

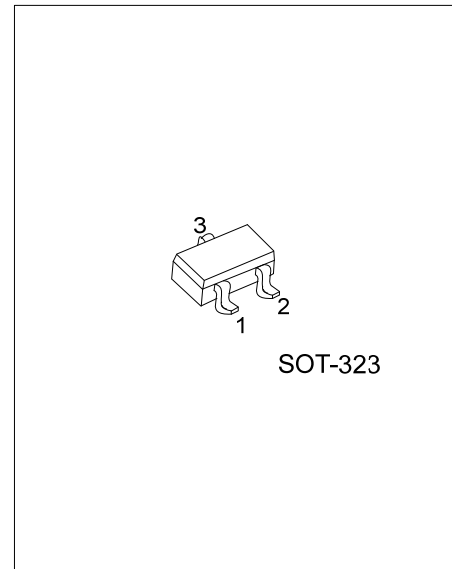


ESD6V2S1B

Preliminary

TVS DIODE

ULTRA LOW CLAMPING BI-DIRECTIONAL ESD TRANSIENT PROTECTION DIODE



DESCRIPTION

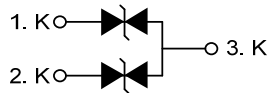
The UTC **ESD6V2S1B** is ultra-low clamping ESD transient bidirectional protection diode, it uses UTC's advanced technology to provide customers with low leakage current and high integration, etc.

The UTC **ESD6V2S1B** is suitable for ESD protection and high density boards.

FEATURES

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

SYMBOL



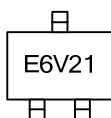
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
ESD6V2S1BL-AL3-R	ESD6V2S1BG-AL3-R	SOT-323	K	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

<p>ESD6V2S1BG-AL3-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) AL3 : SOT-323 (3) G: Halogen Free and Lead Free, L: 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 Contact Discharge	V_{ESD}	30	kV
Peak Pulse current ($t_p=8/20 \mu\text{s}$)		I_{PP}	8.0	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}		-6.2		6.2	V
Reverse current	I_R	$V_R=6.2\text{V}$		1.0	100	nA
Line capacitance	C_L	$V_R=0\text{V}$, $f=1\text{MHz}$		5.0	10	pF
Clamping voltage	V_{CL}	$I_{PP}=16\text{A}$, $t_p=100\text{ns}$		12		V
		$I_{PP}=30\text{A}$, $t_p=100\text{ns}$		14		V
		$I_{PP}=-1\text{A}$, $t_p=8/20 \mu\text{s}$		8.0		V
		$I_{PP}=8\text{A}$, $t_p=8/20 \mu\text{s}$		11		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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