



## UESD5V0L1B03

Preliminary

TVS

### ESD PROTECTION DEVICE

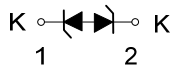
#### DESCRIPTION

The UTC **UESD5V0L1B03** 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:  $I_{PPM}=7.0A$  for 8/20 $\mu s$  pulse
- \* Ultra low clamping voltage:  $V_{CL} < 10V$  max. at  $I_{PPM}=7.0A$

#### SYMBOL



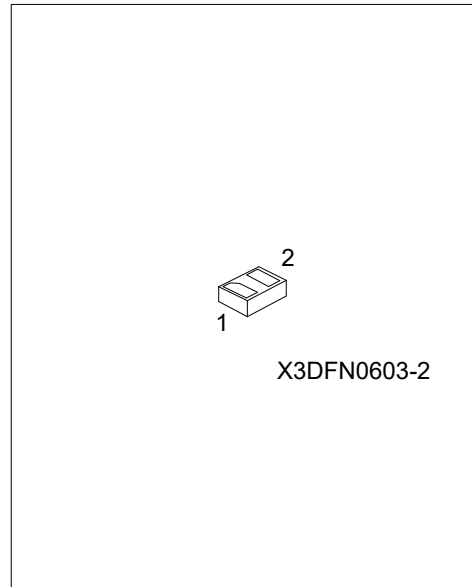
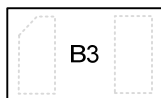
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
UESD5V0L1B03L-KAQ-R	UESD5V0L1B03G-KAQ-R	X3DFN0603-2	K	K	Tape Reel

Note: Pin Assignment: K: Cathode

<p>UESD5V0L1B03G-KAQ-R</p>	<p>(1) R: Tape Reel  (2) KAQ: X3DFN0603-2  (3) G: Halogen Free and Lead Free, L: Lead Free</p>
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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	$\pm 30$	kV	
		Contact Discharge	$\pm 30$	kV	
Peak Pulse Current	IEC61000-4-5	$t_p=8/20\mu\text{s}$	$I_{PP}$	7	A
Peak Pulse Power			$P_{PK}$	60	W
Operating Junction Temperature		$T_J$	-55 ~ +150	$^{\circ}\text{C}$	
Operating Temperature		$T_{OPR}$	-55 ~ +125	$^{\circ}\text{C}$	
Storage Temperature		$T_{STG}$	-55 ~ +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	$V_{BR}$	$I_R=1\text{mA}$	6.5	7.5	8.5	V
Reverse Current	$I_R$	$V_R=5.0\text{V}$			1.0	$\mu\text{A}$
Diode capacitance	$C_d$	$V_R=0\text{V}$ , $f=1\text{MHz}$		15	30	pF
Clamping Voltage (positive transient)	$V_{CL}$	$I_{PP}=1.0\text{A}$ , $t_p=8/20\mu\text{s}$ (Note)			8	V
		$I_{PPM}=7.0\text{A}$ , $t_p=8/20\mu\text{s}$ (Note)			12	V

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

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