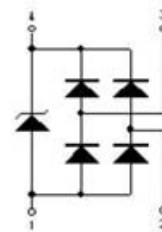


### Features

- Uni-directional ESD protection of two lines
- Low capacitance: 0.8pF(Max)
- Low reverse stand-off voltage: 5V
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 4 ESD protection



**SOT-143**



**Schematic Diagram**

### Applications

- USB2.0 power & data line protection
- WLAN/LAN equipment
- Mobile phone
- Video line protection
- Microcontroller input Protection
- ISDN S/T Interface

### Absolute Maximum Ratings (T<sub>A</sub>=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage(I/O to GND & V <sub>CC</sub> to GND)	V <sub>ESD</sub> <sup>(1)</sup>	Air Model	±25
		Contact Model	±25
		Per Human Body Model	±16
		Machine Model	±0.4
Peak Pulse Power	P <sub>PP</sub> <sup>(2)</sup>	90	W
Peak Pulse Current	I <sub>PP</sub> <sup>(2)</sup>	3.5	A
Lead Solder Temperature – Maximum (10 Second Duration)	T <sub>L</sub>	260	°C
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

Note:

(1) Device stressed with ten non-repetitive ESD pulses.

(2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.

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

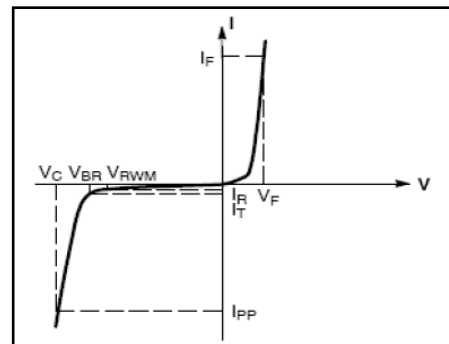
Parameter	Symbol	Test Conditions	Min	Max	Unit
Per channel(I/O to GND unless otherwise specified)					
Reverse stand off voltage	$V_{RWM}^{(1)}$			5	V
Breakdown voltage	$V_{(BR)}$	$I_T=1\text{mA}$	6	10	V
		$I_T=1\text{mA}$ $V_{CC}$ to GND	5	12	V
Reverse leakage current	$I_R$	$V_{RWM}=5\text{V}$ (I/O to GND & $V_{CC}$ to GND)		1	$\mu\text{A}$
Forward voltage	$V_F$	$I_F=10\text{mA}$ (I/O to GND & $V_{CC}$ to GND)	0.4	1.5	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=1\text{A}$ (I/O to GND & $V_{CC}$ to GND)		13	V
		$I_{PP}=3.5\text{A}$ (I/O to GND & $V_{CC}$ to GND)		25	V
Junction capacitance	$C_J$	$V_R=0\text{V}, f=1\text{MHz}$		0.8	pF
		$V_R=0\text{V}, f=1\text{MHz}, I/O$ to I/O		0.4	pF

(1).Other voltages available upon request.

(2).Non-repetitive current pulse 8/20 $\mu\text{s}$  exponential decay waveform according to IEC61000-4-5

**Electrical Parameter**

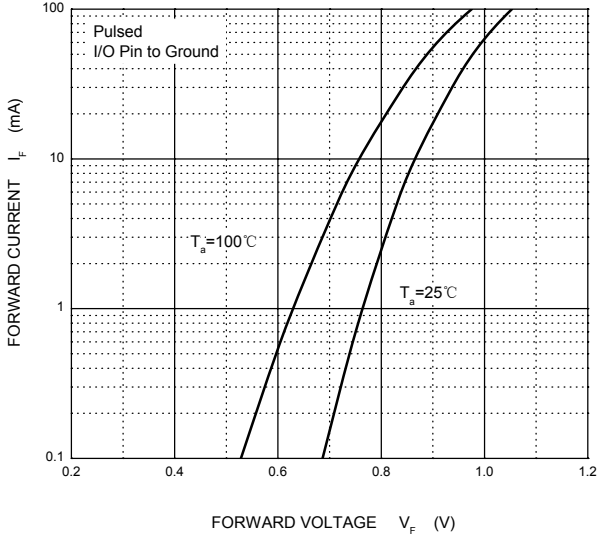
Symbol	Parameter
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Peak Pulse Current
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current
$I_R$	Reverse Leakage Current @ $V_{RWM}$
$V_{RWM}$	Reverse Standoff Voltage
$V_F$	Forward Voltage@ $I_F$
$I_F$	Forward Current



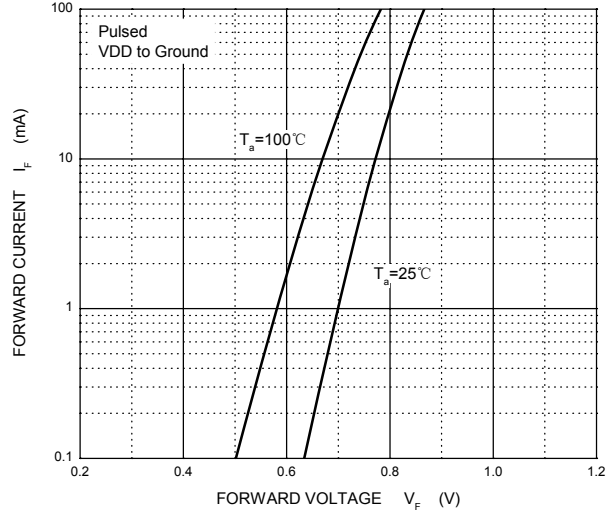
**V-I characteristics for a uni-directional TVS**

**Typical Characteristics**

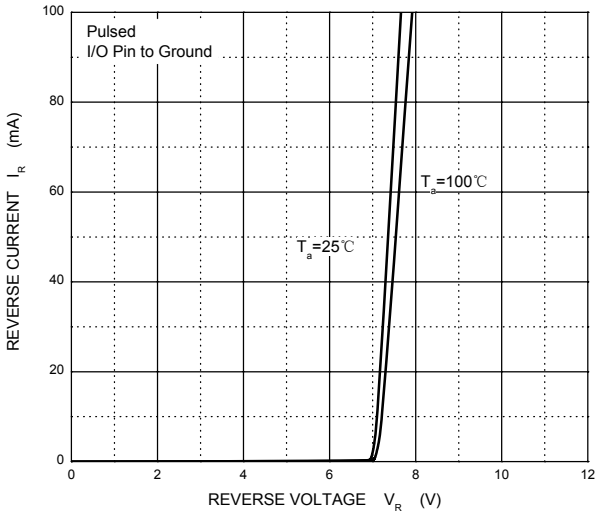
**Forward Characteristics**



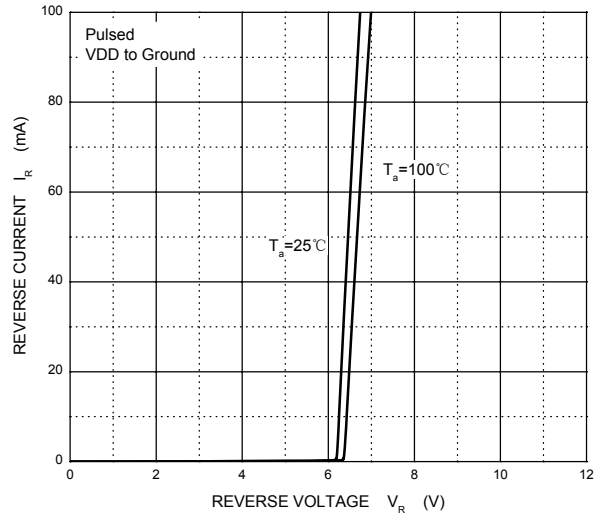
**Forward Characteristics**



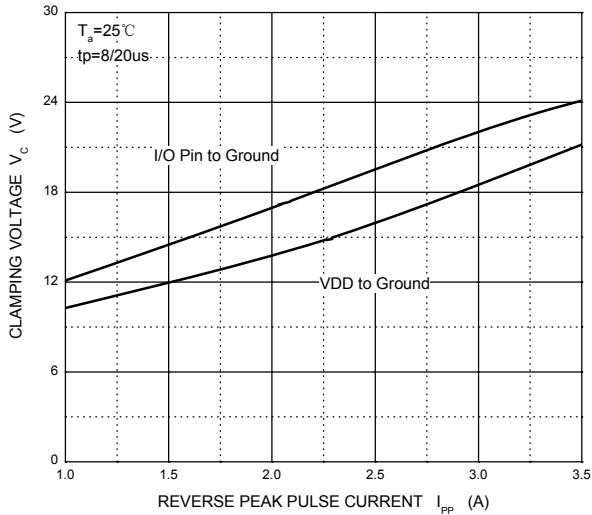
**Reverse Characteristics**



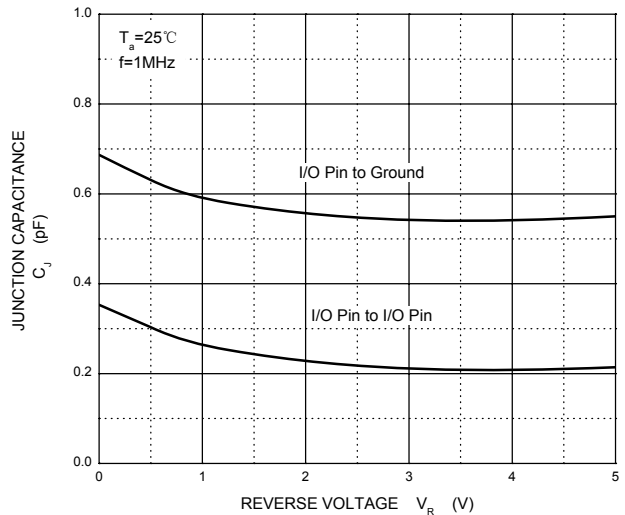
**Reverse Characteristics**



$V_C$  —  $I_{PP}$



**Capacitance Characteristics**

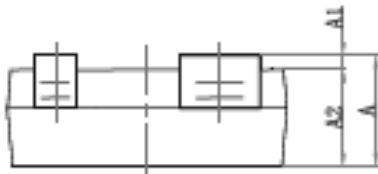
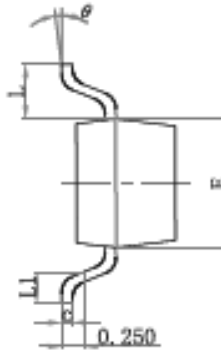
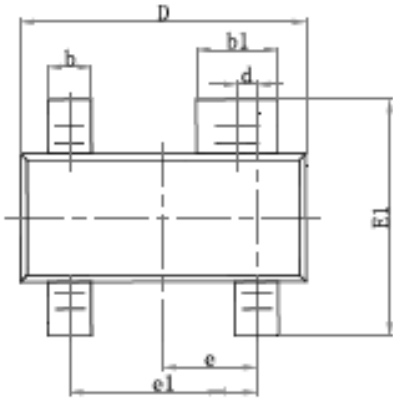


# GSESLC5VT143-4U

## Ultra-low Capacitance ESD Protection Diode

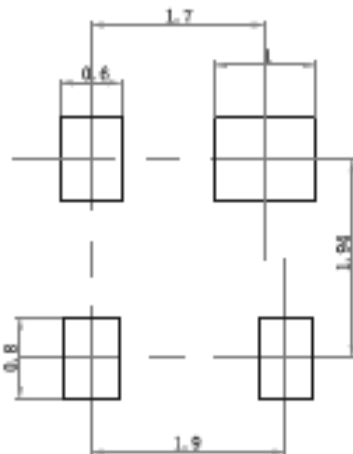
### Product Dimensions

### SOT-143



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
b1	0.750	0.900	0.030	0.035
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
d	0.200 TYP.		0.008 TYP.	
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

### Suggested Pad Layout



Note:  
 1. Controlling dimension: in millimeters.  
 2. General tolerance: ± 0.05mm.  
 3. The pad layout is for reference purposes only.

### Marking

