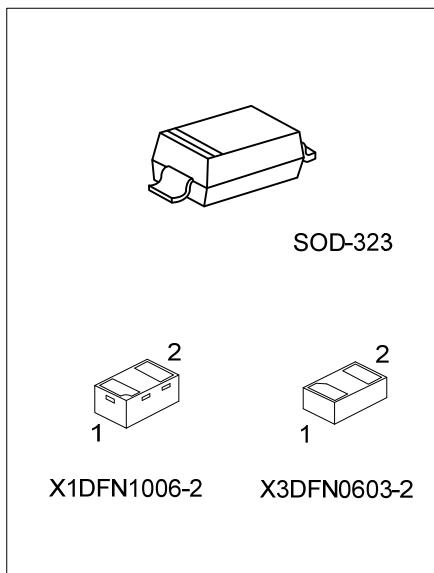




ESD PROTECTION DEVICE

■ DESCRIPTION

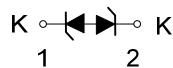
The UTC **UESD5V0L1B01** is bidirectional ElectroStatic Discharge (ESD) protection diode in leadless ultra small Surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients.



■ FEATURES

- * Bidirectional protection of one line
- * Reverse stand-off voltage: $V_{RWM}=5V$
- * Surge robustness: $I_{PPM}=5.0A$ for 8/20 μs pulse
- * Ultra low clamping voltage: $V_{CL}<12V$ max. at $I_{PPM}=5.0A$

■ SYMBOL



1 2

■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UESD5V0L1B01L-CB2-R	UESD5V0L1B01G-CB2-R	SOD-323	K	K	Tape Reel
UESD5V0L1B01L-KAA-R	UESD5V0L1B01G-KAA-R	X1DFN1006-2	K	K	Tape Reel
UESD5V0L1B01L-KAQ-R	UESD5V0L1B01G-KAQ-R	X3DFN0603-2	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

UESD5V0L1B01G-CB2-R 	(1) R: Tape Reel (2) CB2: SOT-323, KAA: X1DFN1006-2 KAQ: X3DFN0603-2 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING

SOD-323	X1DFN1006-2	X3DFN0603-2
	501	A

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

PARAMETER			SYMBOL	RATINGS		UNIT	
ESD Discharge		IEC61000-4-2	Air Discharge Contact Discharge	V_{ESD}	± 25	kV	
					± 25	kV	
Peak Pulse Current		IEC61000-4-5	$t_p=8/20\mu\text{s}$	I_{PP}	7.5	A	
Peak Pulse Power				P_{PK}	50	W	
Operating Junction Temperature			T_J	$-55 \sim +150$		$^\circ\text{C}$	
Operating Temperature			T_{OPR}	$-55 \sim +125$		$^\circ\text{C}$	
Storage Temperature			T_{STG}	$-55 \sim +150$		$^\circ\text{C}$	

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 Stand-Off Voltage	V_{RWM}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_R=1\text{mA}$	5.6	6.5	7.6	V
Reverse Current	I_R	$V_R=5.0\text{V}$			1.0	uA
Diode capacitance	C_D	$V_R=0\text{V}, f=1\text{MHz}$		15.5	20	pF
Clamping Voltage (positive transient)	V_{CL}	$I_{PP}=1.0\text{A}, t_p=8/20\mu\text{s}$ (Note) $I_{PPM}=5.0\text{A}, t_p=8/20\mu\text{s}$ (Note)			8.3	V
					12	V

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

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