

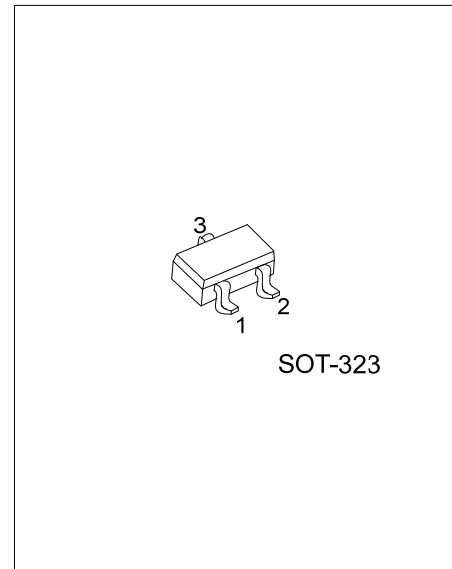


## ESD3V3S2B

Preliminary

TVS DIODE

### ULTRA LOW CLAMPING BI-DIRECTIONAL ESD TRANSIENT PROTECTION DIODE



#### DESCRIPTION

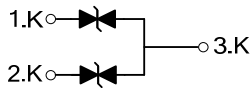
The UTC **ESD3V3S2B** is ultra-low clamping ESD transient bidirectional protection diode, it uses UTC's advanced technology to provide customers with low leakage current and high integration, etc.

The UTC **ESD3V3S2B** is suitable for ESD protection and high density boards.

#### FEATURES

- \* Bi-directional, symmetrical working voltage
- \* Ultra low clamping voltage
- \* Ultra low dynamic resistance

#### SYMBOL



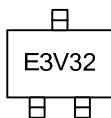
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
ESD3V3S2BL-AL3-R	ESD3V3S2BG-AL3-R	SOT-323	K	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

<p>ESD3V3S2BG-AL3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) AL3 : SOT-323</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
ESD Discharge	IEC61000-4-2	Air Discharge	30	kV
		Contact Discharge	8	kV
Peak Pulse current ( $t_p=8/20 \mu\text{s}$ )		$I_{PP}$	8	A
Operating Junction Temperature		$T_J$	125	$^\circ\text{C}$
Operating Temperature (Note 2)		$T_{OPR}$	-40 ~ +125	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse working voltage	$V_{RMW}$		-3.3		3.3	V
Reverse current	$I_R$	$V_R=3.3\text{V}$			50	nA
Line capacitance	$C_L$	$V_R=0\text{V}$ , $f=1\text{MHz}$		11	20	pF
Clamping voltage	$V_{CL}$	$I_{PP}=16\text{A}$ , $t_p=100\text{ns}$		7		V
		$I_{PP}=30\text{A}$ , $t_p=100\text{ns}$		9		V
		$I_{PP}=-1\text{A}$ , $t_p=8/20 \mu\text{s}$		4.5		V
		$I_{PP}=8\text{A}$ , $t_p=8/20 \mu\text{s}$		6.8		V
Dynamic resistance (Note 1)	$R_{DYN}$			0.13		$\Omega$

Note:  $Z_0=50\Omega$ ,  $t_p=100\text{ns}$ ,  $t_r=300\text{ps}$ , averaging window:  $t_1=30\text{ns}$  to  $t_2=60\text{ns}$ , extraction of dynamic resistance using least squares fit of TLP characteristics between  $I_{PP1}=10\text{A}$  and  $I_{PP2}=40\text{A}$ .

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