PE1605C2A

Ultra Low Capacitance ESD Protection

Voltage **5 V**

Features

- IEC61000-4-2(ESD) ：±20kV Air, ±15kV Contact
- IEC61000-4-4(EFT)：40A(5/50ns)
- IEC61000-4-5(Lightning)：4A(8/20μS)
- Low leakage current, maximum of 50nA at rated voltage
- Ultra low capacitance
- Low clamping voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

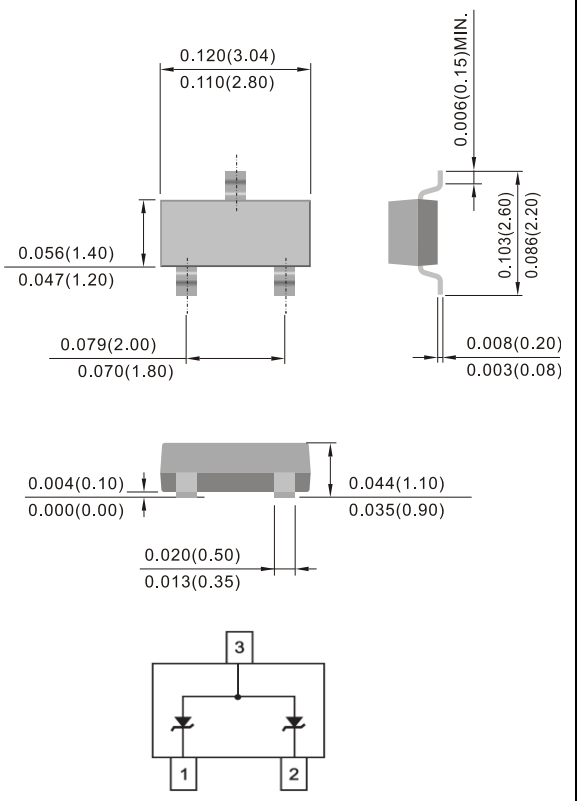
Mechanical Data

- Case: Molded plastic, SOT-23

Applications

- USB 3.0 Data Line Protection
- Mobile Phones and accessories
- Hand held portable
- Digital Cameras
- Computer Interfaces Protection
- Serial and Parallel Ports Protection
- Control Signal Lines Protection

SOT-23 **Unit: inch(mm)**



Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±20 ±15	kV
Operating Junction Temperature Range	T_J	-55 to +150	^oC
Storage Temperature Range	T_{STG}	-55 to +150	^oC

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Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage (Note 1)	V_{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	5.5	-	-	V
Reverse Leakage Current	I_R	V_R=5.0V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP}=1A, t_P=8/20μs, any I/O pins to GND	-	-	10	V
		I_{PP}=4A, t_P=8/20μs, any I/O pins to GND	-	-	15	V
Clamping Voltage TLP (Note 2)	V_{CL}	I_{PP}=8A, t_P=100ns, any I/O pins to GND	-	16	-	V
		I_{PP}=16A, t_P=100ns, any I/O pins to GND	-	23.5	-	V
Dynamic Resistance	R_{DYN}	t_P=100ns	-	0.94	-	Ω
Off State Junction Capacitance	C_J	2.5Vdc Bias f=1MHz, any I/O pins to GND	-	0.3	0.35	pF
		2.5Vdc Bias f=1MHz, Between any I/O pins	-	0.2	-	pF

Note：

1. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operation voltage level.
2. Testing using Transmission Line Pulse (TLP) conditions: Z0 = 50Ω, t_P = 100 ns.

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TYPICAL CHARACTERISTIC CURVES

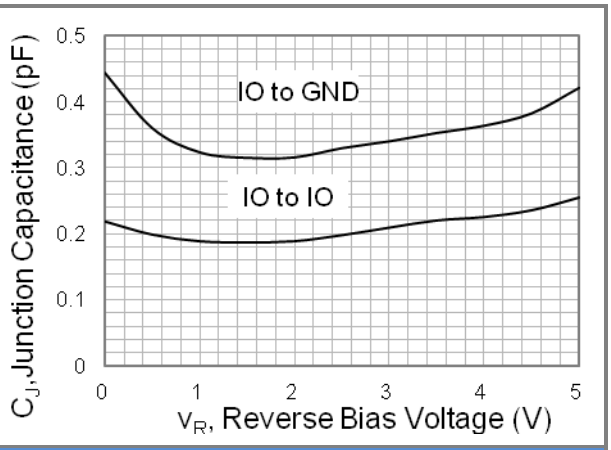

Fig.1 Typical Junction Capacitance

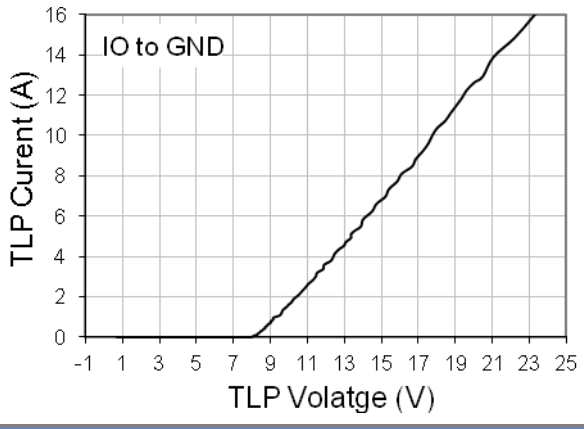

Fig.2 Transmission Line Pulsing (TLP) Measurement

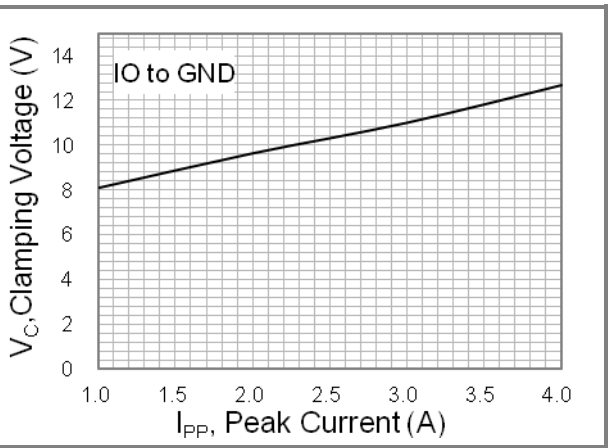

Fig.3 Typical Peak Clamping Voltage(8/20μs)

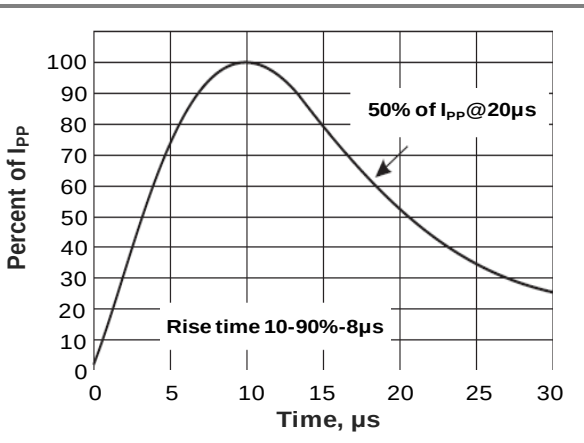

Fig.4 8/20μs Pulse Waveform

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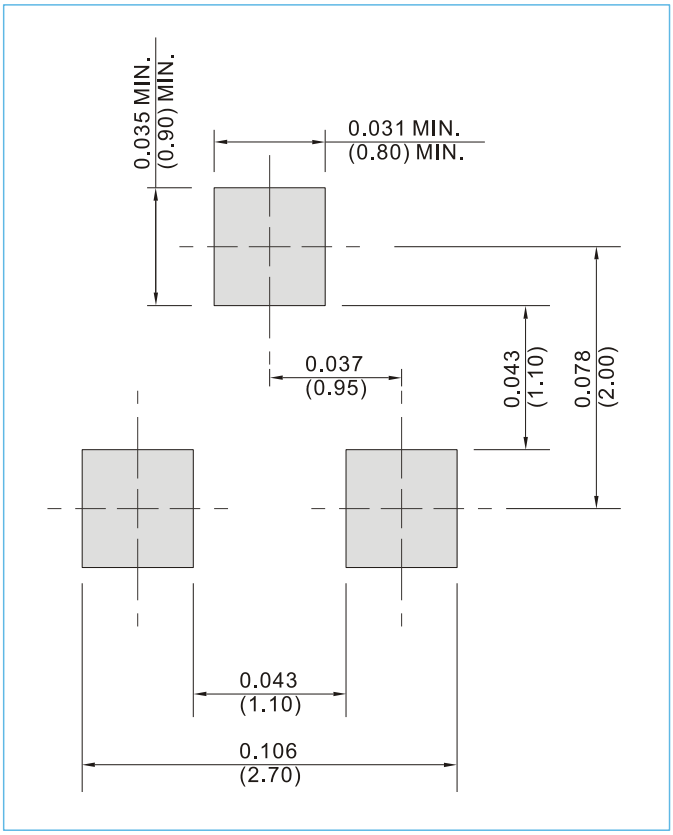
Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PE1605C2A_R1_00001	SOT-23	3K pcs / 7” reel	KCC	Halogen free
PE1605C2A_R2_00001	SOT-23	12K pcs / 13” reel	KCC	Halogen free

Mounting Pad Layout

SOT-23 Unit : inch(mm)



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