

## ESDLC12VD3

### Description

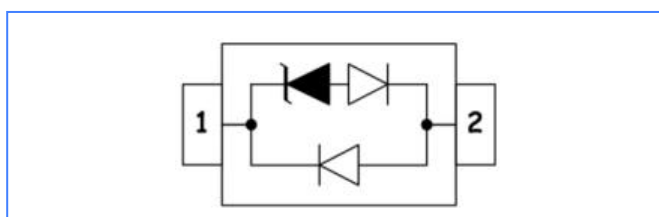
ESDLC12VD3 is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, ultra-low capacitance values, it is very suitable for signal port and board space speed transmission is very small places, such as Ethernet, mobile phones, MP3 players, digital cameras and other portable.

### Features

- Ultra low leakage: nA level
- Operating voltage: 12V
- Package: SOD-323
- Protects one I/O line (unidirection)
- Low clamping voltage
- Complies with following standards:
  - IEC 61000-4-2 (ESD) immunity test
  - Air discharge:  $\pm 30\text{kV}$
  - Contact discharge:  $\pm 30\text{kV}$



### Functional Diagram



### Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

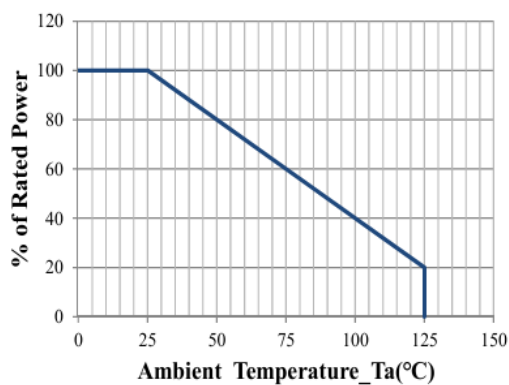
### Absolute Maximum Ratings( $T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 $\mu\text{s}$ )	$P_{PP}$	350	Watts
ESD per IEC 61000-4-2 (Air)	$V_{ESD}$	$\pm 30$	KV
ESD per IEC 61000-4-2 (Contact)		$\pm 30$	KV
Peak Pulse Current(8/20 $\mu\text{s}$ )	$I_{PP}$	11	A
Operating Temperature Range	$T_J$	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STJ}$	-55 to +150	$^{\circ}\text{C}$

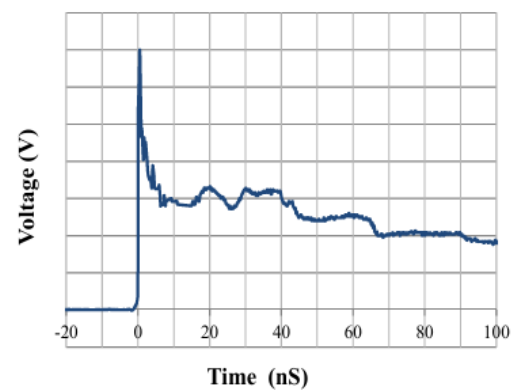
## Electrical Characteristics (TA = 25 °C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	$V_{RWM}$				12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_L = 1mA$	13		18	V
Reverse Leakage Current	$I_R$	$V_R = V_{RWM}$			100	nA
Clamping Voltage	$V_C$	$I_{PP}=1A, t_P = 8/20\mu s$			19	V
		$I_{PP}=11A, t_P = 8/20\mu s$			28	V
Junction Capacitance	$C_J$	$V_R=0V, f = 1MHz$			1	pF

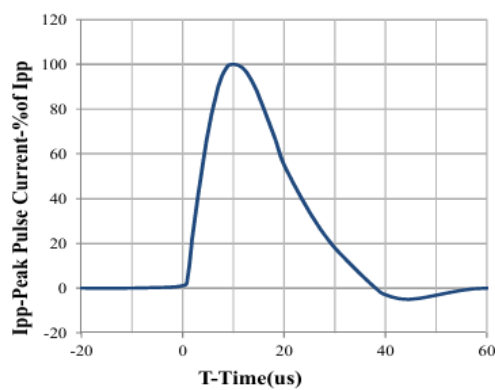
## Characteristics Curves



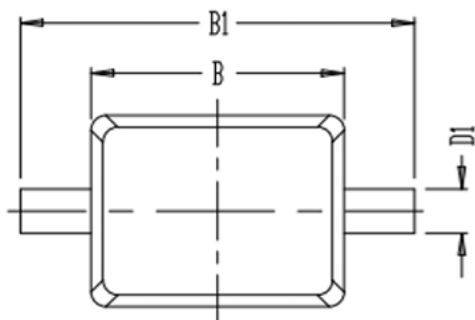
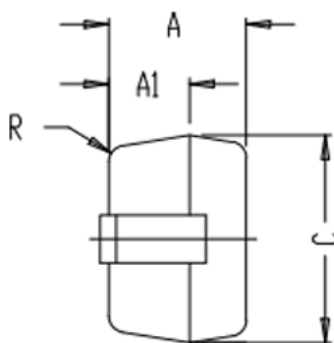
Power Derating Curve



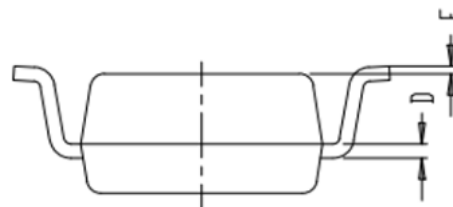
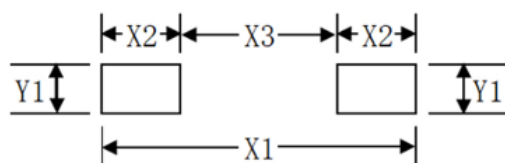
IEC61000-4-2 Pulse Waveform



8/20us Pulse Waveform

**PACKAGE OUTLINE DIMENSIONS in millimeters (inches) :SOD323**

**TOP VIEW**

**SIDE VIEW**

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.70	0.80	0.90	0.0276	0.0315	0.0354
A1	0.45	0.50	0.55	0.0177	0.0197	0.0217
B	1.65	1.70	1.75	0.0650	0.0669	0.0689
B1	2.55	2.65	2.75	0.1004	0.1043	0.1083
C	1.25	1.30	1.35	0.0492	0.0512	0.0531
D	0.10	0.11	0.12	0.0039	0.0043	0.0047
D1	0.28	0.30	0.32	0.0110	0.0118	0.0126
E	–	–	0.10	–	–	0.0039
R	0.02	–	0.05	0.0008	–	0.0020


**SIDE VIEW**
**Suggested Land Pattern**


SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	3.20	0.126
X2	0.80	0.031
X3	1.60	0.063
Y1	0.50	0.020

**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.