

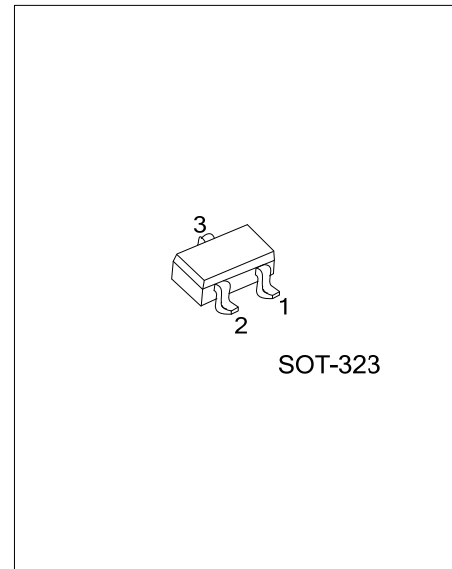


ESD3V3S2B

Preliminary

TVS DIODE

ULTRA LOW CLAMPING BI-DIRECTIONAL ESD TRANSIENT PROTECTION DIODE



DESCRIPTION

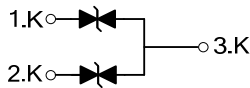
The UTC **ESD3V3S2B** is ultra-low clamping ESD transient bidirectional protection diode, it uses UTC's advanced technology to provide customers with low leakage current and high integration, etc.

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



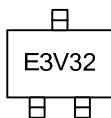
ORDERING INFORMATION

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

Note: Pin Assignment: A: Anode K: Cathode

ESD3V3S2BL-AL3-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) AL3 : SOT-323 (3) G: Halogen Free and Lead Free
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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		Ω

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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