



UESD1V5U1B01

TVS

ULTRA LOW CAPACITANCE TVS DIODE

DESCRIPTION

The UTC **UESD1V5U1B01** is 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
- * 14Watts peak pulse power ($t_p = 8/20\mu s$)
- * Solid-state silicon-avalanche technology
- * Capacitance: 0.2pF typical
- * Low clamping voltage
- * Low leakage current
- * Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 15KV$
 - Contact discharge: $\pm 12KV$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)



X3DFN0603-2

SYMBOL



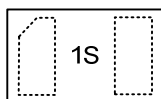
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UESD1V5U1B01L-KAQ-R	UESD1V5U1B01G-KAQ-R	X3DFN0603-2	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

UESD1V5U1B01G-KAQ-R	(1)Packing Type (2)Package Type (3)Green Package	(1) R: Tape Reel (2) K AQ: X3DFN0603-2 (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	Air Discharge	V _{ESD}	±15	kV
		Contact Discharge		±12	kV
Peak Pulse Current	IEC61000-4-5	t _p =8/20μs	I _{PP}	4	A
Peak Pulse Power			P _{PK}	14	W
Operating Junction Temperature			T _J	-55 ~ +125	°C
Storage Temperature			T _{STG}	-55 ~ +150	°C

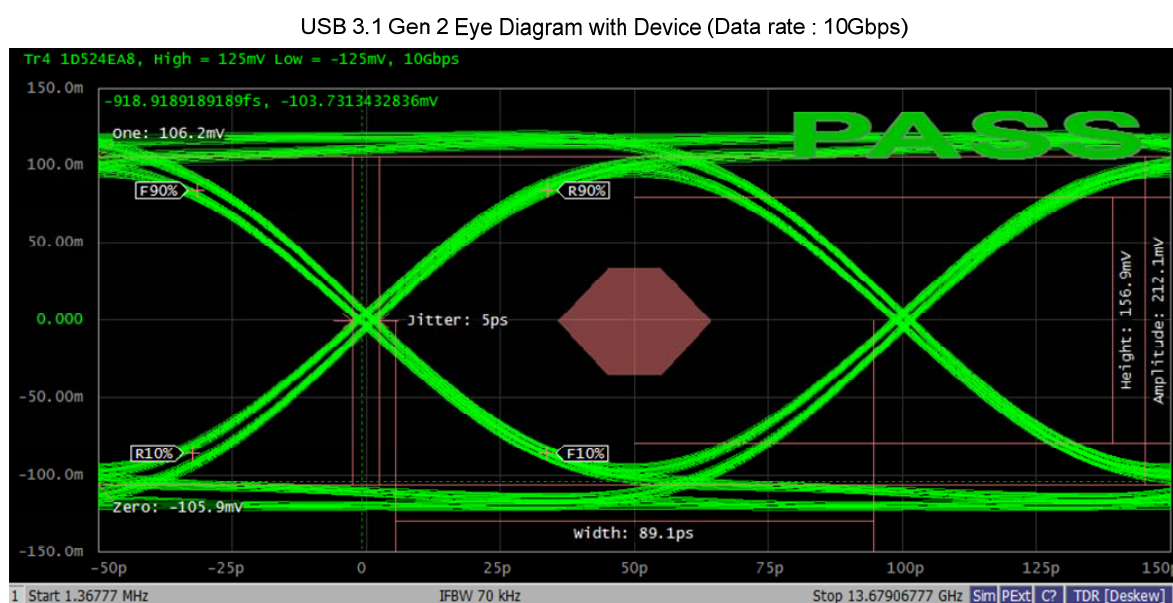
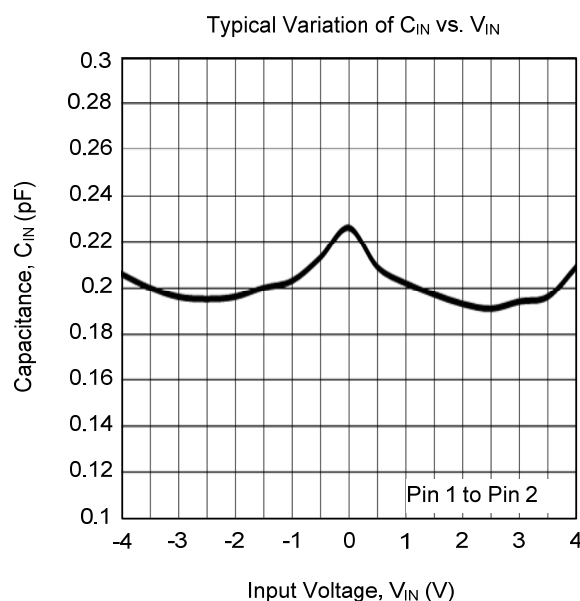
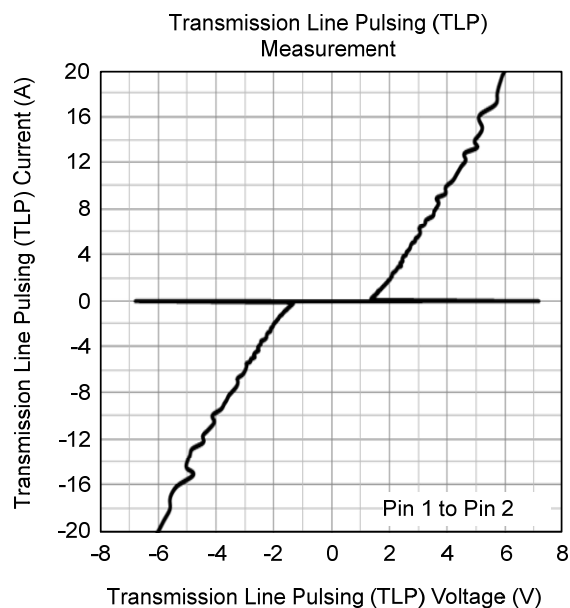
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ 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}				1.5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 0.1\text{mA}$	4.5	6		V
Reverse Current	I_R	$V_R = 1.5\text{V}$			0.1	μA
ESD Dynamic Turn-on Resistance	R_{dyn}	IEC61000-4-2 0 ~ +8kV, Contact mode, $T_A = 25^\circ\text{C}$		0.2		Ω
Clamping Voltage	V_{CL}	$I_{PPM} = 1.0\text{A}$, $t_p = 8/20\mu\text{s}$		1.75		V
		$I_{PPM} = 4.0\text{A}$, $t_p = 8/20\mu\text{s}$		2.9	3.5	V
Junction Capacitance	C_J	$V_{DC} = 1\text{V}$, $f = 1\text{MHz}$		0.2	0.3	pF

Note: The strong snap-back to a low holding voltage move into latch-up mode by an ESD event. When designing the Printed-Circuit Board (PCB), give careful consideration to impedance matching and signal coupling. Do not connect the data lines to unlimited DC current sources like, for example, a battery, to avoid the device is "locked" in conducting mode.

TYPICAL CHARACTERISTICS



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. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.