



PE1805C2A4

ULTRA LOW CAPACITANCE ESD PROTECTION

Voltage

5 V

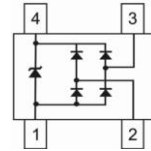
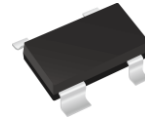
Features

- IEC61000-4-2(ESD): ± 22 kV Air, ± 18 kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 3 A(8/20 μ S)
- 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-143
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0004 ounces, 0.01 grams

SOT-143



Maximum Ratings and Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V_{ESD}	± 22	kV
ESD IEC61000-4-2(Contact)		± 18	
Operating Junction Temperature Range	T_J	-55~150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$



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Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	$V_{RWM}^{(1)}$	-	-	-	5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{mA}$, Pin4 to Pin1	5	-	12	V
Reverse Leakage Current	I_R	$V_R = 5\text{V}$	-	-	1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{A}$, $t_P = 8/20\mu\text{s}$, any I/O pins to Pin1	-	-	13	V
		$I_{PP} = 3\text{A}$, $t_P = 8/20\mu\text{s}$, any I/O pins to Pin1	-	-	30	
Clamping Voltage TLP	$V_{CL}^{(2)}$	$I_{PP} = 8\text{A}$, $t_P = 100\text{ns}$	-	22.4	-	V
		$I_{PP} = 16\text{A}$, $t_P = 100\text{ns}$	-	33.5	-	
Dynamic Resistance	R_{DYN}	$t_P = 100\text{ns}$	-	1.39	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{MHz}$, Between any I/O pins to Pin1	-	-	0.8	pF
		0Vdc Bias $f = 1\text{MHz}$, Between any I/O pins	-	-	0.4	

NOTES:

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: $Z_0 = 50\Omega$, $t_P = 100\text{ns}$.



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TYPICAL CHARACTERISTIC CURVES

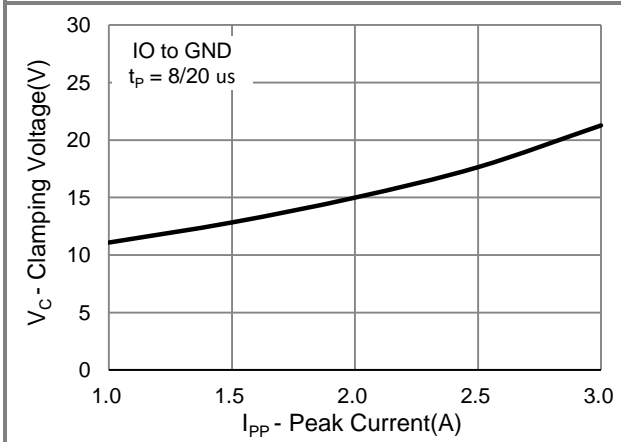


Fig.1 Typical Peak Clamping Voltage

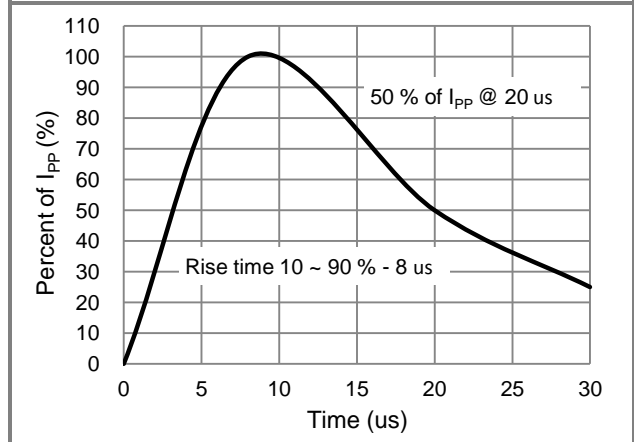


Fig.2 Pulse Waveform

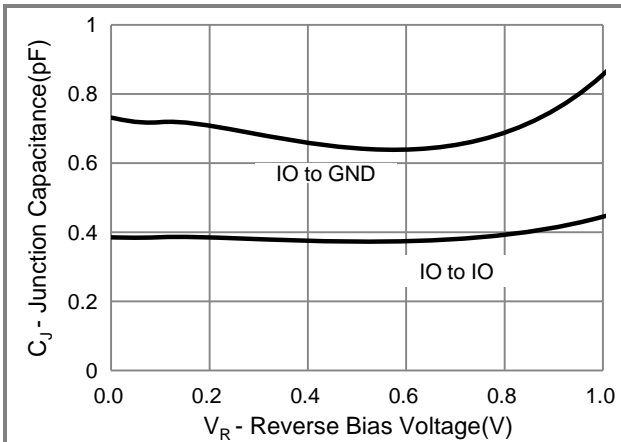


Fig.3 Typical Junction Capacitance

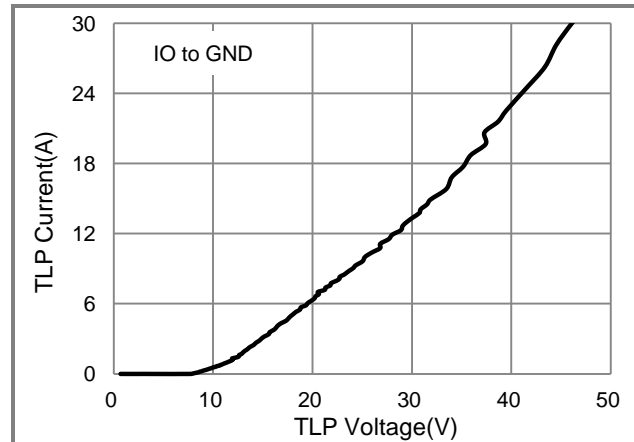


Fig.4 TLP Measurement

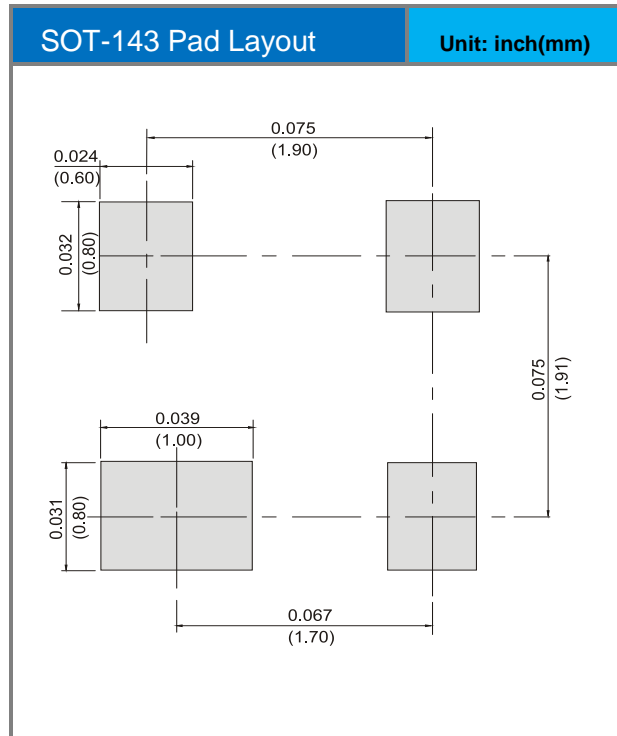
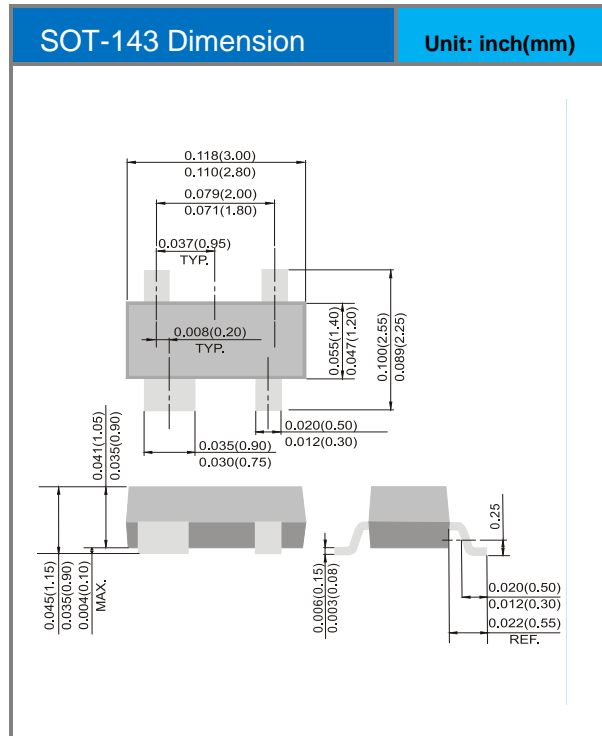


PE1805C2A4

Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PE1805C2A4_R1_00001	SOT-143	3K / 7" Reel	U5V0	Halogen Free

Packaging Information & Mounting Pad Layout





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