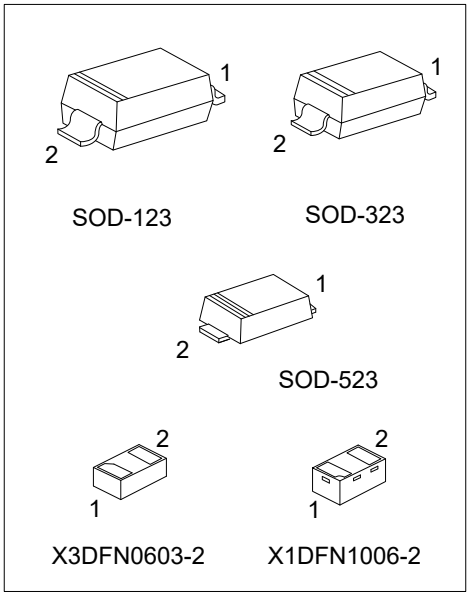
TRANSIENT VOLTAGE SUPPRESSING DEVICE TINY PACAKGE FOR ESD/TRANSIENT PROTECTION



■ DESCRIPTION

The UTC **UESD3V3L1B** 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 **UESD3V3L1B** may be used to meet the ESD immunity requirements of IEC 61000-4-2, Level 4 (±15kV air, ±8kV contact discharge).

■ FEATURES

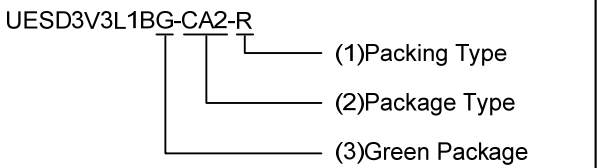
* ESD Protect for 1 Line with Bi-directional
* Cable Discharge Event (CDE)
* Protect one I/O line or one power line
* Fast turn-on and Low clamping voltage
* For low operating voltage applications: 3.3V maximum
* Solid-state silicon-avalanche and active circuit triggering technology

■ SYMBOL

■ ORDERING INFORMATION

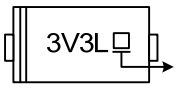
Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UESD3V3L1BL-CA2-R	UESD3V3L1BG-CA2-R	SOD-123	K	K	Tape Reel
UESD3V3L1BL-CB2-R	UESD3V3L1BG-CB2-R	SOD-323	K	K	Tape Reel
UESD3V3L1BL-CC2-R	UESD3V3L1BG-CC2-R	SOD-523	K	K	Tape Reel
UESD3V3L1BL-KAA-R	UESD3V3L1BG-KAA-R	X1DFN1006-2	K	K	Tape Reel
UESD3V3L1BL-KAQ-R	UESD3V3L1BG-KAQ-R	X3DFN0603-2	K	K	Tape Reel

Note: Pin Assignment: K: Cathode



(1) R: Tape Reel
(2) CA2: SOD-123, CB2: SOD-323, CC2: SOD-523, KAA: X1DFN1006-2, KAQ: X3DFN0603-2
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

SOD-123 / SOD-323 / SOD-523	X3DFN0603-2
	
X1DFN1006-2	-
	-

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER			SYMBOL	RATINGS	UNIT
ESD Discharge	IEC61000-4-2	Air Discharge	V_{ESD}	±16	kV
		Contact Discharge		±16	kV
Peak Pulse Current	IEC61000-4-5	t_p=8/20μs	I_{PP}	7	A
Peak Pulse Power			P_{PK}	60	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°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_R=1mA	4		6.5	V
Reverse Current	I_R	V_R=3.3V			1	μA
Diode capacitance	C_D	V_R=0V, f=1MHz		10	16.5	pF
Clamping Voltage (positive transient)	V_{CL}	I_{PP}=1.0A, t_P=8/20μs (Note)		6	8	V
		I_{PPM}=5.0A, t_P=8/20μs (Note)		8	12	V

Note: Device stressed with 8/20 μs exponential decay waveform according to IEC 61000-4-5.