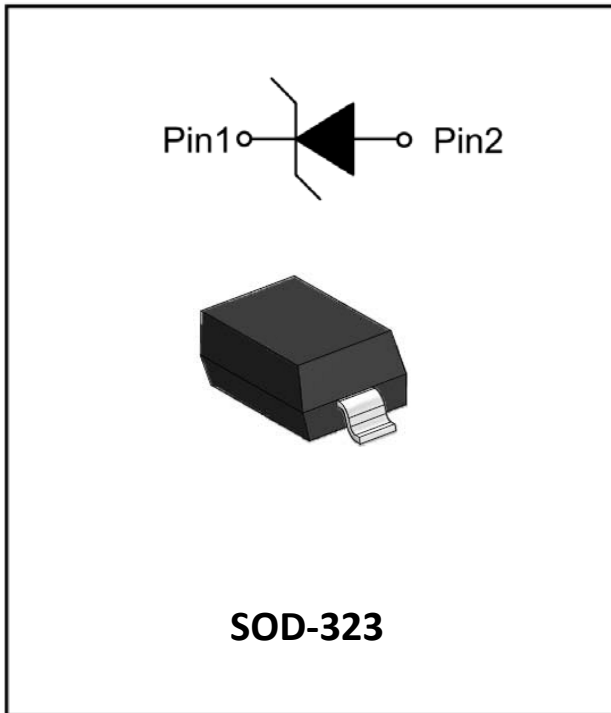


## 1- Line, Uni-directional, ESD protection diode



### Features

- Transient protection for each line according to IEC61000-4-2(ESD):  $\pm 30\text{kV}$  contact,  $\pm 30\text{kV}$  air IEC61000-4-5:8A( $t_p=8/20\mu\text{s}$ )
- Low leakage current
- Ultra low clamping voltage
- RoHS Compliant
- Part no. with suffix "Q" means AEC-Q101 qualified

### Applications

- Switches / Buttons
- Test Equipment/Instrumentation
- Point-of-Sale Terminals
- Medical Equipment
- Notebooks / Desktops / Servers
- Computer Peripherals
- CAN Bus protection
- Automotive applications

### Mechanical Data

- Package: SOD-323
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020

### ■ Definitions of electrical characteristics





# ESD15VD3Q

## ■Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	250	W
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 30$	
Junction temperature	$T_J$	-55~150	$^{\circ}C$
Storage temperature	$T_{STG}$	-55~150	$^{\circ}C$

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

## ■Electrical Characteristics ( $T_J=25^{\circ}C$ )

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	$V_{RWM}$	V	$I_R \leq 1\mu A$			15
Maximum Forward Voltage	$V_F$	V	$I_F = 10mA$			1.1
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$	16.5		19
Reverse leakage current	$I_R$	$\mu A$	$V_{RWM} = 15V$			1.0
Forward Voltage	$V_F$	V	$I_F = 10mA$			1.1
Clamping voltage <sup>1)</sup>	$V_C$	V	$I_{PP} = 1A, t_p = 8/20\mu s$			24
			$I_{PP} = 5A, t_p = 8/20\mu s$			30
			$I_{PP} = 8A, t_p = 8/20\mu s$			35
Dynamic resistance <sup>2)</sup>	$R_{DYN}$	$\Omega$	TLP, $t_p = 100ns$ , I/O to Ground		0.19	
Peak Pulse Current	$I_{PP}$	A	$t_p = 8/20\mu s$			8
Junction capacitance	$C_J$	pF	$V_R = 0V, f = 1MHz$		45	55

Notes:

(1). Non-repetitive current pulse, according to IEC61000-4-5.

(2). TLP parameter:  $Z_0 = 50\Omega$ ,  $t_p = 100ns$ ,  $t_r = 2ns$ , averaging window from 60ns to 80ns.  $R_{DYN}$  is calculated from 4A to 16A.

## ■Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD15VD3Q	F2	Approximate 4.5	3000	30000	120000	7 reel



## ■ Characteristics (Typical)

Fig.1: Non-Repetitive Peak Pulse Power vs. Pulse Time

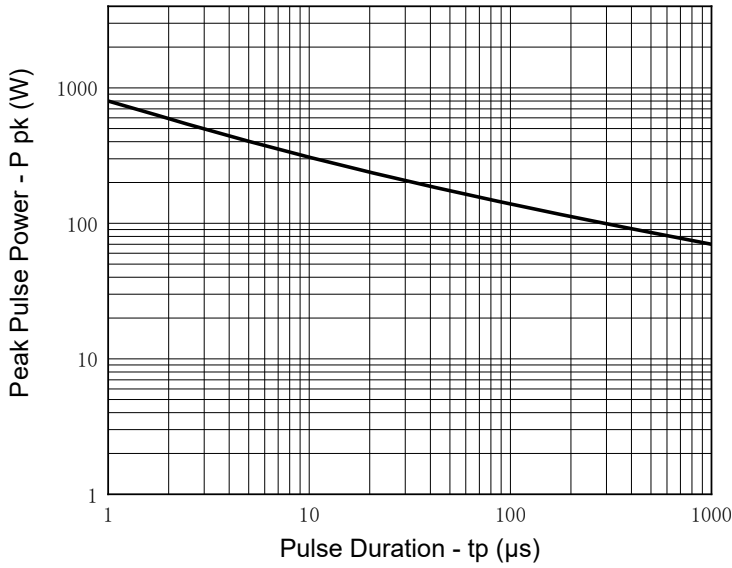


Fig.2: Capacitance vs. Bias

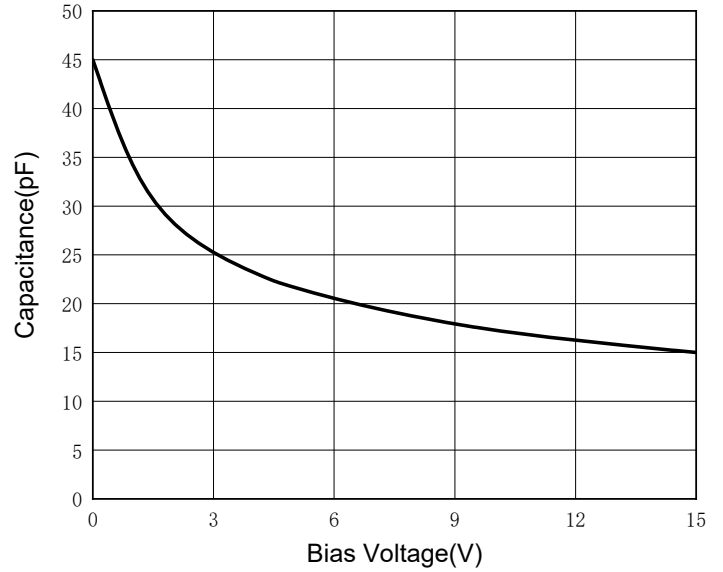


Fig.3: Power Derating Curve

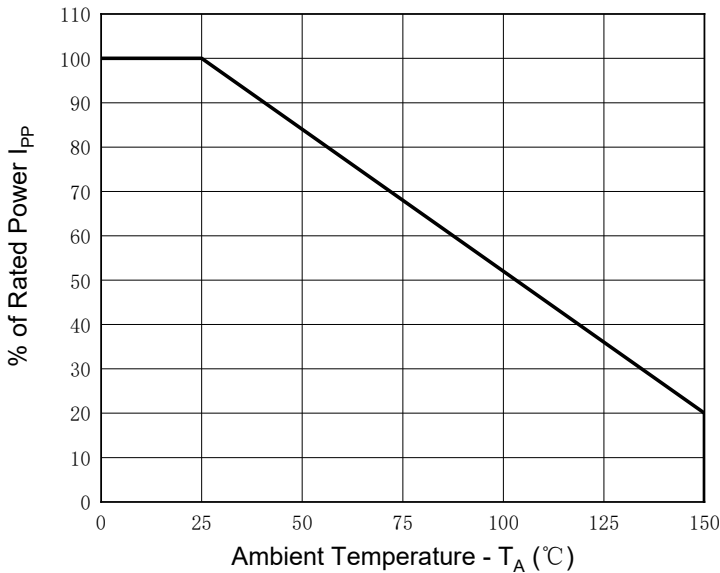


Fig.4: 8/20μs Pulse Waveform

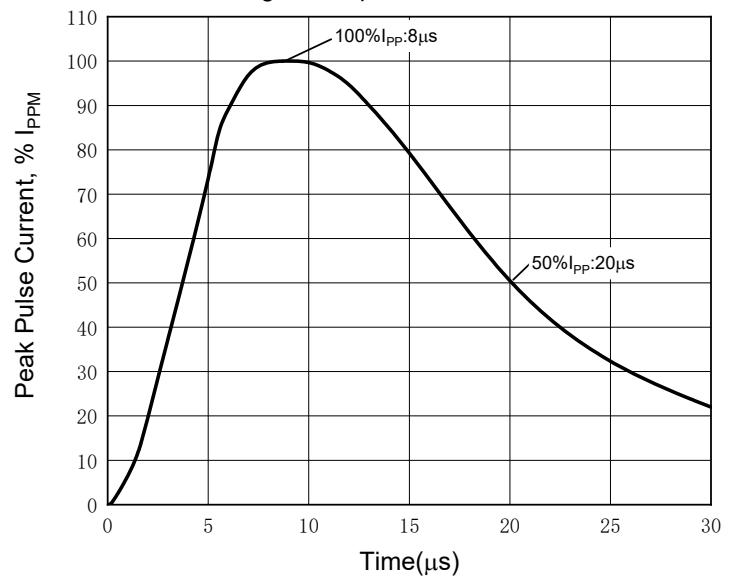
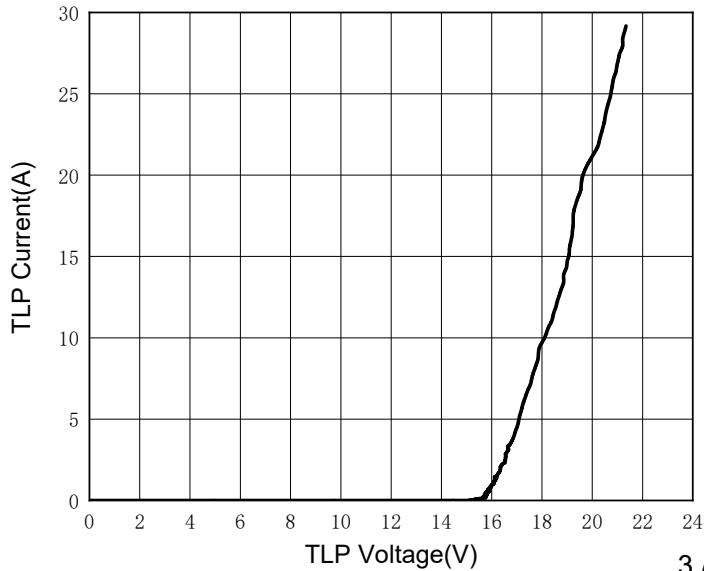


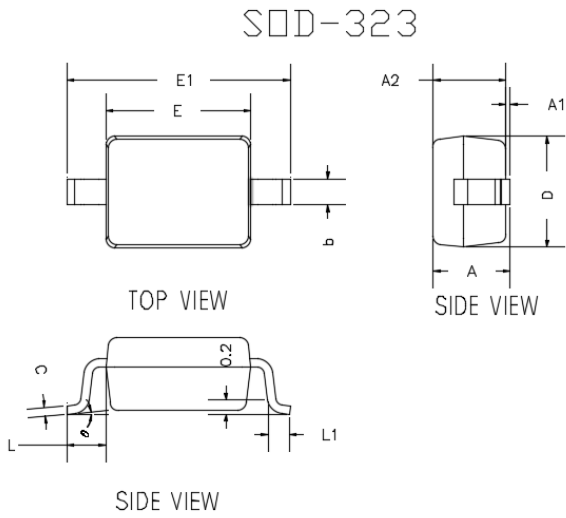
Fig.5: Transmission Line Pulsing (TLP) Plot



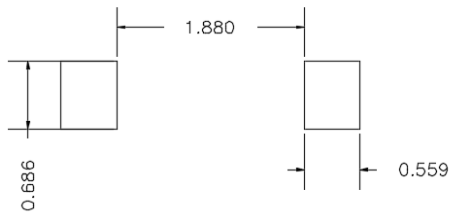


# ESD15VD3Q

## ■ Outline Dimensions



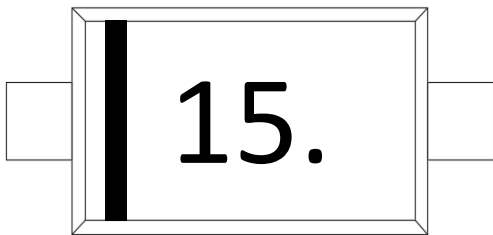
DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	---	0.0393	---	1.0000
A1	0.0000	0.0039	0.0000	0.1000
A2	0.0314	0.0354	0.8000	0.9000
b	0.0098	0.0157	0.2500	0.4000
c	0.0031	0.0059	0.0800	0.1500
D	0.0472	0.0551	1.2000	1.4000
E	0.0629	0.0709	1.6000	1.8000
E1	0.0984	0.1063	2.5000	2.7000
L	0.0187TYP		0.475TYP	
L1	0.0098	0.0157	0.250	0.400
ϕ	0°	8°	0°	8°



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

## ■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black



## ESD15VD3Q

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.