



ESD6V2S1B

Preliminary

TVS DIODE

ULTRA LOW CLAMPING BI-DIRECTIONAL ESD TRANSIENT PROTECTION DIODE

DESCRIPTION

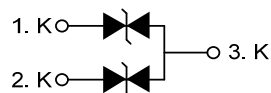
The UTC **ESD6V2S1B** is ultra-low clamping ESD transient bidirectional protection diode, it uses UTC's advanced technology to provide customers with low leakage current and high integration, etc.

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



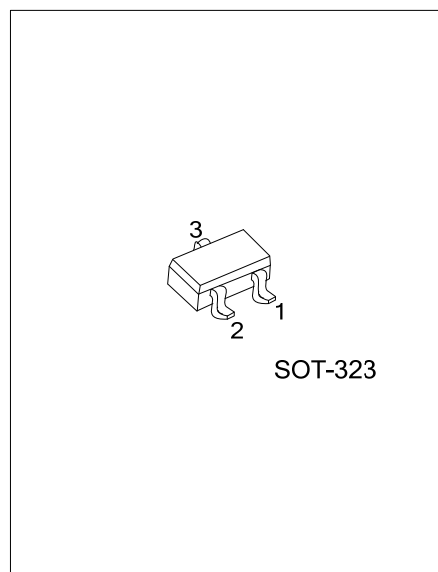
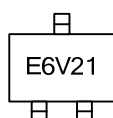
ORDERING INFORMATION

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

Note: Pin Assignment: A: Anode K: Cathode

ESD6V2S1BL-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
------------------	---	--

MARKING



SOT-323

■ 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}	$V_{\text{R}}=6.2\text{V}$		1.0	100	nA
Line capacitance	C_{L}	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$		5.0	10	pF
Clamping voltage	V_{CL}	$I_{\text{PP}}=16\text{A}$, $t_P=100\text{ns}$		12		V
		$I_{\text{PP}}=30\text{A}$, $t_P=100\text{ns}$		14		V
		$I_{\text{PP}}=-1\text{A}$, $t_P=8/20\ \mu\text{s}$		8.0		V
		$I_{\text{PP}}=8\text{A}$, $t_P=8/20\ \mu\text{s}$		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 $I_{\text{PP}1}=10\text{A}$ and $I_{\text{PP}2}=40\text{A}$.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.