



PE1605C4E6-AU

ULTRA LOW CAPACITANCE ESD PROTECTION

Voltage

5 V

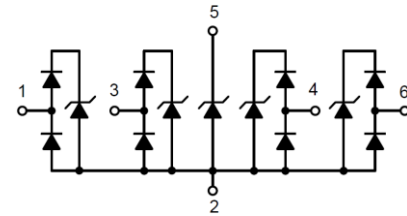
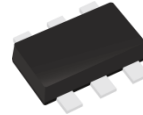
Features

- IEC61000-4-2(ESD): ± 20 kV Air, ± 15 kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 4 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
- AEC-Q101 qualified

Mechanical Data

- Case: Molded plastic, SOT-563
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00009 ounces, 0.003 grams

SOT-563



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}	± 20	kV
ESD IEC61000-4-2(Contact)		± 15	
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	$V_{RWM}^{(1)}$	-	-	-	5.5	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$, any I/O pins to GND	6	6.9	-	V
Reverse Leakage Current	I_R	$V_R = 5\text{ V}$	-	-	1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}$, $t_P = 8/20\text{ us}$, any I/O pins to GND	-	-	10	V
		$I_{PP} = 4\text{ A}$, $t_P = 8/20\text{ us}$, any I/O pins to GND	-	-	15	
Clamping Voltage TLP	$V_{CL}^{(2)}$	$I_{PP} = 8\text{ A}$, $t_P = 100\text{ ns}$, any I/O pins to GND	-	16	-	V
		$I_{PP} = 16\text{ A}$, $t_P = 100\text{ ns}$, any I/O pins to GND	-	23.5	-	
Dynamic Resistance	R_{DYN}	$t_P = 100\text{ ns}$	-	0.94	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$, Between any I/O pins to GND	-	-	0.6	pF
		0Vdc Bias $f = 1\text{ MHz}$, Between any I/O pins	-	-	0.3	

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

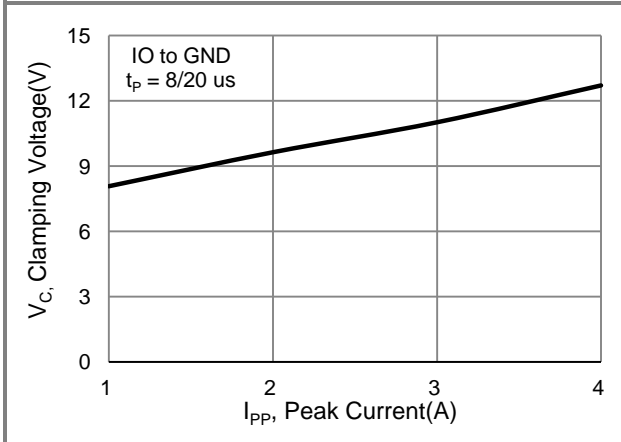


Fig.1 Typical Peak Clamping Voltage

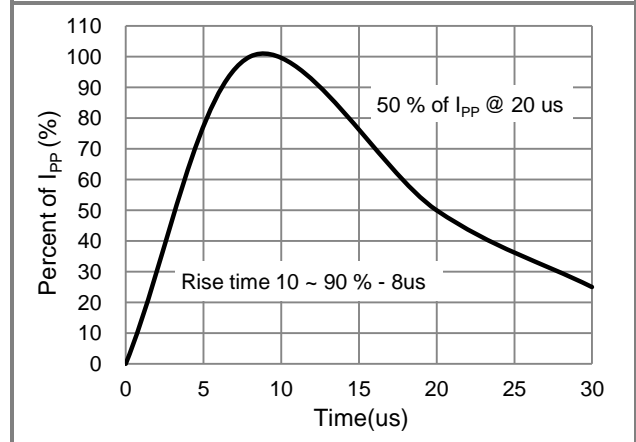


Fig.2 Pulse Waveform

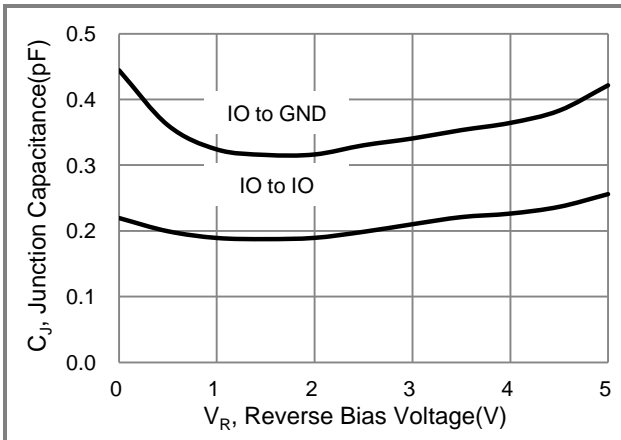


Fig.3 Typical Junction Capacitance

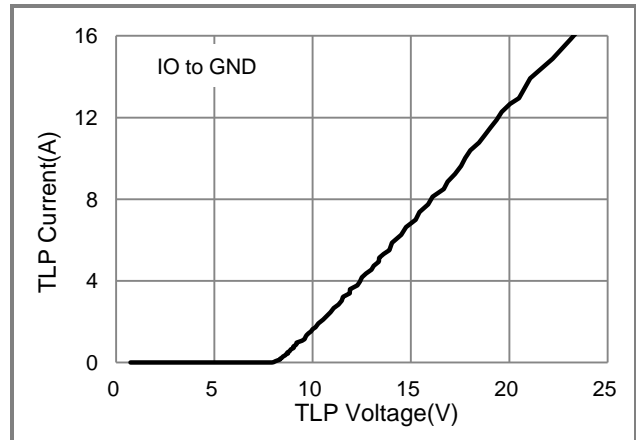


Fig.4 TLP Measurement



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