

ESDLC3V0J4

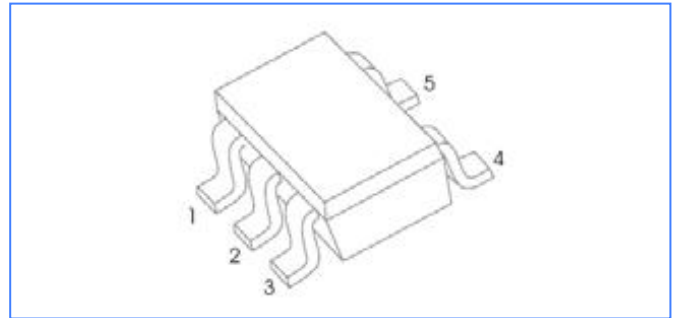
Description

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.

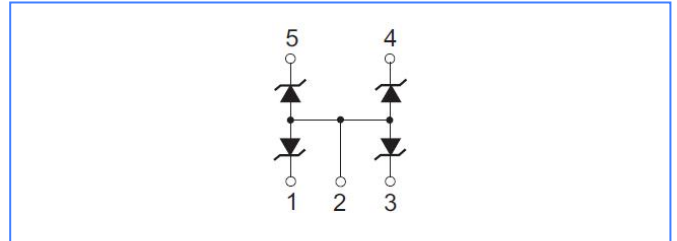
The combination of small size, low capacitance, and high level of ESD protection makes them a flexible solution for applications such as HDMI, Display Port TM, and MDDI interfaces. It is designed to replace multiplayer varistors (MLV) in consumer equipments applications such as mobile phone, notebook, PAD, STB, LCD TV etc.

Features

- Uni-directional ESD protection of four lines
- Low capacitance: 9 pF(Typ)
- Low reverse stand-off voltage: 3V
- Low reverse clamping voltage
- Low leakage current
- Excellent package: 2.10mm×1.25mm×0.96mm
- Fast response time
- JESD22-A114-B ESD Rating of class 3B per human body model
- IEC 61000-4-2 Level 3 ESD protection



Functional Diagram



Applications

- Computers and peripherals
- Audio and video equipment
- Cellular handsets and accessories
- Portable electronics
- Other electronics equipments communication systems

Maximum Ratings(Ta=25°C unless otherwise specified)

Parameter	Symbol	Limit	Unit
IEC 61000-4-2 ESD Voltage	$V_{ESD}^{(1)}$	±9	KV
Air Model		±8	KV
Contact Model		±15	KV
JESD22-A114-B ESD Voltage		±0.4	KV
Per Human Body Model			
ESD Voltage			
Machine Model			
Peak Pulse Power	$P_{PP}^{(2)}$	20	W
Peak Pulse Current	$I_{PP}^{(2)}$	2.5	A
Lead Solder Temperature – Maximum (10 Second Duration)	T_L	260	°C
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~+150	°C

(1).Device stressed with ten non-repetitive ESD pulses, Per channel(I/O to GND).

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

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse stand off voltage	$V_{RWM}^{(1)}$				3	V
Breakdown voltage	V_{BR}	$I_T=1\text{mA}$	5.3		5.9	V
Reverse leakage current	I_R	$V_{RWM}=3\text{V}$			1	μA
Forward voltage	V_F	$I_F=10\text{mA}$			0.9	V
Clamping voltage	$V_C^{(2)}$	$I_{PP}=2.5\text{A}$			8	V
Junction capacitance	C_J	$V_R=0\text{V}, f=1\text{MHz}$		9		pF

(1).Other voltages available upon request.

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

Characteristics Curves

Figure 1 Forward Characteristics

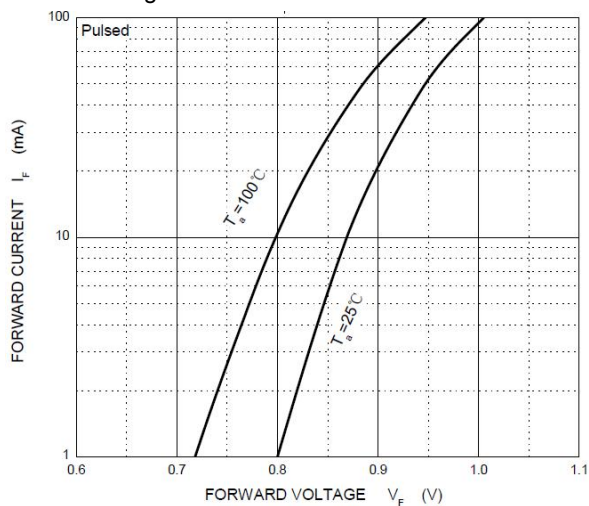


Figure 2 Reverse Characteristics

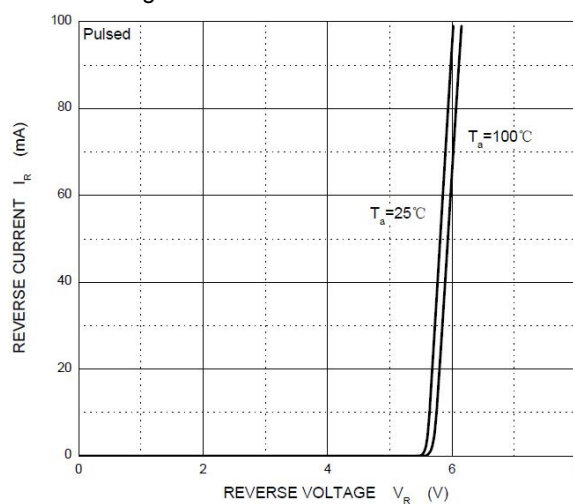
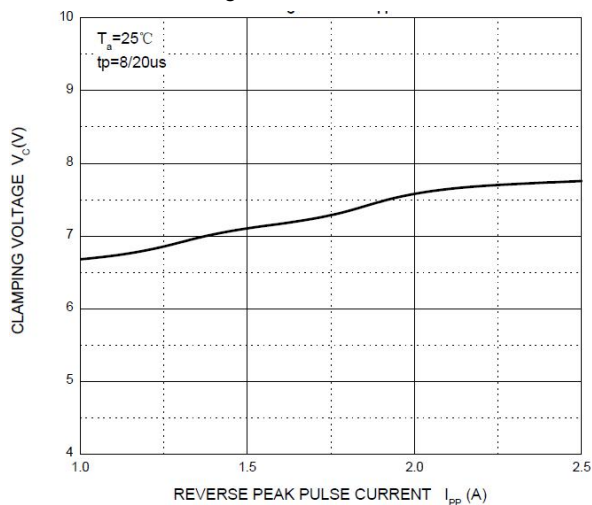
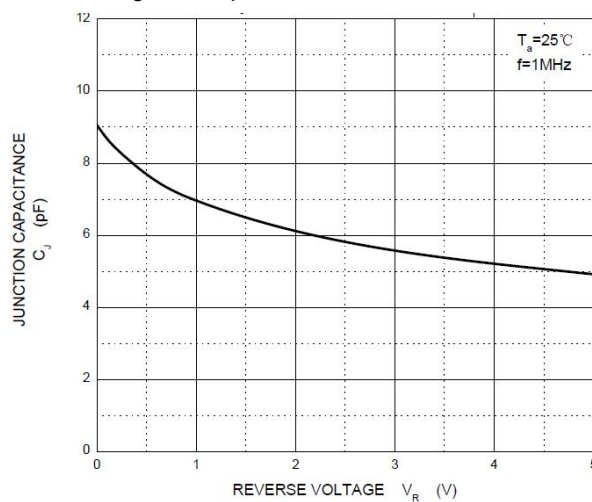
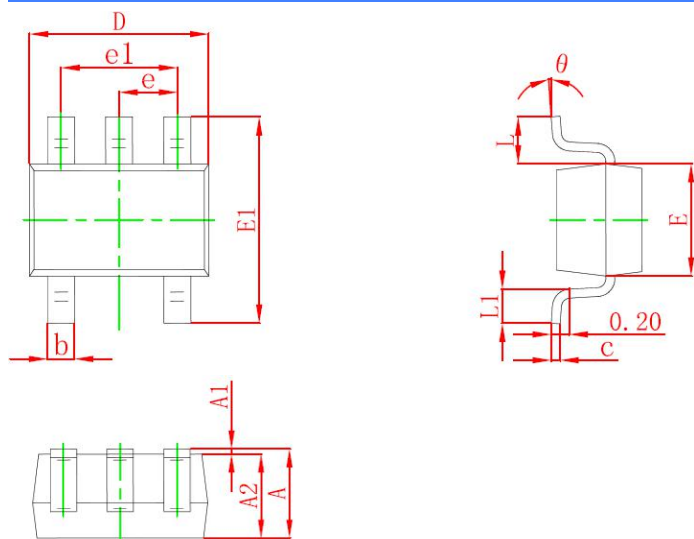

Figure 3 $V_C - I_{PP}$


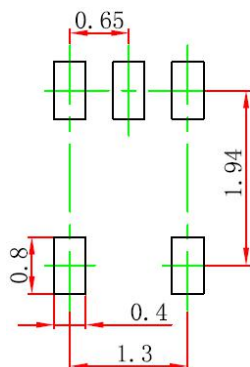
Figure4 Capacitance Characteristics



PACKAGE OUTLINE AND PAD LAYOUT INFORMATION: SOT-353



Symbol	Dimensions In mm		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-353 Suggested Pad Layout

NOTE:

- Controlling dimension: in millimeters
- General tolerance: $\pm 0.05\text{mm}$
- The pad layout is for reference purposes only

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.