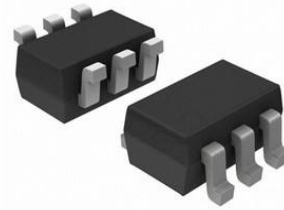


## Features

- Low leakage current
- Operating voltage: 5V
- Low clamping voltage
- RoHS compliant



## IEC Compatibility (EN61000-4)

- IEC 61000-4-2  $\pm 20\text{kV}$  contact  $\pm 25\text{kV}$  air
- IEC 61000-4-5 (Lightning) 5A (8/20 $\mu\text{s}$ )

**SOT-363**

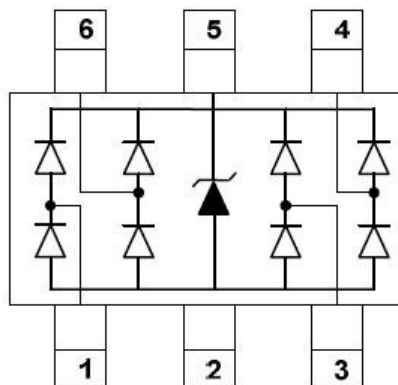
## Applications

- USB 2.0 and USB 3.0 Ports
- USB OTG
- Digital Visual Interface (DVI)
- Monitor and Flat Panel Displays
- PCI Express and Serial SATA Ports
- Gigabit Ethernet
- IEEE 1394 Firewire Ports
- Consumer products (STB, DVD, DSC, DVC...)

## Mechanical Characteristics

- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below

## Schematic & PIN Configuration



Circuit and Pin Schematic

## Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20\mu s$ waveform)	$P_{PP}$	75	W
Peak Pulse Current (8/20 $\mu s$ )	$I_{PP}$	5	A
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 25$	kV
ESD per IEC 61000-4-2 (Contact)		$\pm 20$	
Operating Temperature Range	$T_J$	-55 to +125	$^{\circ}C$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}C$

## Electrical Characteristics

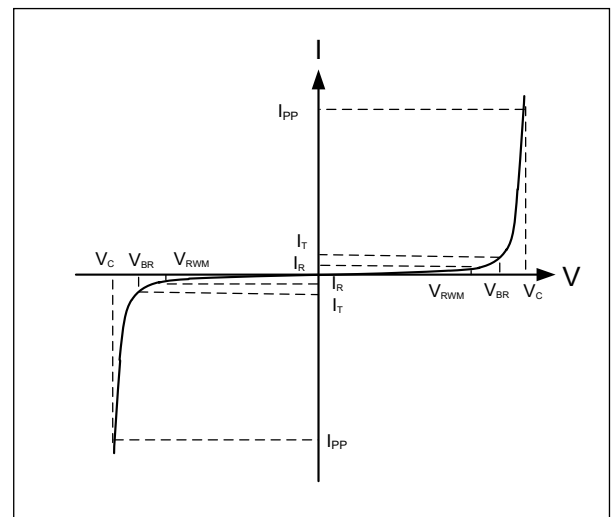
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	$V_{RWM}$	Pin 5 to pin2			5	V
Breakdown Voltage	$V_{BR}$	$I_T = 1mA$ , Pin 5 to pin2	6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5V$ , Pin 5 to pin2			0.5	$\mu A$
Clamping Voltage	$V_C$	$I_{PP} = 1A$ (8 x 20 $\mu s$ pulse), Any I/O pin to Gnd			10	V
Clamping Voltage	$V_C$	$I_{PP} = 5A$ (8 x 20 $\mu s$ pulse), Any I/O pin to Gnd			15	V
Junction Capacitance	$C_J$	$V_R = 0V$ , $f = 1MHz$ , Between I/O pins		0.3	0.4	pF
Junction Capacitance	$C_J$	$V_R = 0V$ , $f = 1MHz$ , Any I/O pin to Gnd			0.8	pF

Note.: I/O pins are Pin 1, 3, 4, and 6

## Electrical Parameters (TA = 25 $^{\circ}C$ unless otherwise noted)

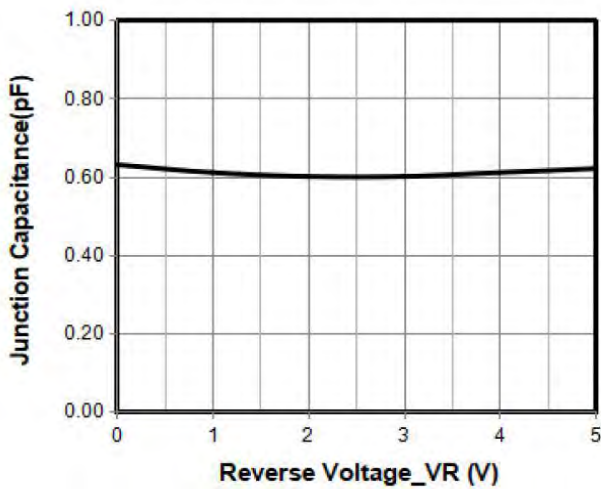
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current

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

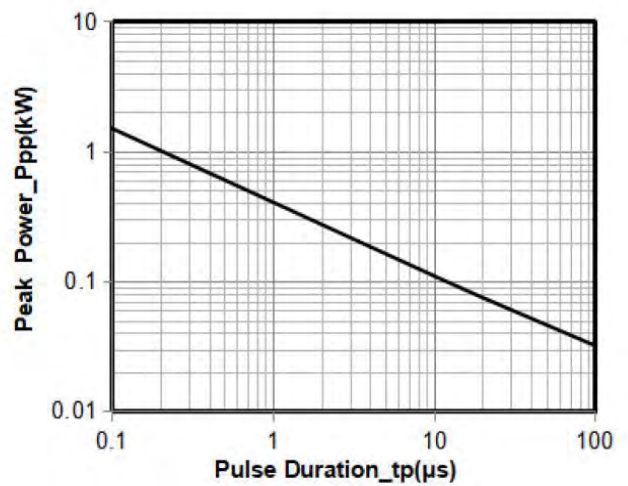


**Typical Performance Characteristics (TA=25°C unless otherwise Specified)**

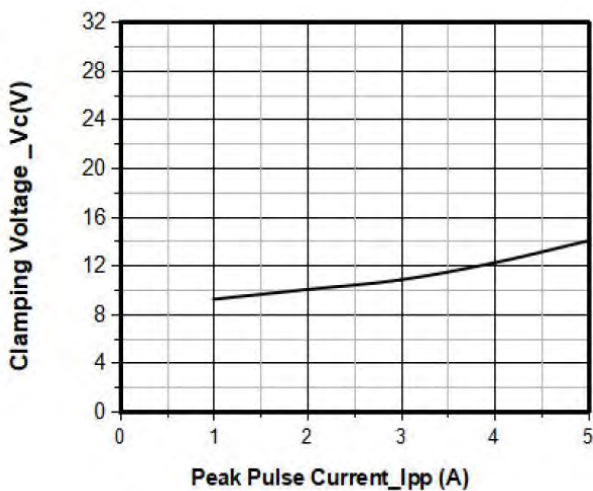
**Junction Capacitance vs. Reverse Voltage**



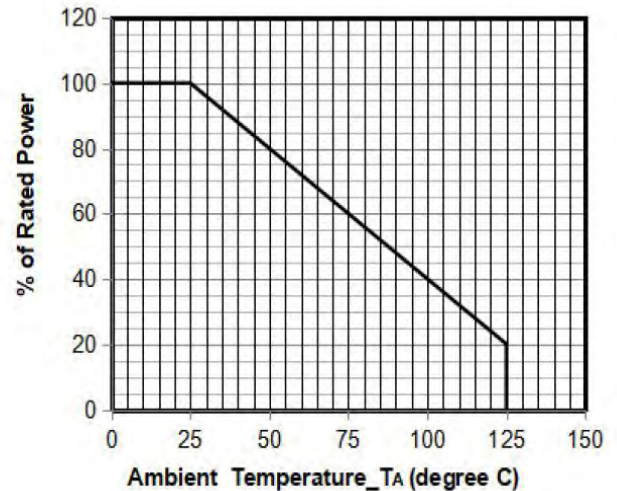
**Peak Pulse Power vs. Pulse Time**



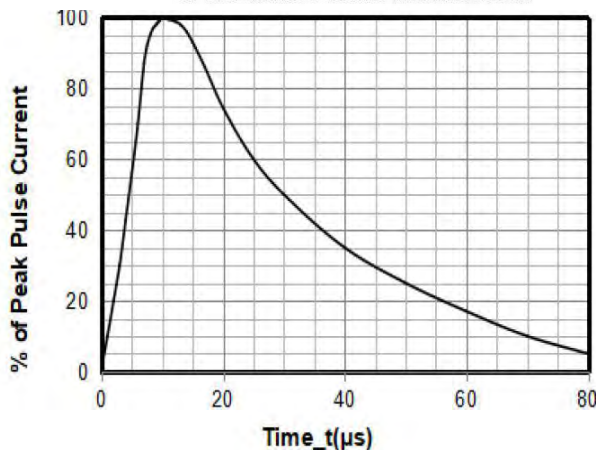
**Clamping Voltage vs. Peak Pulse Current**



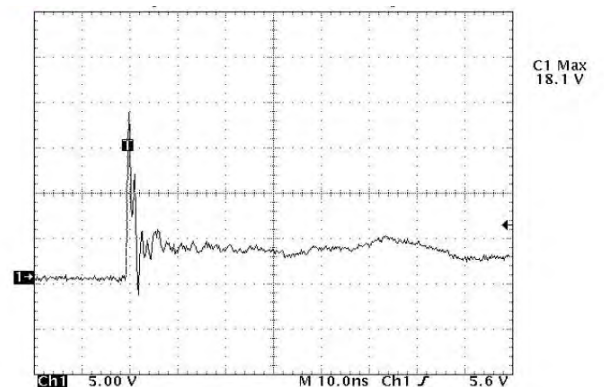
**Power Derating Curve**



**8 X 20uS Pulse Waveform**

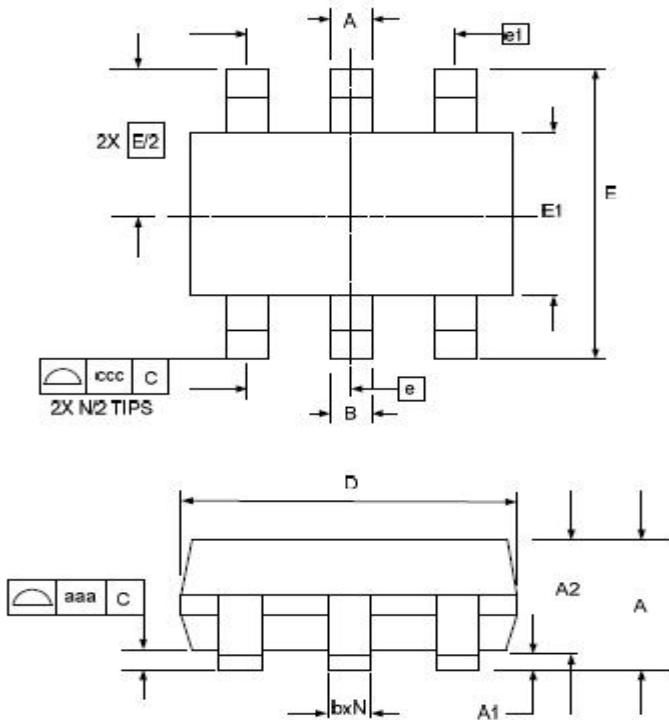


**ESD Clamping Voltage  
8 kV Contact per IEC61000-4-2**



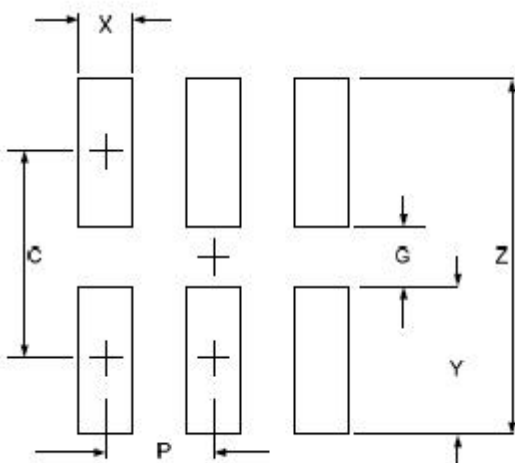
**Note: Data is taken with a 10x attenuator**

### Package Mechanical Data



GMA	8-A9BG-CBG					
	Φ Ô Π ÒÙ			T ŠŠQ ÒVÒÙÙ		
	T Φ	Π UT	T ÇY	T Φ	Π UT	T ÇY
œ	È	È	È H	È	È	FÈ€€
of	ÈÈ€€	È	ÈÈ€	ÈÈ€€	È	ÈÈ€€
og	ÈÈ€Ġ	ÈÈĠ	ÈÈĠ	ÈÈ€€	ÈÈĠ€	FÈÈ€€
à	ÈÈ€Ġ	È	ÈÈFG	ÈÈĠ€	È	ÈÈ€€
&	ÈÈ€€	È	ÈÈ€Ġ	ÈÈ€€	È	ÈÈ€€
ö	ÈÈĠĠ	ÈÈĠĠ	ÈÈĠĠ	FÈÈ€€	GÈÈ€€	GÈÈ€€
òf	ÈÈĠĠ	ÈÈĠĠ	ÈÈĠĠ	FÈÈ€€	FÈÈ€€	FÈÈ€€
ò	ÈÈĠĠ ÒÙÙ			GÈÈ€€ ÒÙÙ		
^	ÈÈĠĠ ÒÙÙ			ÈÈĠĠ ÒÙÙ		
^F	ÈÈĠĠ F ÒÙÙ			FÈÈ€€ ÒÙÙ		
š	ÈÈ€€	ÈÈ€€	ÈÈ€€	ÈÈ€€	ÈÈĠ€	ÈÈĠ€
šF	ÈÈ€€ F D			ÈÈ€€ GED		
þ	Ġ			Ġ		
	€»	ÈÀ	Ġ»	€»	ÈÀ	Ġ»

### Suggested Land Pattern



GMA	8-A9BG-CBG	
	T ŠŠQ ÒVÒÙÙ	Φ Ô Π ÒÙ
ô	FÈĠ€	ÈÈĠĠ
õ	FÈÈ€€	ÈÈĠĠ
ú	ÈÈĠ€	ÈÈĠĠ
ý	ÈÈ€€	ÈÈĠĠ
ÿ	ÈÈĠ€	ÈÈĠĠ
z	GÈ€€	ÈÈĠĠ

### Ordering Information

Order code	Package	Base qty	Delivery mode
PTT366L08S5CA7	SOT-363	3K	Tape and reel