



**UESD5V0V4U**

Preliminary

TVS

**ESD PROTECTION DEVICE**

■ DESCRIPTION

The UTC **UESD5V0V4U** is a integrated surge protection device (surge protection) is designed for applications requiring transient overvoltage protection. It is intended for use in sensitive equipment such as computers, printers, business machines, communication systems, medical equipment, and other applications. Its integrated design provides very effective and reliable protection for four separate lines using only one package. These devices are ideal for situations where board space is at a premium.

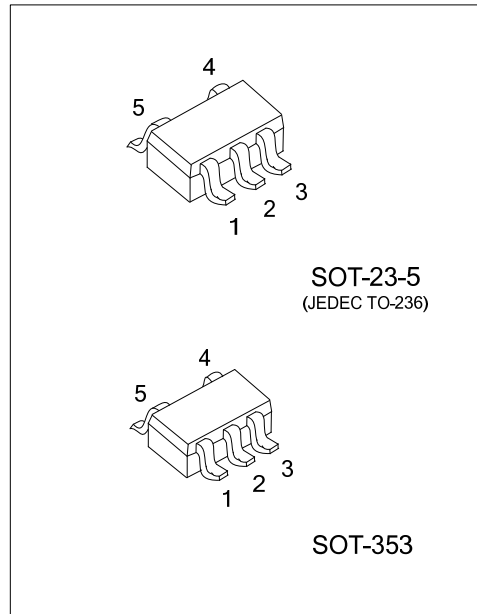
■ FEATURES

- \* Unidirectional device
- \* Low leakage current (IR max. < 0.1μA at V<sub>BR</sub>)
- \* 300W peak pulse power (8/20μs)

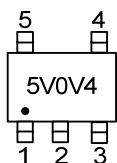
■ ORDERING INFORMATION

Ordering Number		Package	Packing
Lead Free	Halogen Free		
UESD5V0V4UL-AE5-R	UESD5V0V4UG-AE5-R	SOT-23-5	Tape Reel
UESD5V0V4UL-AL5-R	UESD5V0V4UG-AL5-R	SOT-353	Tape Reel

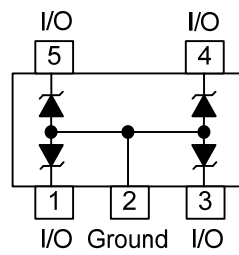
<p>UESD5V0V4UG-AE5-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) R: Tape Reel (2) AE5: SOT-23-5, AL5: SOT-353 (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING



■ FUNCTIONAL DIAGRAM



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	I/O	Terminal of ESD 1
2	GND	Ground
3	I/O	Terminal of ESD 2
4	I/O	Terminal of ESD 3
5	I/O	Terminal of ESD 4

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

PARAMETER		SYMBOL	RATINGS	UNIT	
ESD Discharge	IEC61000-4-2	Air Discharge	$\pm 30$	kV	
		Contact Discharge	$\pm 30$	kV	
Peak Pulse Current	IEC61000-4-5	$t_p=8/20\mu\text{s}$	$I_{PP}$	2	A
Peak Pulse Power			$P_{PP}$	18	W
Operating Junction Temperature		$T_J$	-40 ~ +150	$^\circ\text{C}$	
Operating Temperature		$T_{OPR}$	-40 ~ +125	$^\circ\text{C}$	
Storage Temperature		$T_{STG}$	-65 ~ +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	V
Reverse Breakdown Voltage	$V_{BR}$	$I_R=1\text{mA}$	6.0	6.8	7.6	V
Forward Voltage Drop	$V_F$	$I_F=10\text{mA}$			1.2	V
Reverse Current	$I_R$	$V_R=5.0\text{V}$			0.1	$\mu\text{A}$
Diode capacitance	$C_d$	$V_R=0\text{V}$ , $f=1\text{MHz}$		9.4	15	pF
Clamping Voltage (positive transient)	$V_{CL}$	$I_{PPM}=2\text{A}$ , $t_p=8/20\mu\text{s}$			11.5	V

Note: Device stressed with 8/20 $\mu\text{s}$  exponential decay waveform according to IEC 61000-4-5.

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