



UESD3V3L1B01

Preliminary

TVS

TRANSIENT VOLTAGE SUPPRESSING DEVICE TINY PACKAGE FOR ESD/TRANSIENT PROTECTION

■ DESCRIPTION

The UTC **UESD3V3L1B01** is bidirectional ElectroStatic Discharge (ESD). During transient conditions, the proprietary clamping cell prevents over-voltage on the power line or control/data lines, designed to protect one signal line from the damage caused by ESD and other transients.

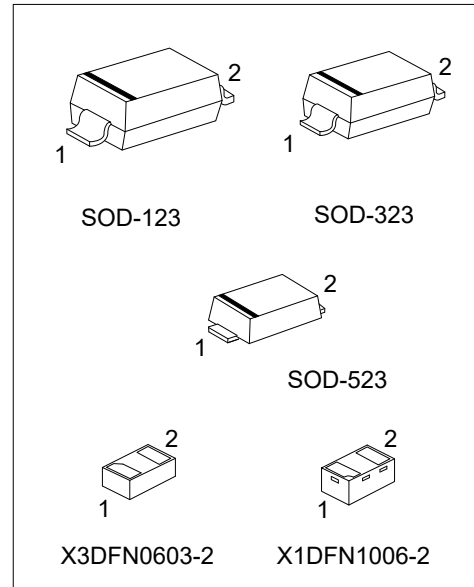
UTC **UESD3V3L1B01** may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 ($\pm 15\text{kV}$ air, $\pm 8\text{kV}$ contact discharge).

■ FEATURES

- * ESD Protect for 1 Line with Bi-directional
- * Cable Discharge Event (CDE)
- * Protect one I/O line or one power line
- * Fast turn-on and Low clamping voltage
- * For low operating voltage applications: 3.3V maximum
- * Solid-state silicon-avalanche and active circuit triggering technology

■ SYMBOL

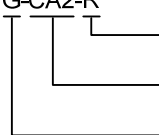
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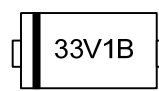
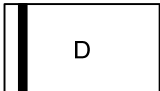
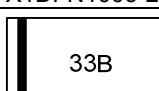
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UESD3V3L1B01L-CA2-R	UESD3V3L1B01G-CA2-R	SOD-123	K	K	Tape Reel
UESD3V3L1B01L-CB2-R	UESD3V3L1B01G-CB2-R	SOD-323	K	K	Tape Reel
UESD3V3L1B01L-CC2-R	UESD3V3L1B01G-CC2-R	SOD-523	K	K	Tape Reel
UESD3V3L1B01L-KAA-R	UESD3V3L1B01G-KAA-R	X1DFN1006-2	K	K	Tape Reel
UESD3V3L1B01L-KAQ-R	UESD3V3L1B01G-KAQ-R	X3DFN0603-2	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

<p>UESD3V3L1B01G-CA2-R</p>  <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) CA2: SOD-123, CB2: SOD-323, CC2: SOD-523, KAA: X1DFN1006-2, KAA: X3DFN0603-2 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

SOD-123 / SOD-323 / SOD-523	X3DFN0603-2
	
X1DFN1006-2	-
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■ 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		±30	kV
Peak Pulse Current	IEC61000-4-5	t _p =8/20μs	I _{PP}	13	A
Peak Pulse Power			P _{PK}	100	W
Operating Junction Temperature			T _J	-55 ~ +150	°C
Operating Temperature			T _{OPR}	-55 ~ +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 Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_{\text{T}}=1\text{mA}$	3.5	4.5		V
Reverse Current	I_{R}	$V_{\text{RWM}}=3.3\text{V}$			100	nA
Clamping Voltage (Note 3)	V_{CL}	$I_{\text{PP}}=1\text{A}$, $t_p=8/20\mu\text{s}$		4.8	5.5	V
Clamping Voltage (Note 3)		$I_{\text{PP}}=13\text{A}$, $t_p=8/20\mu\text{s}$		8.4	10	V
Dynamic Resistance (Note 1)	R_{DYN}			0.32		Ω
Junction Capacitance	C_J	$V_{\text{R}}=0\text{V}$, $f=1\text{MHz}$		21	28	pF

Notes: 1. TLP Parameter: $Z_0=50\Omega$, $t_p=100\text{ns}$, $t_r=2\text{ns}$, Averaging Window from 60ns to 80ns. R_{DYN} is Calculated from 4A to 16A.

2. Contact Discharge Mode, According to IEC61000-4-2.

3. Non-repetitive Current Pulse, According to IEC61000-4-5.

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