

### 1-Line, Bi-directional, Normal-Capacitance, Transient Voltage Suppressors

### Descriptions

The CDS2C16GTH series are Bi-directional transient voltage suppressors (TVS) to protect sensitive electronic components from electrostatic discharge (ESD). It is particularly well-suited for cellular phones, PMP, MID, PDA, digital cameras and other electronic equipments.

The CDS2C16GTH series are safely dissipating ESD strikes to meet the ESD immunity testing of IEC61000-4-2 level 4.

The CDS2C16GTH series are available in a FBP-02C, SOD-923 and DFN1006 package with Pb-free.



**FBP-02C**



**SOD-923**



**DFN1006**



**Pin configuration (Top view)**



**FBP-02C**



**SOD-923**



**DFN1006**

C = Device code  
 \* = Month code ( 0~9 A~Z )

### Features

- Working voltage : 5V
- Peak power (tp=8/20us) : 85W Max.
- Peak current (tp=8/20us) : 6.5A Max.
- Transient protection IEC61000-4-2 : ±30kV air  
: ±30kV contact
- Low clamping voltage
- Low leakage current
- Small package

### Applications

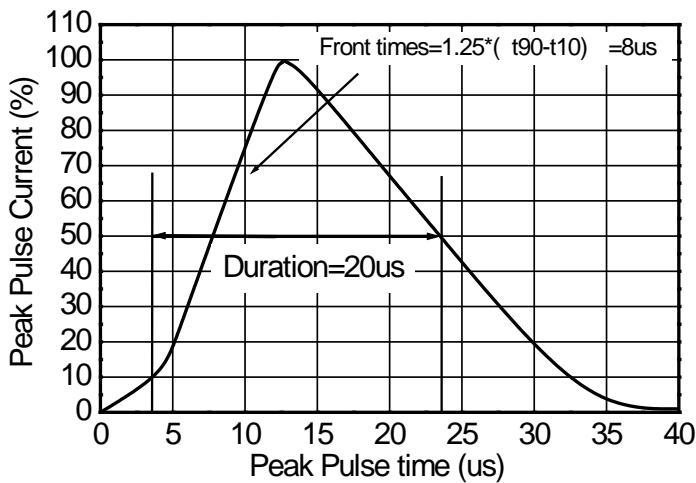
- Cell phone
- PMP
- MID
- PDA
- Digital camera
- Other electronics equipments

### Absolute maximum ratings

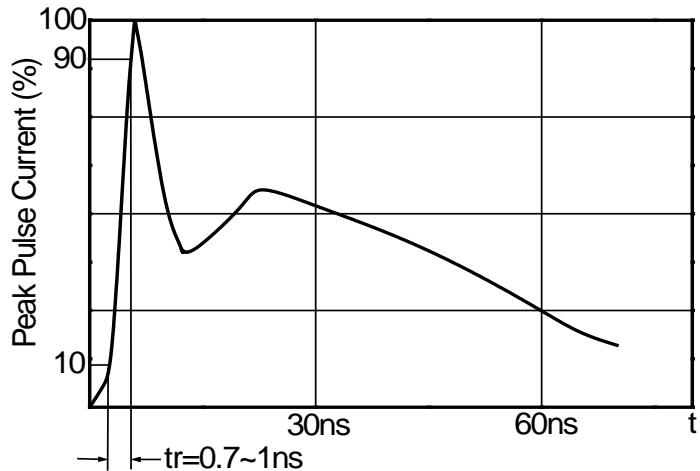
Parameter	Symbol	Rating	Unit
Peak pulse power (tp=8/20us)	Ppk	85	W
Peak pulse current (tp=8/20us)	Ipp	6.5	A
ESD voltage IEC61000-4-2 air	V <sub>ESD</sub>	±30	kV
ESD voltage IEC61000-4-2 contact		±30	
Operation junction temperature	T <sub>J</sub>	125	°C
Lead temperature	T <sub>L</sub>	260	°C
Storage temperature	Tsg	-55~150	°C

### Electronics characteristics (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reveres maximum working voltage	V <sub>RWM</sub>				5.0	V
Reveres leakage current	I <sub>R</sub>	V <sub>RWM</sub> =5V			1.0	uA
Reveres breakdown voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	5.6	7.5	8.2	V
Forward voltage	V <sub>F</sub>	I <sub>F</sub> =1mA	5.6	7.5	8.2	V
Clamping voltage	V <sub>C</sub>	I <sub>pp</sub> =1A tp=8/20us			9	V
		I <sub>pp</sub> =6.5A tp=8/20us			13	V
Junction capacitance	C	F=1MHz, V <sub>R</sub> =0V		20	35	pF

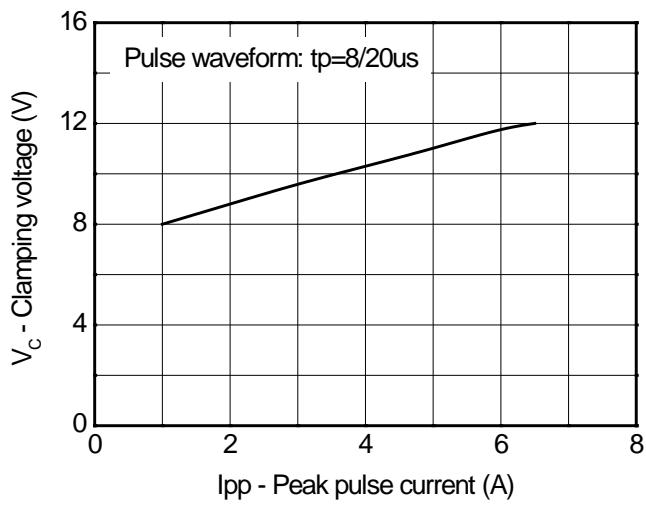


8/20us waveform

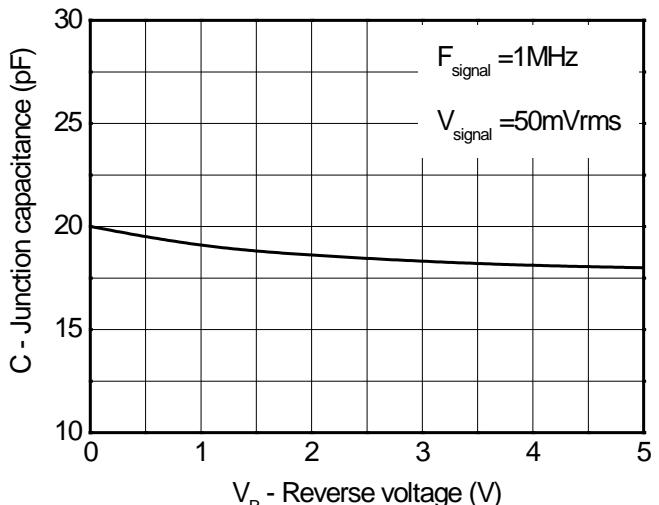


IEC61000-4-2 waveform

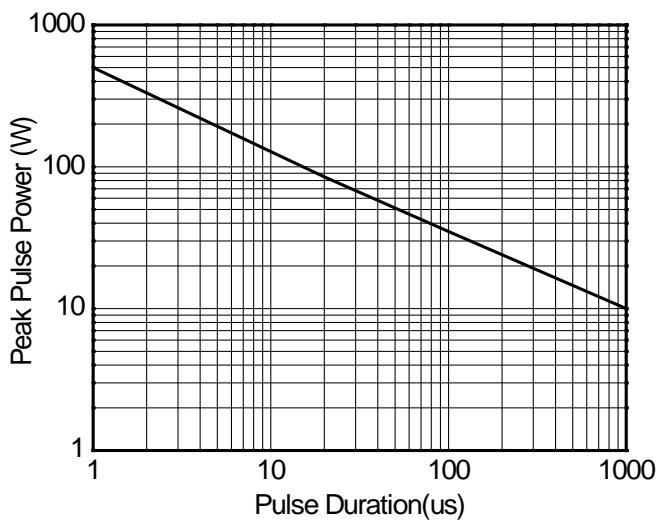
**Typical characteristics ( $T_a=25^\circ\text{C}$ , unless otherwise noted)**



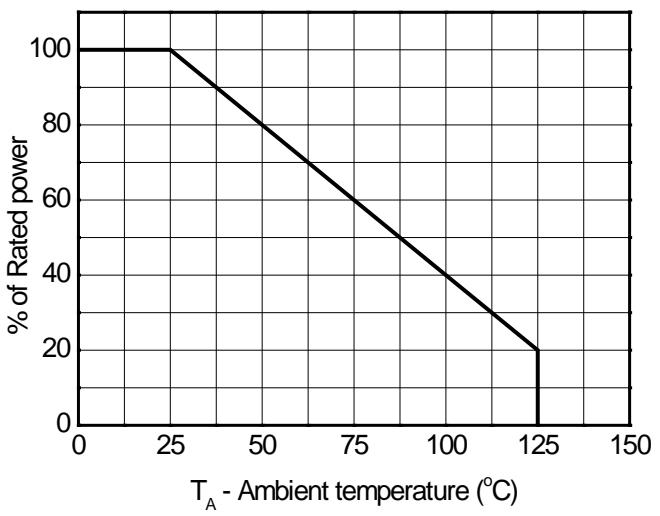
Clamping voltage vs. Peak pulse current



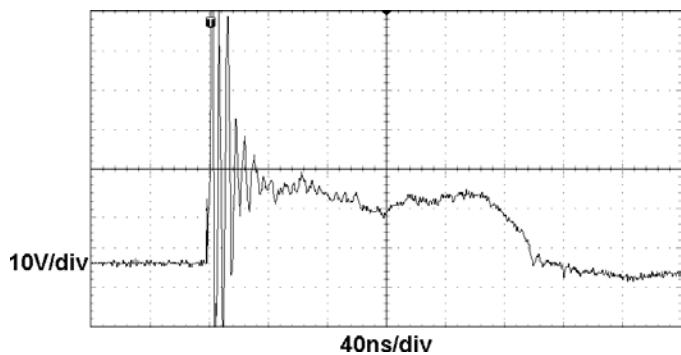
Capacitance vs. Reveres voltage



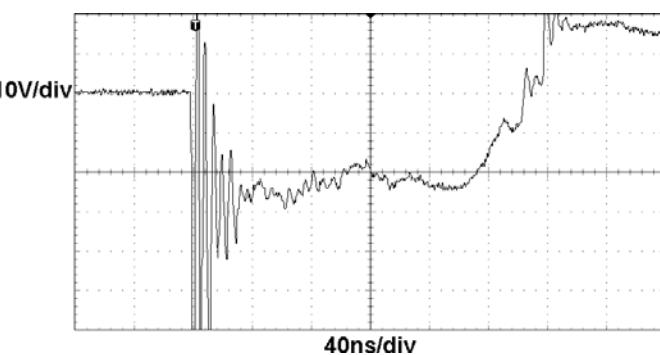
Non-Repetitive Peak Pulse Power vs. Pulse time



Power derating vs. Temperature



ESD clamping voltage  
(IEC61000-4-2 +8kV contact)



ESD clamping voltage  
(IEC61000-4-2 -8kV contact)