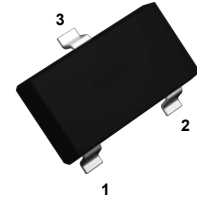


# GSEC5U004

## Ultra Low Capacitance ESD TVS Array

### Features

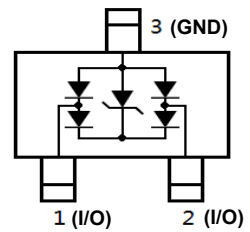
- 35Watts peak pulse power ( $t_p=8/20\mu s$ )
- Low clamping voltage
- Low leakage current
- Ultra low capacitance
- ESD Protection for high-speed data lines to:
  - IEC 61000-4-2  $\pm 16KV$  contact  $\pm 20KV$  air
  - IEC 61000-4-4 (EFT) 40A (5/50ns)
  - IEC 61000-4-5 (Lightning) 3.5A (8/20 $\mu s$ )



SOT-23

### Applications

- USB 3.0, USB 2.0, MHL
- HDMI 2.0, display port 1.3, eSATA
- Unified display interface (UDI)
- Digital visual interface (DVI)
- High speed serial interfaces



Schematic Diagram

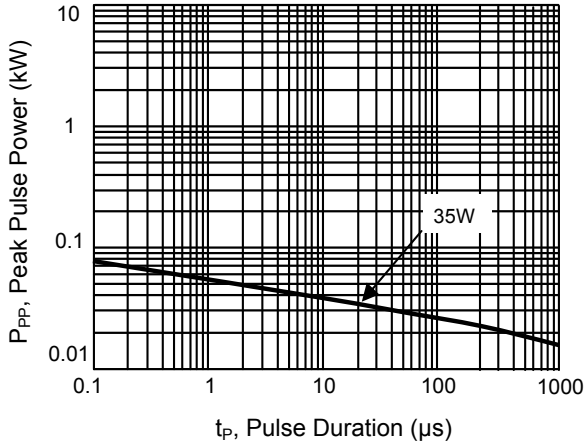
### Absolute Maximum Ratings ( $T_A=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p=8/20\mu S$ )	$P_{PP}$	35	W
Peak Pulse Current ( $t_p=8/20\mu S$ )	$I_{PP}$	3.5	A
Junction Temperature	$T_J$	-55 to +125	$^\circ C$
Storage Temperature	$T_{STG}$	-55 to +150	$^\circ C$

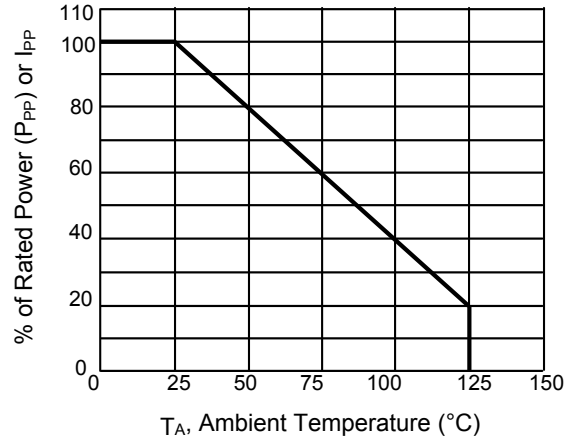
### Electrical Characteristics ( $T_A=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}$	-	-	-	5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1mA$	6	6.8	-	V
Reverse Leakage Current	$I_R$	$V_R=5V$	-	0.5	1	$\mu A$
Clamping Voltage	$V_C$	$I_{PP}=3.5A, T_P=8/20\mu S, I/O$ to GND	-	10	-	V
Junction Capacitance	$C_J$	$V_R=0V, F=1MHz, I/O$ to I/O	-	0.4	-	pF
	$C_J$	$V_R=0V, F=1MHz, I/O$ to GND	-	0.8	-	pF

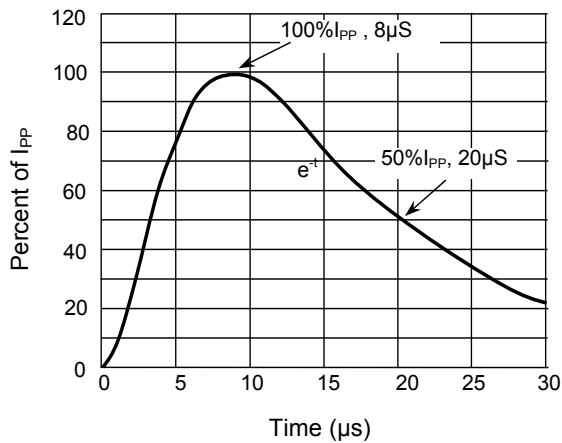
**Typical Characteristic Curves**



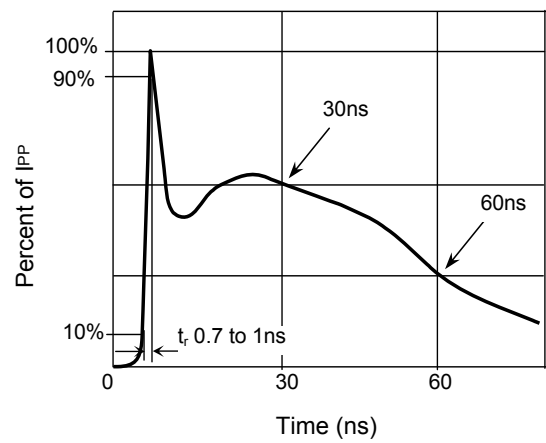
**Figure 1. Peak Pulse Power Rating Curve**



**Figure 2. Pulse Derating Curve**



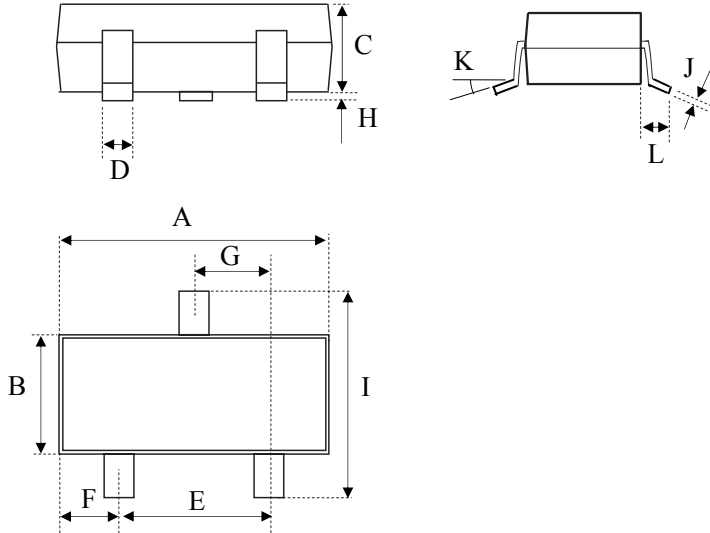
**Figure 3. Pulse Waveform-8/20μs**



**Figure 4. Pulse Waveform-ESD (IEC61000-4-2)**

**Ultra Low Capacitance ESD TVS Array**

**Package Outline Dimensions (SOT-23)**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.800	3.000	0.110	0.118
B	1.200	1.400	0.047	0.055
C	0.890	1.110	0.035	0.044
D	0.300	0.500	0.012	0.020
E	1.780	2.040	0.070	0.080
F	0.450	0.600	0.018	0.024
G	0.890	1.020	0.035	0.040
H	0.013	0.100	0.001	0.004
I	2.250	2.550	0.089	0.100
J	0.085	0.177	0.003	0.007
K	0°	10°	0°	10°
L	0.450	0.600	0.018	0.024

**Order Information**

Device	Package	Marking	Carrier	Quantity
GSEC5U004	SOT-23	5ML	Tape & Reel	3,000pcs / Reel