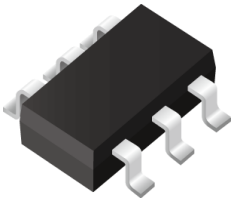
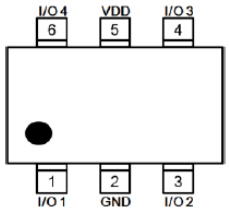
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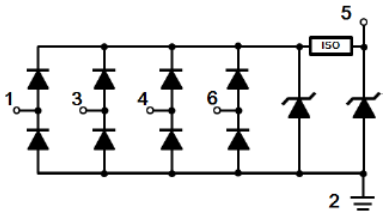
Low Capacitance ESD Protection

Voltage **5 V**

SOT-23 6L-1







Features

- IEC61000-4-2(ESD)：±30kV Air, ±30kV Contact
- IEC61000-4-4(EFT)：40A(5/50ns)
- IEC61000-4-5(Lightning)：12A(8/20uS)
- Low leakage current, maximum of 1uA at rated voltage
- Ultra low clamping voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOT-23 6L-1 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0142 grams

Maximum Ratings

PARAMETER	SYMBOL	VALUE	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±30 ±30	kV
Typical Thermal Resistancet(Note 1)	$R_{\theta JA}$	350	°C/W
Operating Junction Temperature Range	T_J	-55 to +85	°C
Storage Temperature Range	T_{STG}	-55 to +125	°C

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Electrical Characteristics

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	any IO pin to GND	-	-	3.3	V
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	VDD pin to GND	-	-	5.5	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	6	-	12	V
Reverse Leakage Current	I_R	V_R=3.3V, any IO pin to GND	-	-	1	uA
		V_R=5V, VDD pin to GND	-	-	1	uA
Clamping Voltage	V_{CL}	I_{PP}=5A, t_P=8/20μs, any IO pin to GND	-	2.3	-	V
		I_{PP}=5A, t_P=8/20μs, VDD pin to GND	-	6.2	-	V
Clamping Voltage TLP(Note 3)	V_{CL}	IPP=8A, tP=100ns, any IO pin to GND	-	2.48	-	V
		IPP=16A, tP=100ns, any IO pin to GND	-	3.2	-	V
		IPP=8A, tP=100ns, VDD pin to GND	-	6.8	-	V
		IPP=16A, tP=100ns, VDD pin to GND	-	7.6	-	V
Dynamic Resistance	R_{DYN}	t_P=100ns, any IO pin to GND	-	0.09	-	Ω
		t_P=100ns, VDD pin to GND	-	0.10	-	Ω
Off State Junction Capacitance(Note 4)	C_J	0Vdc Bias f=1MHz, any I/O pin to GND	-	1.6	1.8	pF

NOTES：

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. 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.
3. Testing using Transmission Line Pulse (TLP) conditions: Z0 = 50Ω, t_P = 100 ns.
4. This parameter is guaranteed by design.
5. This snap-back behavior strongly reduces the clamping voltage to the system behind the ESD protection during an ESD event. Do not connect unlimited DC current sources to the data lines to avoid the ESD protection device maintain in snap-back state after exceeding breakdown voltage.

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TYPICAL CHARACTERISTIC CURVES

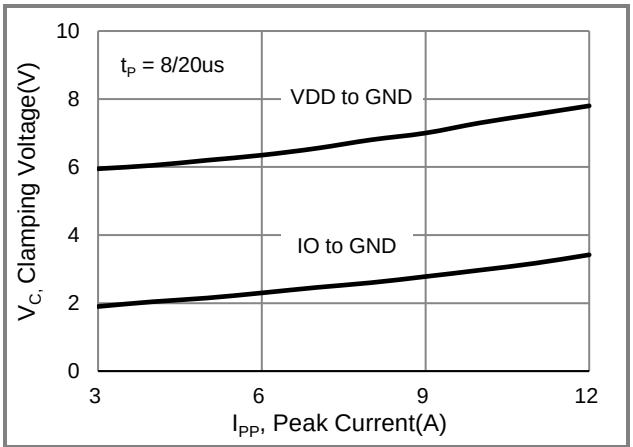


Fig.1 Typical Peak Clamping Voltage

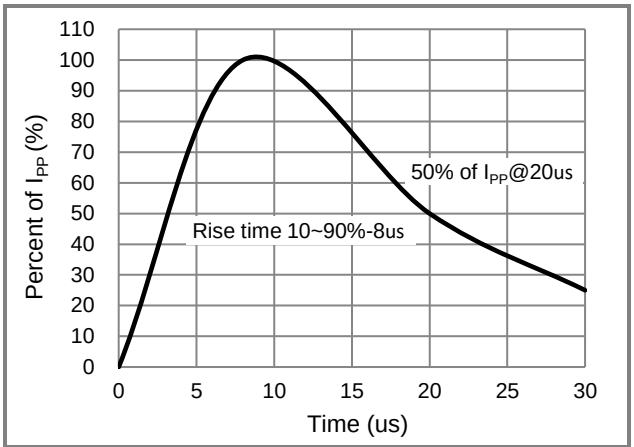


Fig.2 Pulse Waveform

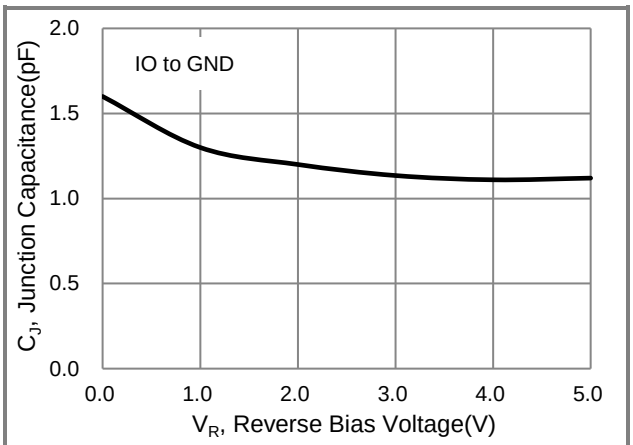


Fig.3 Typical Junction Capacitance

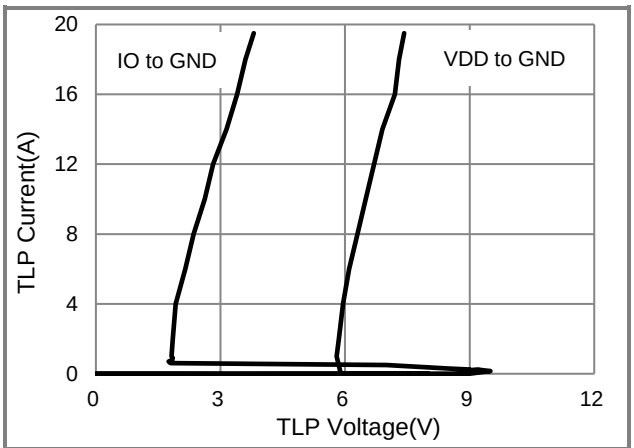


Fig.4 TLP Measurement

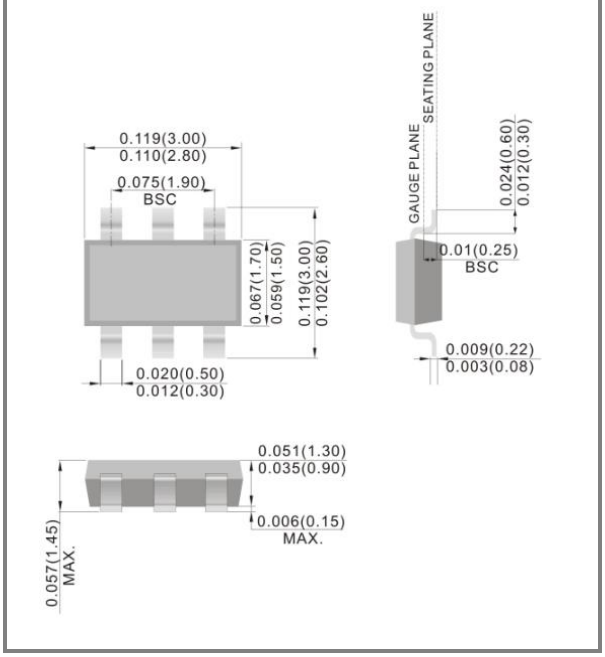
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Product and Packing Information

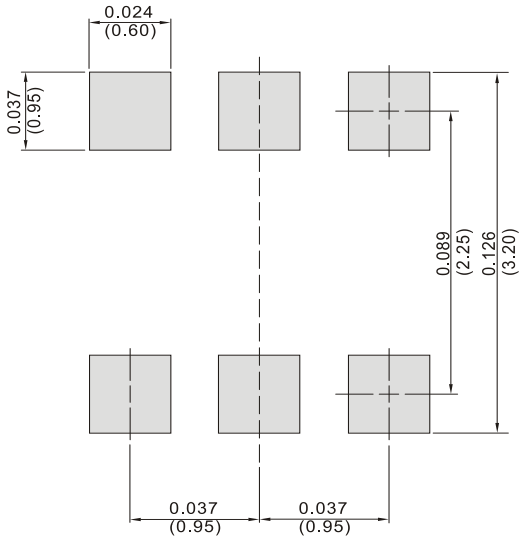
Part No.	Package Type	Packing Type	Marking
PE21SD05C4A6	SOT-23 6L-1	3K pcs / 7” reel	1D5

Packaging Information & Mounting Pad Layout

SOT-23 6L-1 Dimension — Unit: inch(mm)



SOT-23 6L-1 Pad Layout — Unit: inch(mm)



PE21SD05C4A6

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