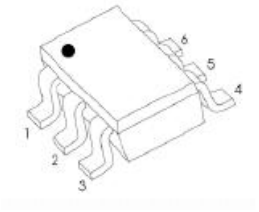
GESDK5V0DW1

TVS Diode Array For ESD and Latch-Up Protection

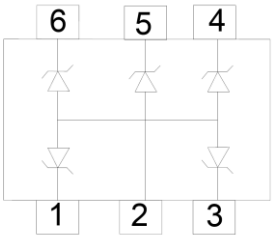
Product Summary

The TVS arrays are designed to protect sensitive electronics from damage or latch-up due to ESD and other voltage-induced transient events. They are designed for use in applications where board space is at a premium. Each device will protect up to five lines. They are unidirectional devices and may be used on lines where the signal polarities are above ground.

SOT-363



Schematic diagram



Feature

- Low reverse stand−off voltage: 5.0V
- Low reverse clamping voltage
- Low leakage current
- Fast response time
- Protects five I/O lines
- Device meets MSL 1 Requirements

Application

- Cellular Handsets and Accessories
- Cordless Phones
- Personal Digital Assistants (PDA's)
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- MP3 Players

Marking: F05/WF/6JC

Absolute Maximum Ratings (T_a=25℃ unless otherwise noted)

Parameter		Symbol	Value	Unit
IEC 61000-4-2 ESD Voltage	Air Model	V_{ESD}[1)]	±15	kV
IEC 61000-4-2 ESD Voltage	Contact Model		±8	
JESD22-A114-B ESD Voltage	Per Human Body Model		±8	
ESD Voltage	Machine Model		±0.4	
Peak Pulse Power		P_{PP}[2)]	33	W
Peak Pulse Current		I_{PP}[2)]	2.5	A
Lead Solder Temperature − Maximum (10 Second Duration)		T_L	260	℃
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	-55~ +150	℃

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

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

ESD standards compliance

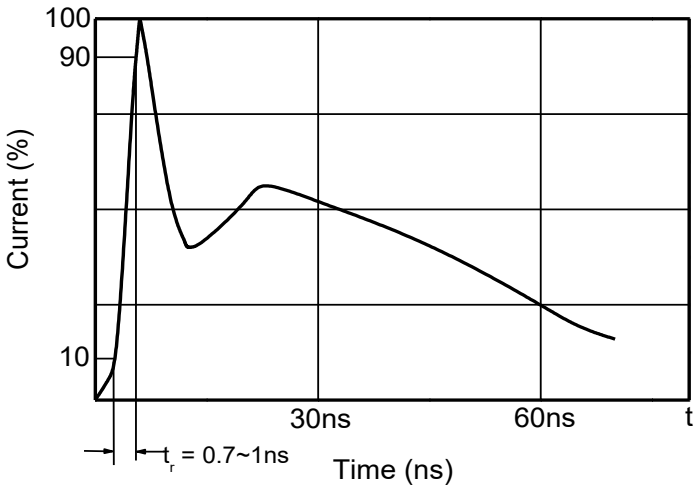
IEC61000-4-2 Standard

Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

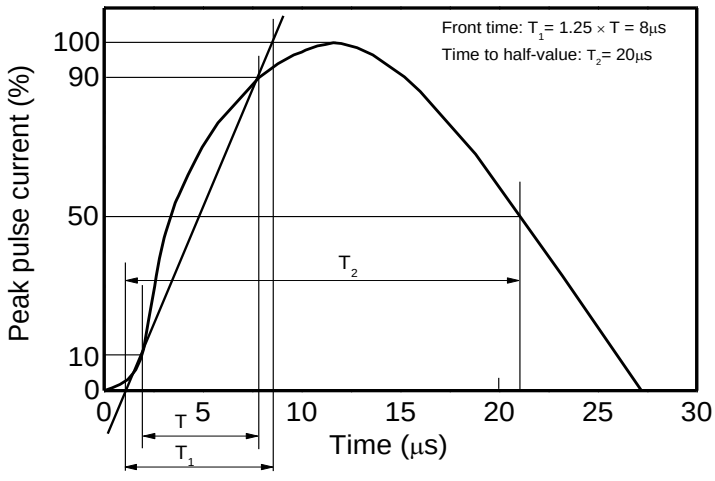
JESD22-A114-B Standard

ESD Class	Human Body Discharge V
0	0~249
1A	250~499
1B	500~999
1C	1000~1999
2	2000~3999
3A	4000~7999
3B	8000~15999

Contact discharge current waveform per IEC61000-4-2

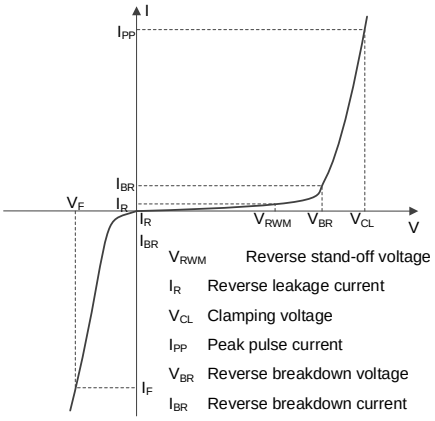


8/20μs waveform per IEC61000-4-5



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-I characteristics for a Uni-directional TVS

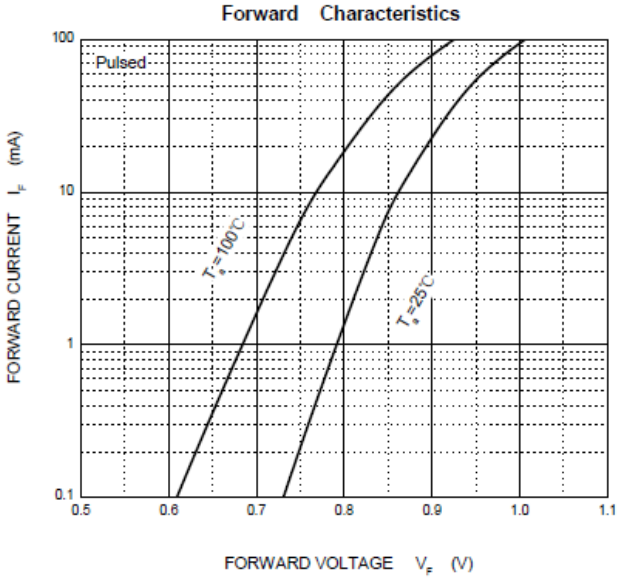
Electrical Characteristics (T_a=25℃ unless otherwise specified)

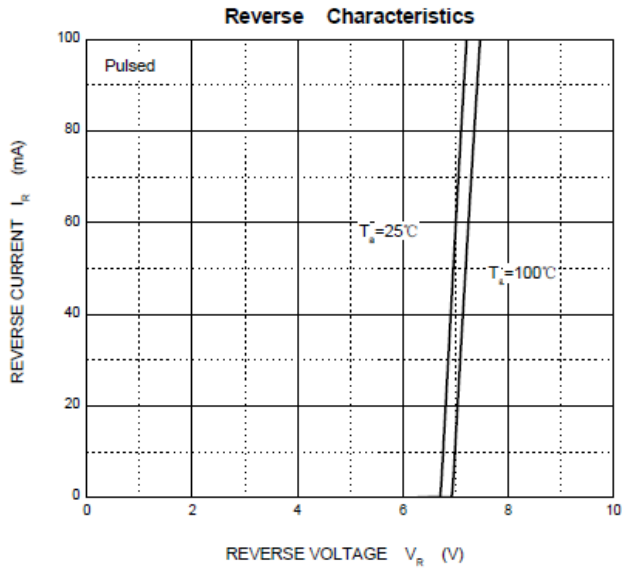
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse standoff voltage	V_{RWM} 1)				5	V
Reverse leakage current	I_R	V_{RWM}=5V			100	uA
Breakdown voltage	V_{BR}	I_T=1mA	6			V
Forward Voltage	V_F	I_F=15mA		0.85	1.2	V
Clamping voltage	V_C 2)	I_{PP}=1A			10	V
		I_{PP}=2.5A			13	V
Channel Input Capacitance	C_{IN}	V_{IN}=0V,f=1MHz		15	20	pF

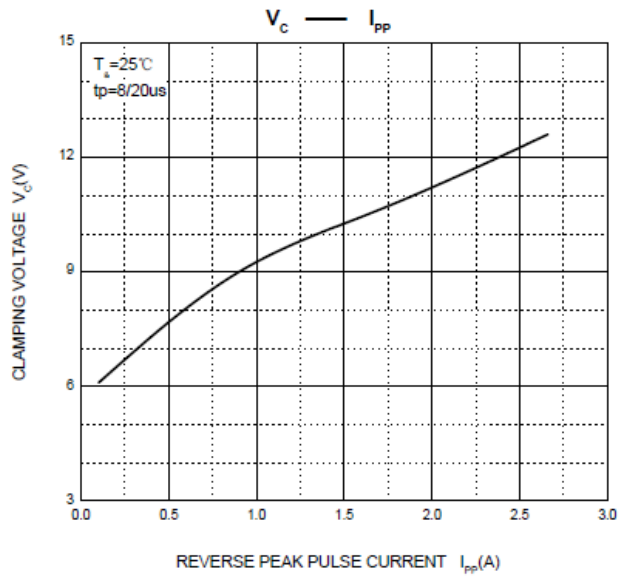
1) Other voltages available upon request.

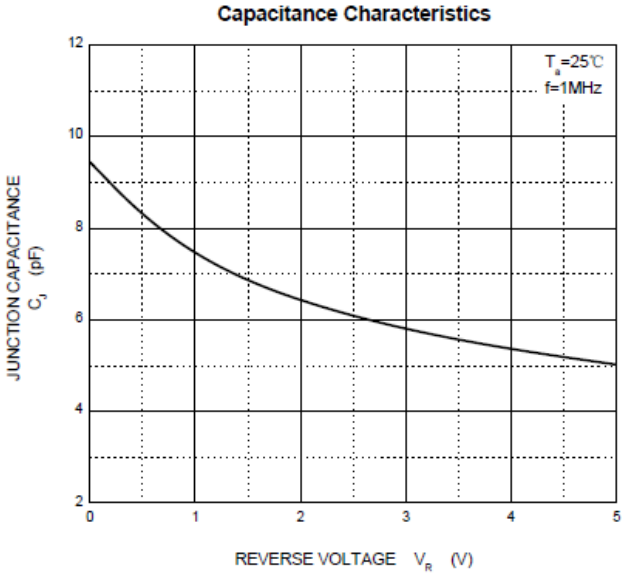
2) Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5

Typical Characteristics

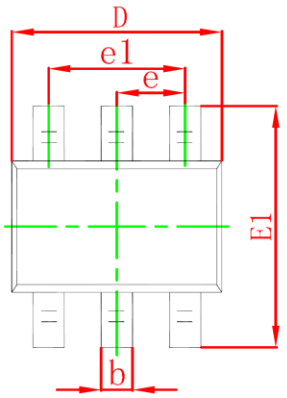


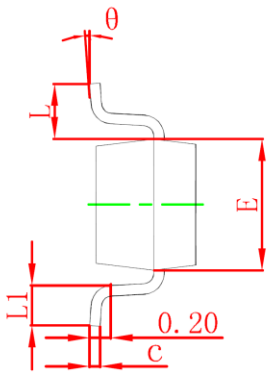


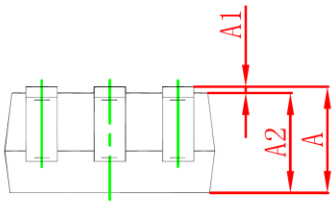




SOT-363 Package Outline Dimensions

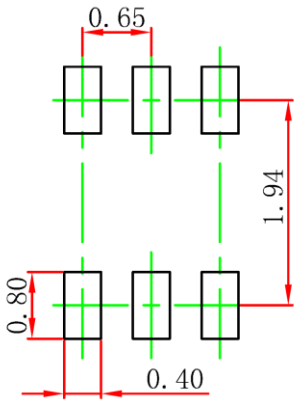






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-363 Package Outline Dimensions



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