



ESD3V3S2B

Preliminary

TVS DIODE

ULTRA LOW CLAMPING BI-DIRECTIONAL ESD TRANSIENT PROTECTION DIODE

DESCRIPTION

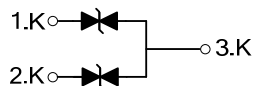
The UTC **ESD3V3S2B** is ultra-low clamping ESD transient bidirectional protection diode, it uses UTC's advanced technology to provide customers with low leakage current and high integration, etc.

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



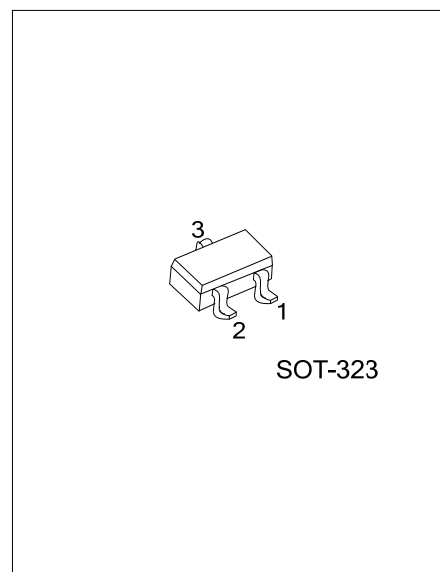
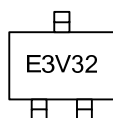
ORDERING INFORMATION

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



SOT-323

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

PARAMETER			SYMBOL	RATINGS	UNIT
ESD Discharge	IEC61000-4-2	Air Discharge	V _{ESD}	30	kV
		Contact Discharge		8	kV
Peak Pulse current (t _p =8/20 μs)			I _{PP}	8	A
Operating Junction Temperature			T _J	125	°C
Operating Temperature (Note 2)			T _{OPR}	-40 ~ +125	°C
Storage Temperature			T _{STG}	-55 ~ +150	°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}	$V_{\text{R}}=3.3\text{V}$			50	nA
Line capacitance	C_{L}	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$		11	20	pF
Clamping voltage	V_{CL}	$I_{\text{PP}}=16\text{A}$, $t_P=100\text{ns}$		7		V
		$I_{\text{PP}}=30\text{A}$, $t_P=100\text{ns}$		9		V
		$I_{\text{PP}}=-1\text{A}$, $t_P=8/20\ \mu\text{s}$		4.5		V
		$I_{\text{PP}}=8\text{A}$, $t_P=8/20\ \mu\text{s}$		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 $I_{\text{PP}1}=10\text{A}$ and $I_{\text{PP}2}=40\text{A}$.

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