

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## DESCRIPTION

Designed to protect voltage sensitive electronic components from ESD and other transients. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD. The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port™, and MDDI interfaces. It is designed to replace multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

## APPLICATIONS

- Audio and video equipment
- Portable devices
- Computers and peripherals
- Cellular handsets and accessories

## FEATURES

- Uni-directional ESD protection of four lines
- Low leakage current
- Low reverse clamping voltage
- Fast response time

## MARKING

5H

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-553	3K	7 inch

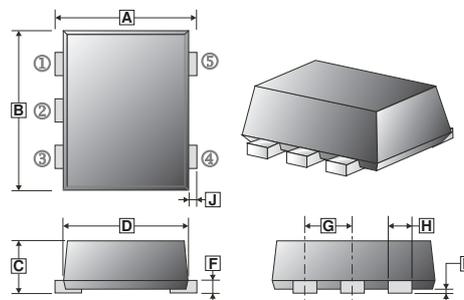
## ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified)

Rating		Symbol	Value	Unit	
IEC 61000-4-2 ESD Voltage <sup>1</sup>	Air model	V <sub>ESD</sub>	±10	kV	
	Contact model		±10		
	JESD22-A114-B ESD Voltage <sup>1</sup>		Per human body model		±15
	ESD Voltage <sup>1</sup>		Machine model		±0.4
Peak Pulsed Power <sup>2</sup>		P <sub>PK</sub>	28	W	
Peak Pulsed Current <sup>2</sup>		I <sub>PP</sub>	2.5	A	
Maximum Lead temperature@ 10-second duration		T <sub>L</sub>	260	°C	
Junction and Storage Temperature Range		T <sub>J</sub> , T <sub>STG</sub>	150, -55 ~ 150	°C	

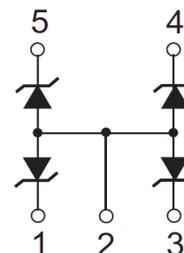
Notes:

1. The device is stressed with 10 non-repetitive ESD pulses at per channel (I/O to GND).
2. According to IEC61000-4-5, the waveform of 8/20µs non-repetitive current pulse decays by exponents.

## SOT-553



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.50	1.70	F	0.09	0.16
B	1.50	1.70	G	0.45	0.55
C	0.525	0.60	H	0.17	0.27
D	1.10	1.30	J	0.10	0.30
E	-	0.05			



**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse Working Voltage	$V_{RWM}$		-	-	5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=5\text{V}$	-	-	1	$\mu\text{A}$
Reverse Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	6	-	7.2	V
Forward Voltage	$V_F$	$I_F=10\text{mA}$	-	-	0.9	V
Clamping Voltage <sup>1</sup>	$V_C$	$I_{PP}=2.5\text{A}$	-	-	11	V
Junction Capacitance	$C_J$	$V_R=0, f=1\text{MHz}$	-	10	-	pF

Notes:

- According to IEC61000-4-5, the waveform of 8/20 $\mu\text{s}$  non-repetitive current pulse decays by exponents.

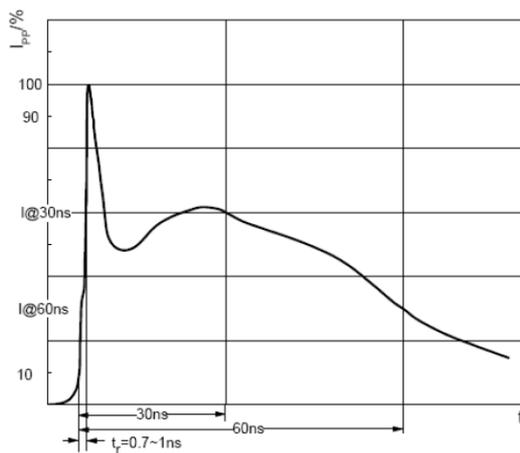
**ESD STANDARDS COMPLIANCE**

**IEC61000-4-2 Standard**

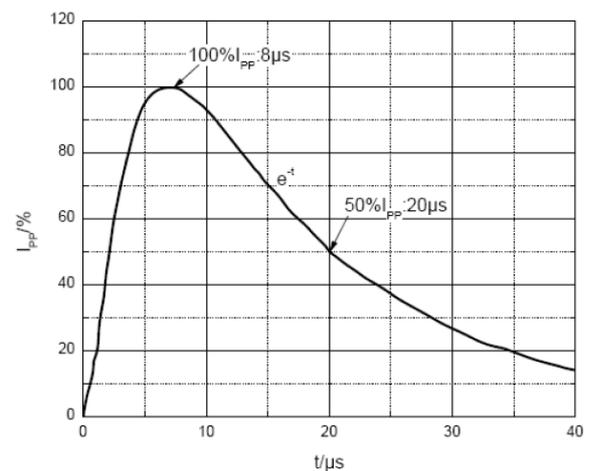
Contact Discharge		Air Discharge	
Level	Test Voltage kV	Level	Test Voltage kV
1	2	1	2
2	4	2	4
3	6	3	8
4	8	4	15

**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



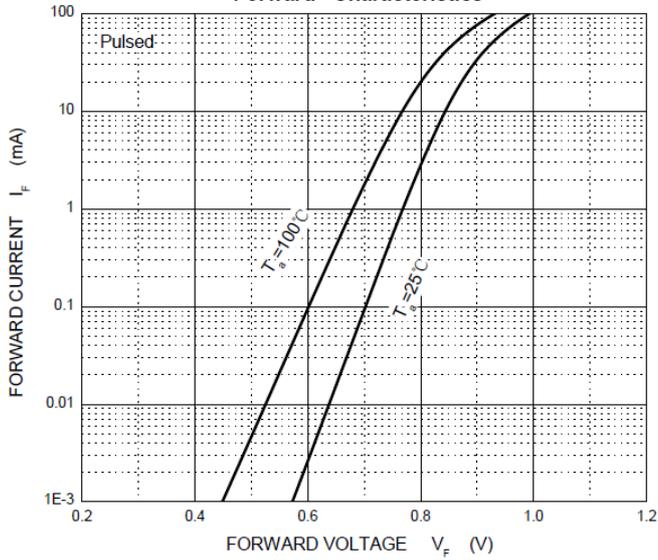
ESD pulse waveform according to IEC61000-4-2



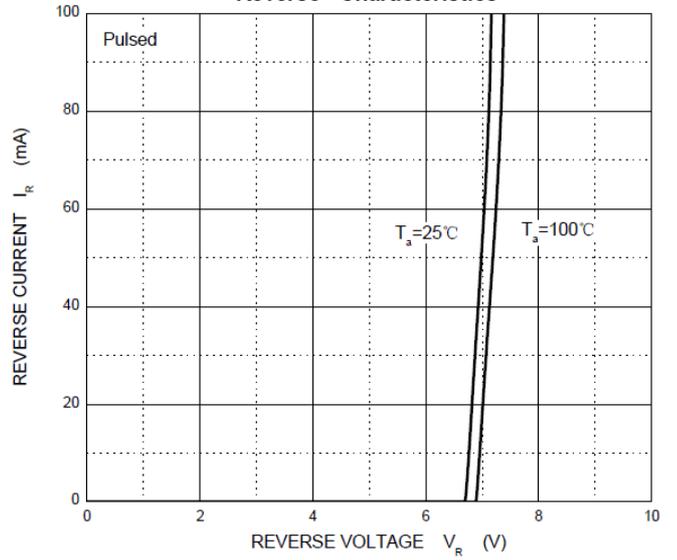
8/20 $\mu\text{s}$  pulse waveform according to IEC 61000-4-5

**CHARACTERISTICS CURVES**

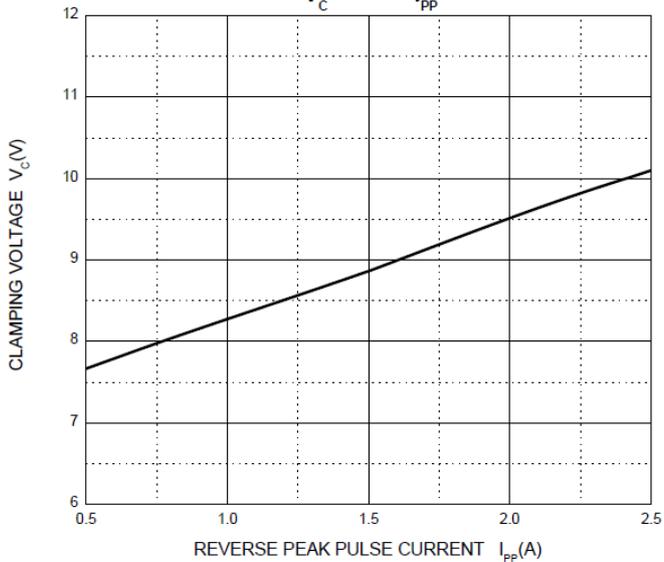
**Forward Characteristics**



**Reverse Characteristics**



**$V_C$  —  $I_{pp}$**



**Capacitance Characteristics**

