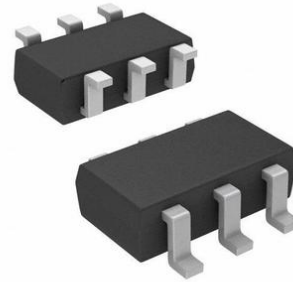


## Features

- Ultra small package: SOT23-6
- Ultra low capacitance: 0.6pF typical
- Ultra low leakage: nA level
- Low clamping voltage
- 6-pin leadless package
- RoHS compliant



## IEC COMPATIBILITY (EN61000-4)

- IEC 61000-4-2 (ESD)  $\pm 20\text{kV}$  (air),  $\pm 15\text{kV}$  (contact)
- IEC 61000-4-5 (Lightning) 4.5A(8/20us)

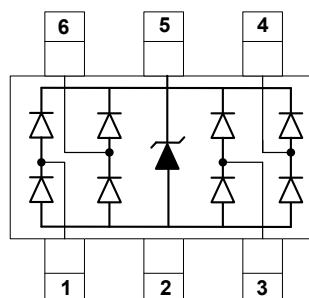
## Mechanical Characteristics

- Package: SOT23-6
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel
- RoHS/WEEE Compliant
- MSD Level: 2

## Applications

- Monitors and flat panel displays
- Set-top box and Digital TV
- Video graphics cards
- Digital Video Interface(DVI)
- Notebook Computers
- PCI Express and Serial SATA Ports

## Schematic and PIN Configuration

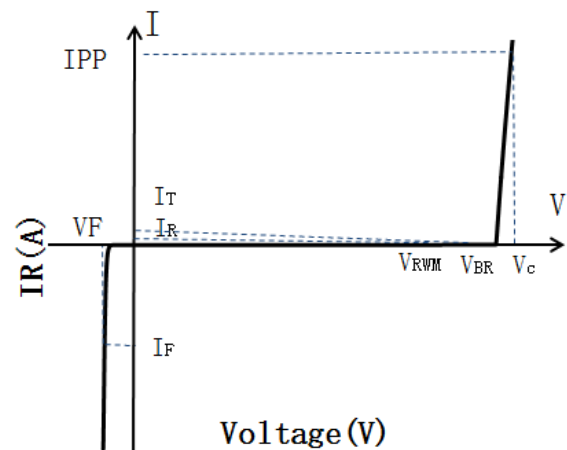


### Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Rating	Symbol	Value	Units
Peak Pulse Power ( $t_p = 8/20\mu s$ , I/O-GND )	$P_{PP}$	60	W
Peak Pulse Power ( $t_p = 8/20\mu s$ , Vcc-GND )	$P_{PP}$	300	W
Peak Pulse Current ( $t_p = 8/20\mu s$ , I/O-GND )	$I_{pp}$	4.5	A
Peak Pulse Current ( $t_p = 8/20\mu s$ , Vcc-GND )	$I_{pp}$	17	A
ESD per IEC 61000-4-2(Air)	$V_{ESD, VDD}$	$\pm 20$	kV
ESD per IEC 61000-4-2(contact)	$V_{ESD, I/O}$	$\pm 15$	
Operating Temperature	$T_J$	-55 to + 125	°C
Storage Temperature	$T_{STG}$	-55 to +150	°C

### Portion Electronics Parameter

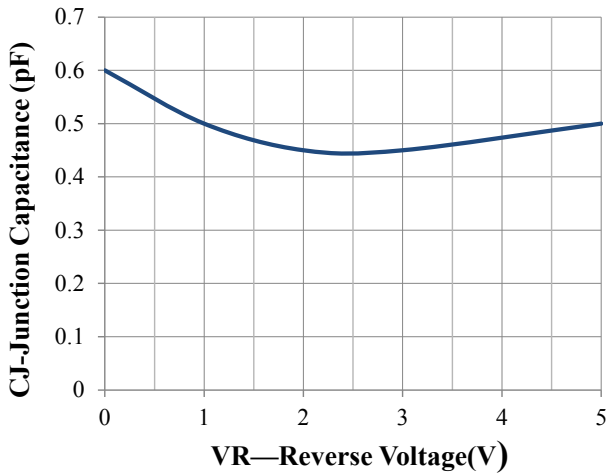
Symbol	Parameter
$I_T$	Test Current
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_C$



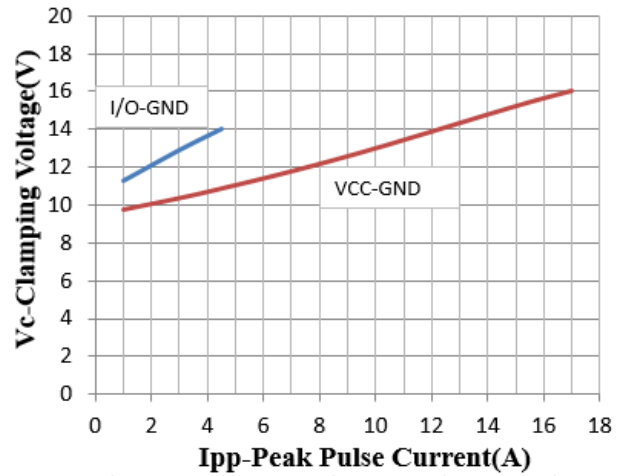
### Electrical Characteristics (TA=25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	$V_{RWM}$	Pin5 to GND, I/O-GND			5.0	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	6.0	7.5	8.5	V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5.0V$			0.5	$\mu A$
Forward Breakdown Voltage	$V_F$	$I_F = 15mA$ , GND to Pin 5/IO		0.8	1.0	V
Clamping Voltage	$V_C$	$I_{PP} = 4.5A$ , $t_p = 8/20\mu s$ , I/O to GND		14.0	15.0	V
		$I_{PP} = 17A$ , $t_p = 8/20\mu s$ , Pin 5 to GND		16.0	18.0	V
Junction Capacitance	$C_j$	$V_{pin5} = 5V$ , $f = 1MHz$ , IO-GND		0.6	0.7	pF
Junction Capacitance	$C_j$	$V_{pin5} = 5V$ , $f = 1MHz$ , IO-IO		0.3	0.4	pF

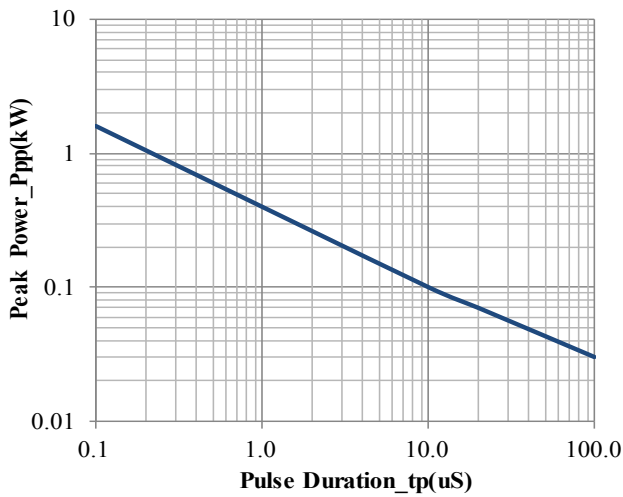
## Typical Characteristics(TA=25°C unless otherwise Specified)



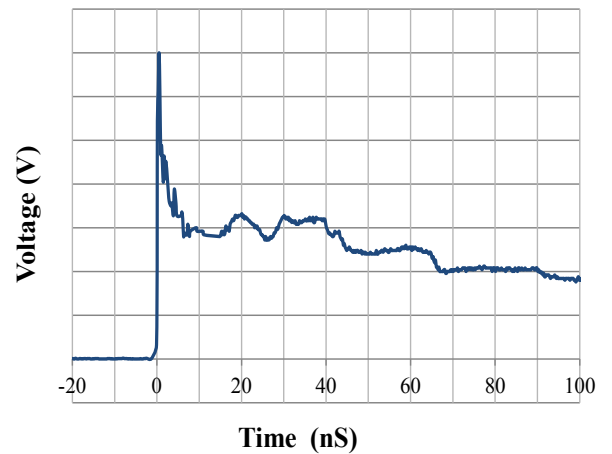
Junction Capacitance vs. Reverse Voltage



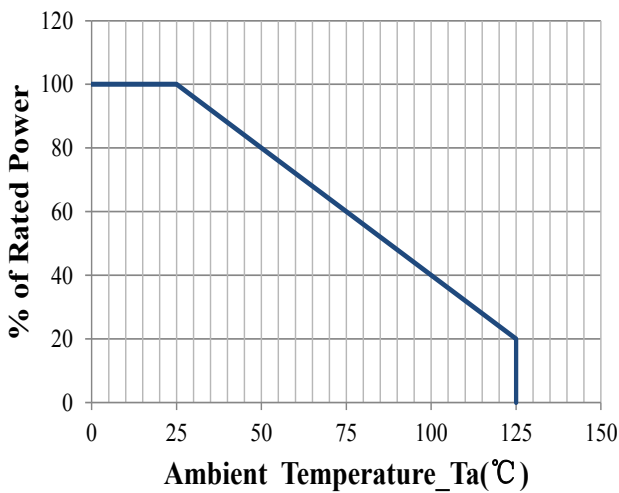
Clamping Voltage vs. Peak Pulse Current



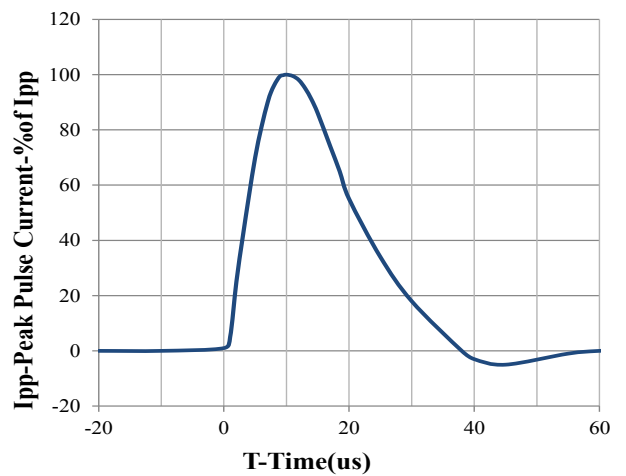
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

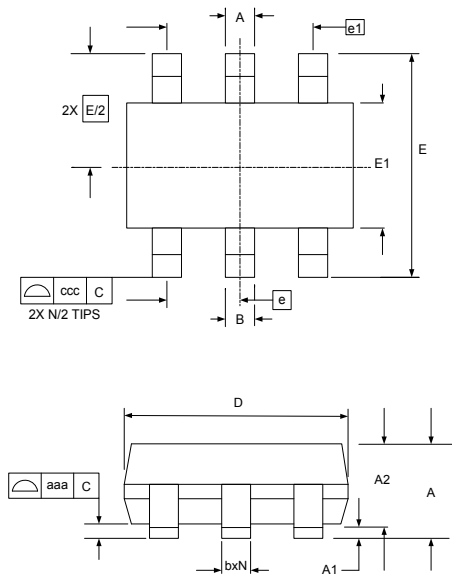


Power Derating Curve



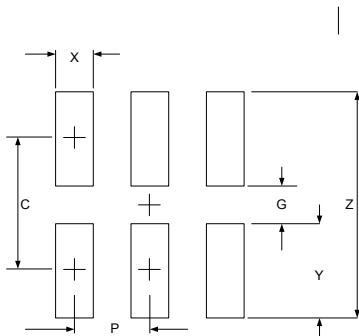
8 X 20us Pulse Waveform

## SOT23-6 Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.90		1.45	0.035		0.057
A1	0.00		0.15	0.000		0.006
A2	0.90	1.15	1.30	0.035	0.045	0.051
b	0.25		0.50	0.010		0.020
c	0.08		0.22	0.003		0.009
D	2.80	2.90	3.10	0.110	0.114	0.122
E1	1.50	1.60	1.75	0.060	0.063	0.069
E	2.80 BSC			0.110 BSC		
e	0.95 BSC			0.037 BSC		
e1	1.90 BSC			0.075 BSC		
N	6			6		
aaa	0.10			0.004		
ccc	0.20			0.008		

## Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	2.50	0.098
G	1.40	0.055
P	0.95	0.037
X	0.60	0.024
Y	1.10	0.043
Z	3.60	0.141

## Order Information

Order code	Package	Packaging	Reel Size
MST236A054UA	SOT23-6	3000/Tape & Reel	7 inch

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[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
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