



**PUSB220**

**TVS**

**DUAL USB 2.0 INTEGRATED ESD PROTECTION**

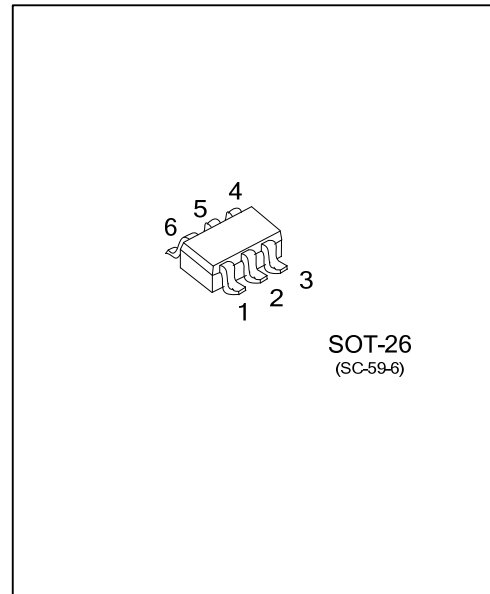
■ **DESCRIPTION**

The UTC **PUSB220** is a dual USB 2.0 integrated ESD protection diode array. it uses UTC's advanced technology to provide customers with low leakage current, 4 ultra-low input capacitance rail-to-rail ESD protection diodes and low clamping voltage, etc.

The UTC **PUSB220** is suitable for DVI, Ethernet and USB2.0, etc.

■ **FEATURES**

- \* Low clamping voltage
- \* Low leakage current (Max.=100nA)
- \* Four ultra-low input capacitance (typical 1pF)

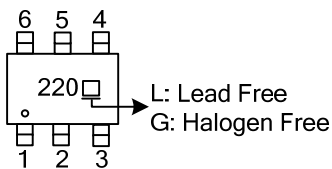


■ **ORDERING INFORMATION**

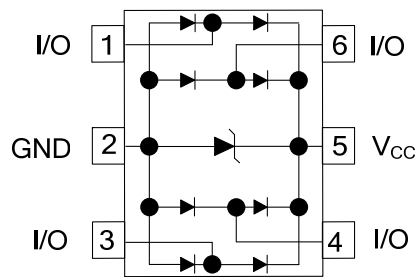
Ordering Number		Package	Packing
Lead Free	Halogen Free		
PUSB220L-AG6-R	PUSB220G-AG6-R	SOT-26	Tape Reel

<p>PUSB220L-AG6-R</p> <ul style="list-style-type: none"> <li>(1)Packing Type</li> <li>(2)Package Type</li> <li>(3)Lead Free</li> </ul>	<ul style="list-style-type: none"> <li>(1) R: Tape Reel</li> <li>(2) AG6 : SOT-26</li> <li>(3) L: Lead Free, G: Halogen Free</li> </ul>
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■ **MARKING**



■ PIN CONFIGURATION



■ 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	V <sub>CC</sub>	Supply Voltage
6	I/O	Terminal of ESD 4

■ ABSOLUTE MAXIMUM RATINGS

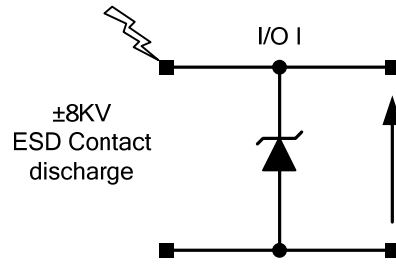
PARAMETER	SYMBOL	RATINGS	UNIT
DC Input Voltage Range	$V_{IN}$	0~+5.5	V
ESD Voltage (HBM Contact)	$V_{ESD}$	-8~+8	kV
Storage Temperature	$T_{STG}$	-55~+125	°C
Operating Temperature Range	$T_{OPR}$	-40~+85	°C

Note: 1. 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.  
 2. IEC 61000-4-2 level 4.

■ ELECTRICAL CHARACTERISTICS ( $T_C=25^{\circ}C$  unless otherwise specified.)

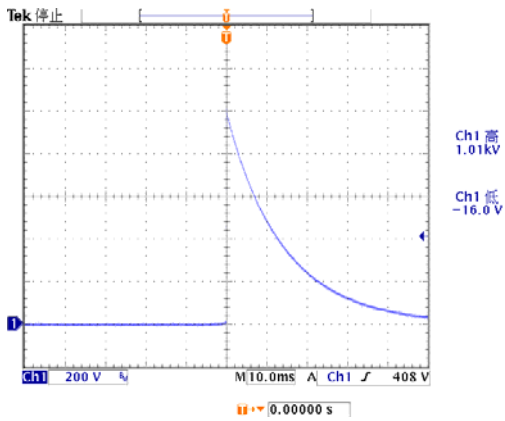
PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Pin Capacitance to Ground, Pins 1, 3, 4, 6	$C_{I/O}$	$V_{IN}=0V, f=1MHz, V_{CC}=3.0V$		1.0		pF
Diode Reverse Leakage Current, Pins 1, 3, 4, 6 to Ground	$I_{IKG}$	$V_I=3.0V$			100	nA
Zener Diode Capacitance to Ground, Pin 5 to 2	$C_{ZENER}$	$V_{IN}=0V, f=1MHz, V_{CC}=3.0V$		40		pF
Zener Diode Breakdown Voltage, Pin 5 to 2	$V_{BR I/O}$	$I=1mA$	6		9	V
Forward Voltage	$V_F$			0.7		V

■ TYPICAL CHARACTERISTICS

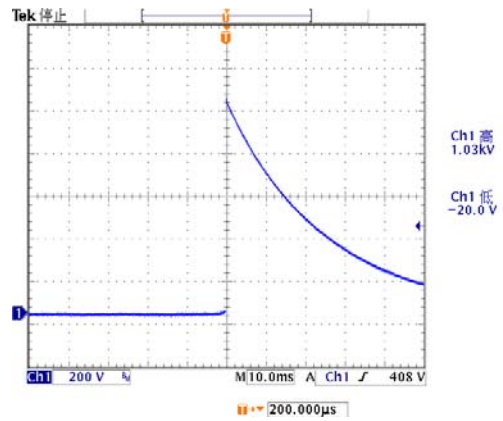


ESD Test Configuration

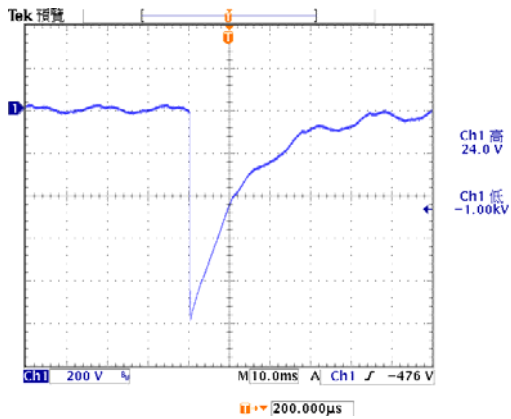
HBM +Voltage Waveform



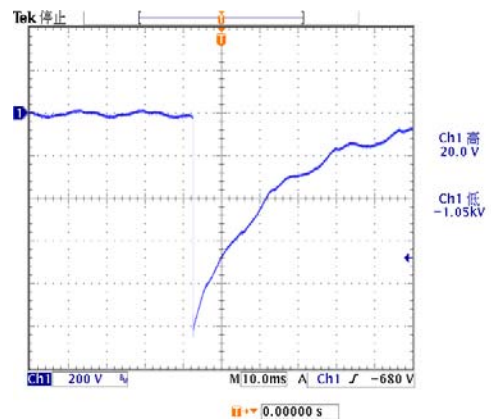
HBM +Voltage Waveform



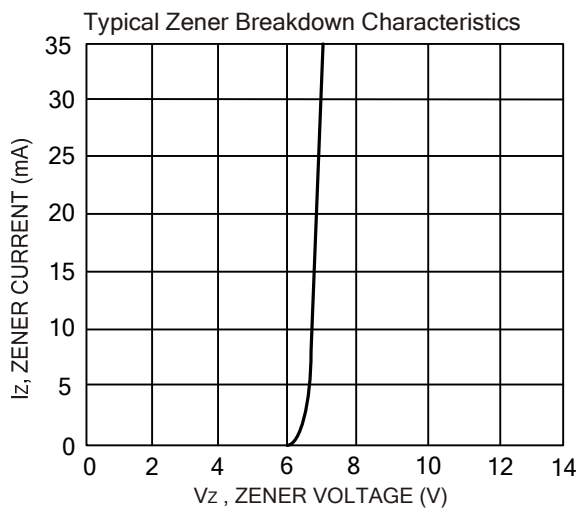
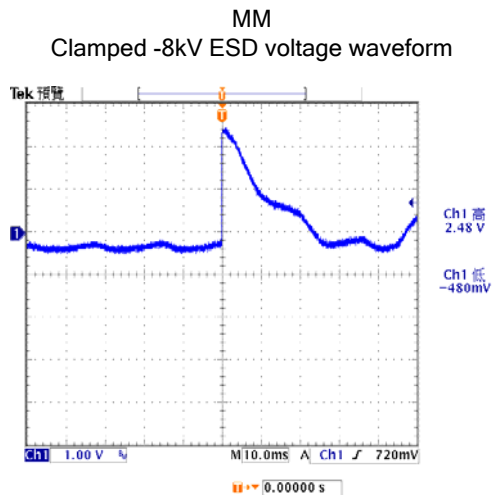
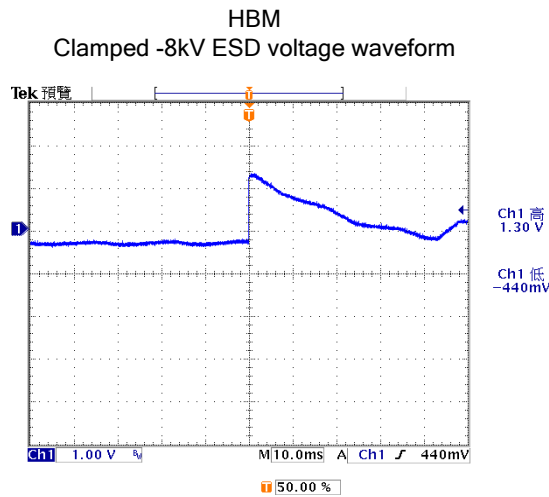
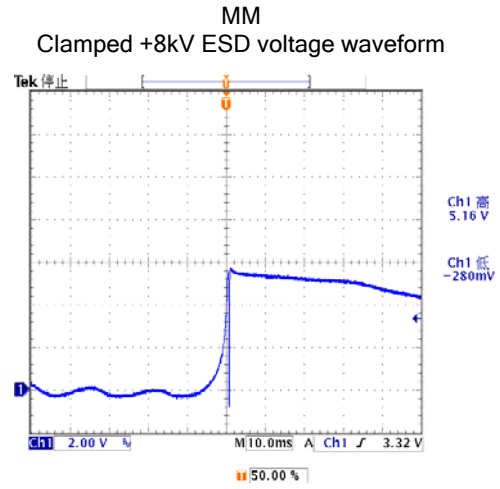
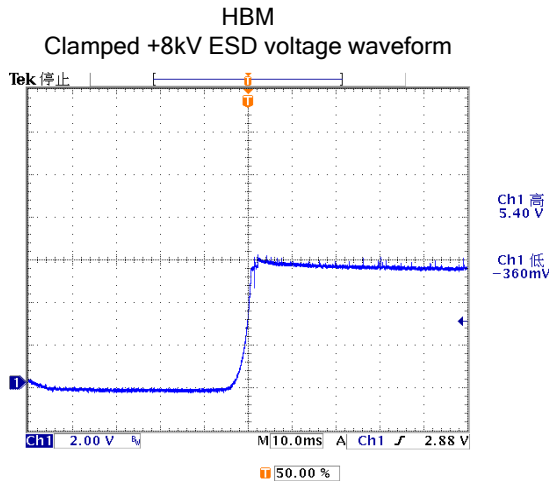
HBM -Voltage Waveform



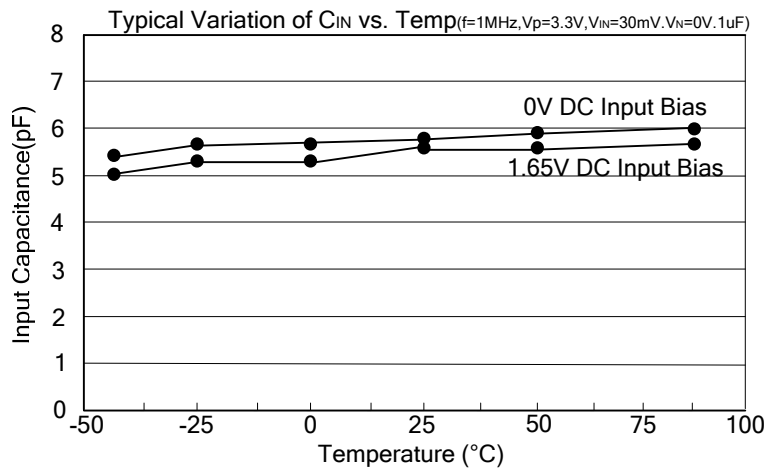
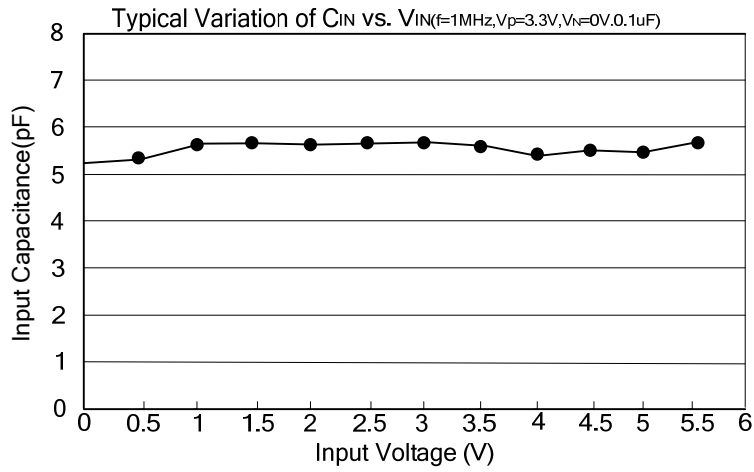
HBM -Voltage Waveform



■ TYPICAL CHARACTERISTICS(Cont.)



■ TYPICAL CHARACTERISTICS(Cont.)



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