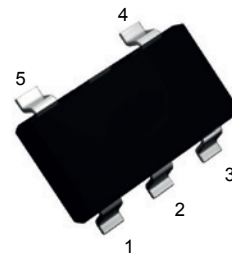
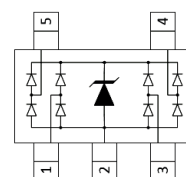


Features

- Ultra low leakage: nA level
- Ultra low operating voltage: 3.3V
- Low clamping voltage
- Up to 4 data lines and one power line protects
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 22A (8/20 μs)



SOT-23-5



Schematic Diagram

Applications

- 10/100/1000 ethernet
- Central office equipment
- LVDS interfaces
- MagJacks/integrated magnetics
- Notebook/desktops/service

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{pk}	300	W
Peak Pulse Current (8/20 μs)	I_{PP}	22	A
ESD Per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD Per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}	Any I/O pin to ground	-	-	3.3	V
Breakdown Voltage	V_{PT}	$I_T=2\mu\text{A}$, any I/O pin to ground	3.5	-	-	V
Snap-Back Voltage	V_{SB}	$I_T=50\text{mA}$, any I/O pin to ground	2.8	-	-	V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}$, any I/O pin to ground	-	-	0.5	μA
Clamping Voltage	V_C	$I_{PP}=22\text{A}$ (8 x 20 μs pulse), any I/O pin to ground	-	-	13.6	V
Clamping Voltage ¹	V_C	$I_{PP}=1\text{A}$, $t_p=0.2/100\text{ns}$ (TLP) any I/O pin to ground	-	5.5	-	V
		$I_{PP}=4\text{A}$, $t_p=0.2/100\text{ns}$ (TLP) any I/O pin to ground	-	6.5	-	V
		$I_{PP}=16\text{A}$, $t_p=0.2/100\text{ns}$ (TLP) any I/O pin to ground	-	9.7	-	V
Dynamic Resistance ²	R_{DYN}	$t_p=0.2/100\text{ns}$ (TLP)	-	0.26	-	Ω
Junction Capacitance	C_J	$V_R=0\text{V}$, $f=1\text{MHz}$, between I/O pins	-	1.5	-	pF
		$V_R=0\text{V}$, $f=1\text{MHz}$, any I/O pin to ground	-	3	5	pF

Notes:

1. Transmission line pulse test (TLP) settings: $t_p=100\text{ns}$, $t_r=0.2\text{ns}$.
2. Dynamic resistance calculated from $ITLP=4\text{A}$ to $ITLP=16\text{A}$.

GSER3U015

Low Capacitance ESD TVS Array

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

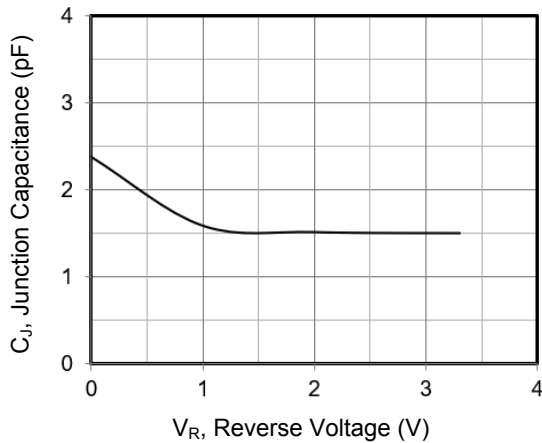


Figure 1. Junction Capacitance vs. Reverse Voltage

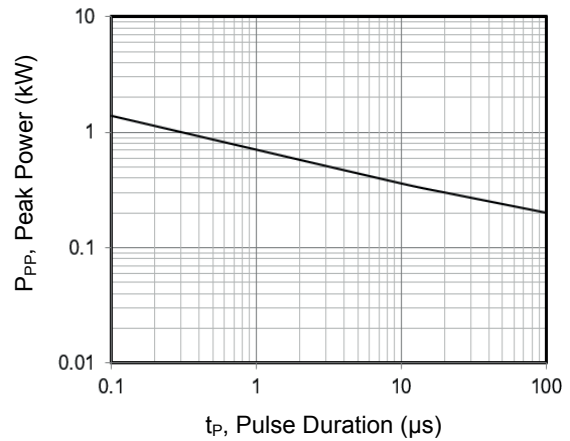


Figure 2. Peak Pulse Power vs. Pulse Time

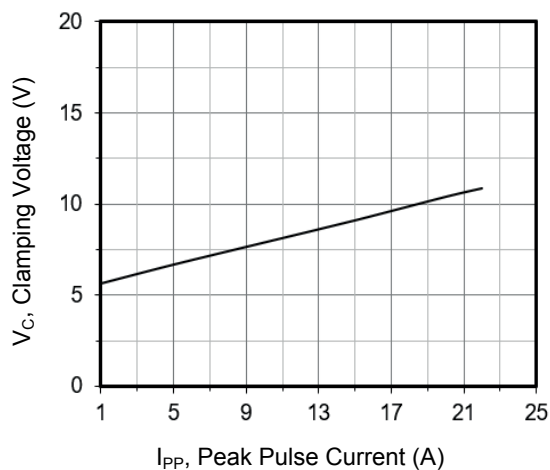


Figure 3. Clamping Voltage vs. Peak Pulse Current ($t_p=8/20\mu\text{s}$)

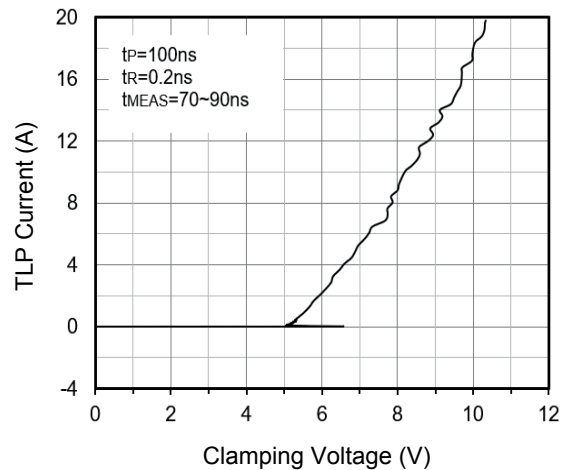


Figure 4. TLP Measurement

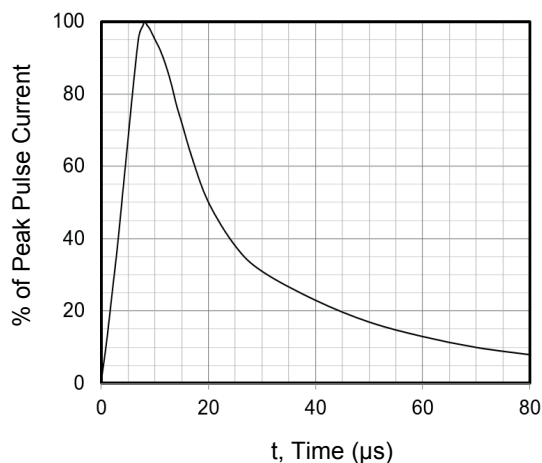


Figure 5. 8 X 20 μs Pulse Waveform

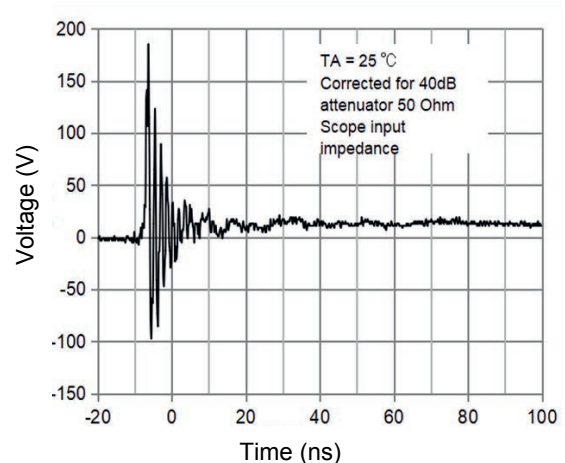
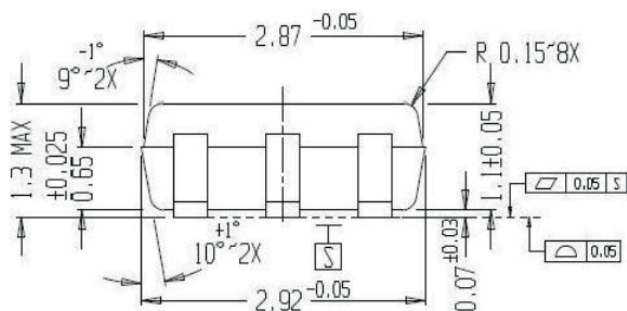
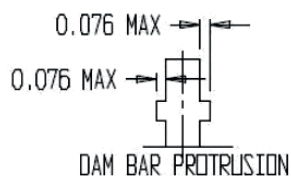
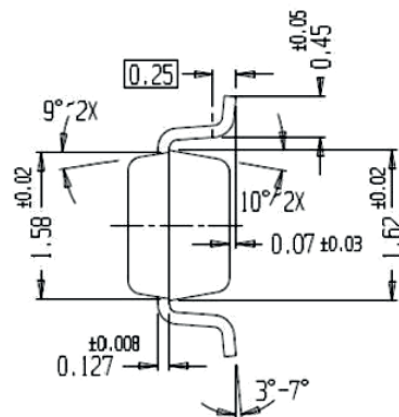
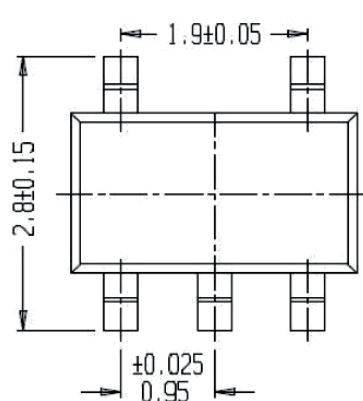


Figure 6. ESD Clamping Voltage
8kV Contact per IEC61000-4-2

Package Outline Dimensions (SOT-23-5)



unit: mm

Order Information

Device	Package	Marking	Carrier	Quantity
GSR3U015	SOT-23-5	54S2	Tape & Reel	3,000 pcs / Reel