6.0	7.7	9.0	V
Reverse leakage current	$I_R$	$V_{RWM}=5\text{V}$ Any I/O pin to GND			100	nA
Clamping voltage	$V_C$	$I_{PP}=1\text{A}$ , $t_P=8/20\mu\text{s}$ Any I/O pin to GND		8.2	11	V
		$I_{PP}=4\text{A}$ , $t_P=8/20\mu\text{s}$ Any I/O pin to GND		10.6	15	V
Junction capacitance	$C_J$	$V_R=0\text{V}$ , $f=1\text{MHz}$ Any I/O pin to GND		0.4	0.65	pF
		$V_R=0\text{V}$ , $f=1\text{MHz}$ Between any I/O pin		0.25	0.40	

### RATINGS AND V-I CHARACTERISTICS CURVES ( $T_A=25^\circ\text{C}$ , unless otherwise noted)

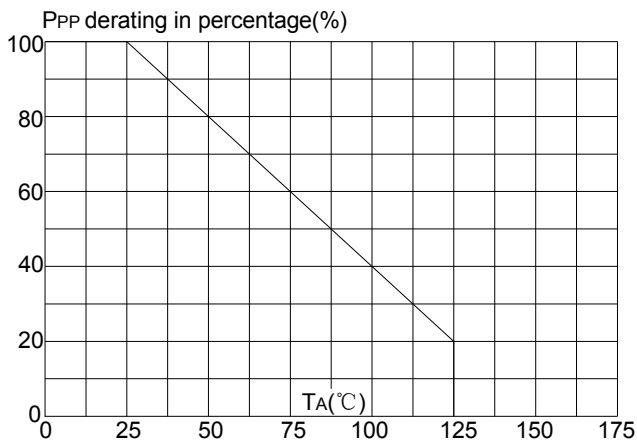
**FIG.1: V- I curve characteristics (Uni-directional)**



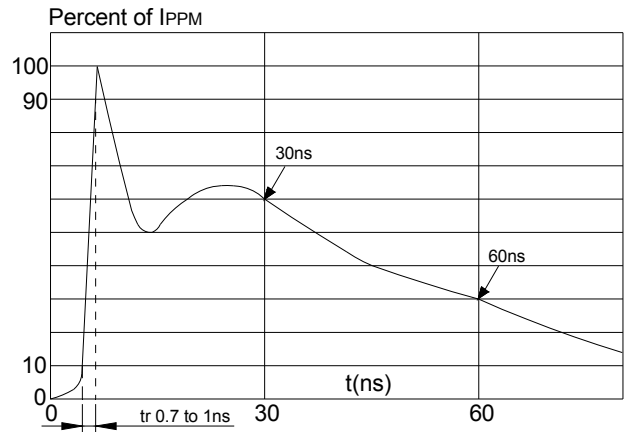
**FIG.2: Pulse waveform (8/20 $\mu\text{s}$ )**



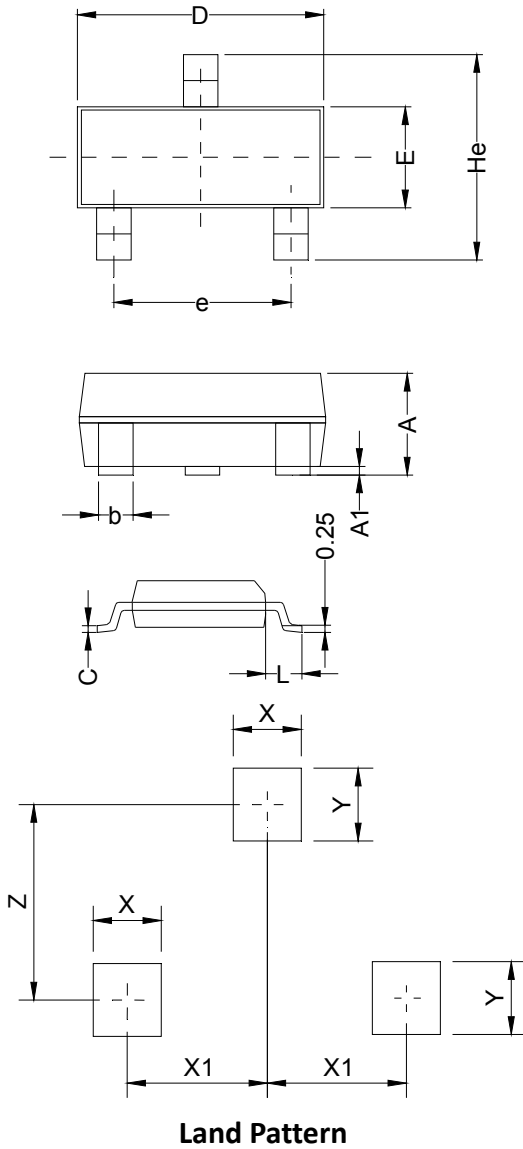
**FIG.3: Pulse derating curve**



**FIG.4: ESD clamping (20kV contact)**



### PACKAGE MECHANICAL DATA



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.90	1.15	0.035	0.045
A1	0.00	0.14	0.000	0.006
b	0.25	0.50	0.010	0.020
C	0.07	0.25	0.003	0.010
D	2.80	3.00	0.110	0.118
e	1.80	2.00	0.071	0.079
E	1.20	1.40	0.047	0.055
L	0.55 REF		0.022 REF	
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	