



UESD5V0U2U01

Preliminary

TVS

ESD PROTECTION DEVICE

■ DESCRIPTION

The UTC **UESD5V0U2U01** are specifically designed to protect sensitive components which are connected to high-speed data and transmission lines from overvoltage caused by ESD (electrostatic discharge), CDE (cable discharge events), and EFT (electrical fast transients).

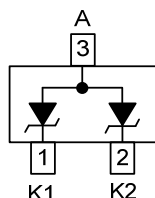
The UTC **UESD5V0U2U01** features high peak pulse current capability for use in applications that require high surge immunity testing. This means it can be used on high-speed interfaces such as USB 2.0 and LVDS data lines. They are compatible with both lead free and SnPb assembly techniques. They are designed for use in applications where board space is at a premium, the combination of small size, low capacitance, and high level of surge protection makes them a flexible solution for applications such as asset top boxes, displays, and portable electronics.

■ FEATURES

* Reverse stand-off voltage: $V_{RWM}=5.0V$

* Surge robustness: $I_{PPM}=5.0A$ for 8/20 μs pulse

■ SYMBOL

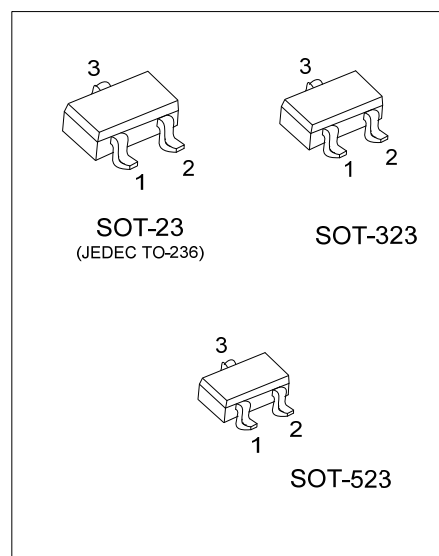


■ ORDERING INFORMATION

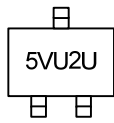
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
UESD5V0U2U01L-AE3-R	UESD5V0U2U01G-AE3-R	SOT-23	K1	K2	A	Tape Reel
UESD5V0U2U01L-AL3-R	UESD5V0U2U01G-AL3-R	SOT-323	K1	K2	A	Tape Reel
UESD5V0U2U01L-AN3-R	UESD5V0U2U01G-AN3-R	SOT-523	K1	K2	A	Tape Reel

Note: Pin Assignment: K: Cathode A: Anode

UESD5V0U2U01G-AE3-R		(1) R: Tape Reel
(1) Packing Type		(2) AE3: SOT-23, AL3: SOT-523, AN3: SOT-523
(2) Package Type		(3) G: Halogen Free and Lead Free, L: Lead Free
(3) Green Package		



■ 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}	± 30	kV
		Contact Discharge		± 25	kV
Peak Pulse Current	IEC61000-4-5	$t_p=8/20\mu s$	I_{PP}	9	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}				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_R = 1\text{mA}$	6		9.5	V
Reverse Current	I_R	$V_R = 5.0\text{V}$			0.1	μA
Diode capacitance	C_d	$V_R = 0\text{V}$, $f = 1\text{MHz}$		1.45		pF
Clamping Voltage (positive transient)	V_{CL}	$I_{PPM} = 5.0\text{A}$, $t_p = 8/20\mu\text{s}$ (Note)		9.7		V
		$I_{PPM} = 9.0\text{A}$, $t_p = 8/20\mu\text{s}$ (Note)			11.2	V

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

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.