



# PE1605C4E6-AU

## ULTRA LOW CAPACITANCE ESD PROTECTION

**Voltage**

**5 V**

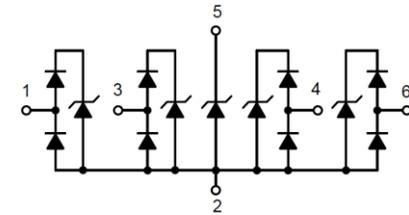
### Features

- IEC61000-4-2(ESD):  $\pm 20$  kV Air,  $\pm 15$  kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 4 A(8/20  $\mu$ S)
- Low clamping voltage
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### Mechanical Data

- Case: Molded plastic, SOT-563
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0026 grams

SOT-563



## Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	$\pm 20$	kV
ESD IEC61000-4-2(Contact)		$\pm 15$	
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



# PE1605C4E6-AU

## 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	$\mu\text{A}$
Clamping Voltage	$V_{CL}$	$I_{PP} = 1\text{ A}$ , $t_P = 8/20\ \mu\text{s}$ , any I/O pins to GND	-	-	10	V
		$I_{PP} = 4\text{ A}$ , $t_P = 8/20\ \mu\text{s}$ , 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	-	$\Omega$
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:  $Z_0 = 50\ \Omega$ ,  $t_P = 100\text{ ns}$ .



# PE1605C4E6-AU

## TYPICAL CHARACTERISTIC CURVES

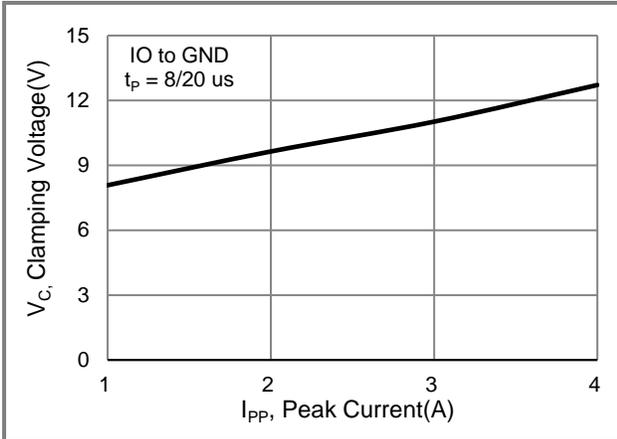


Fig.1 Typical Peak Clamping Voltage

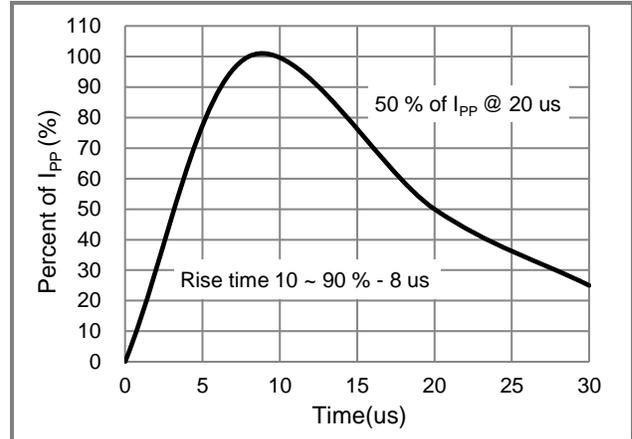


Fig.2 Pulse Waveform

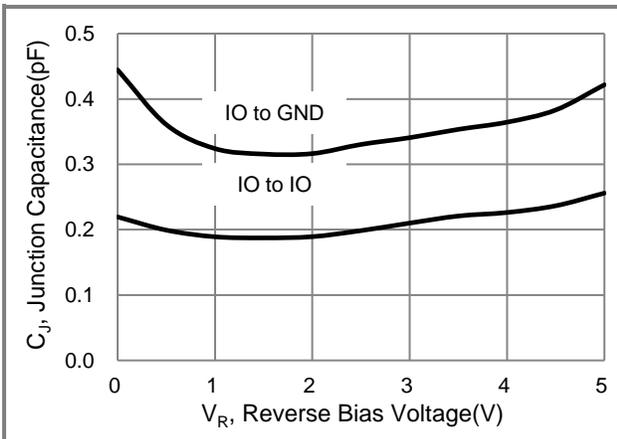


Fig.3 Typical Junction Capacitance

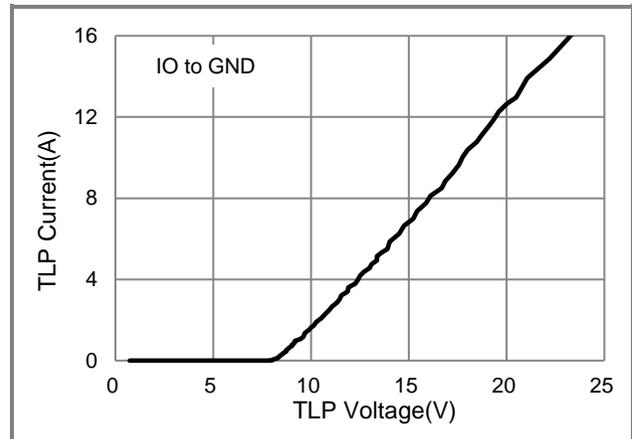


Fig.4 TLP Measurement

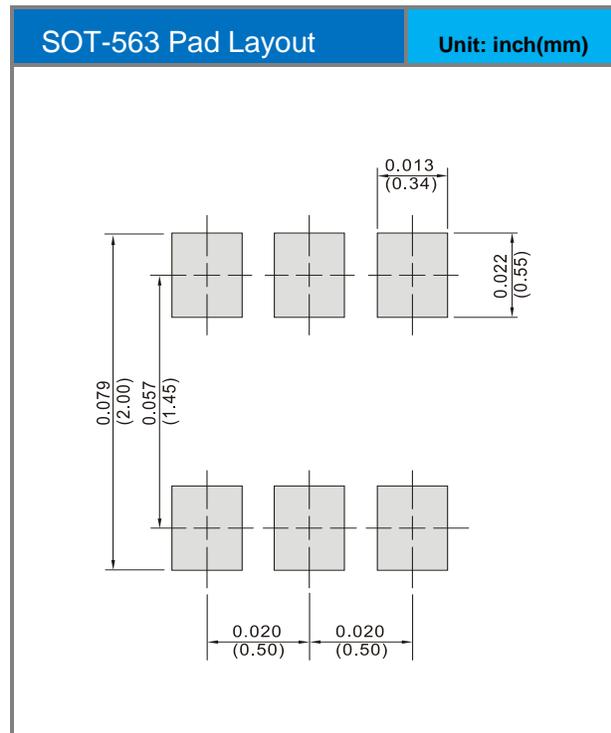
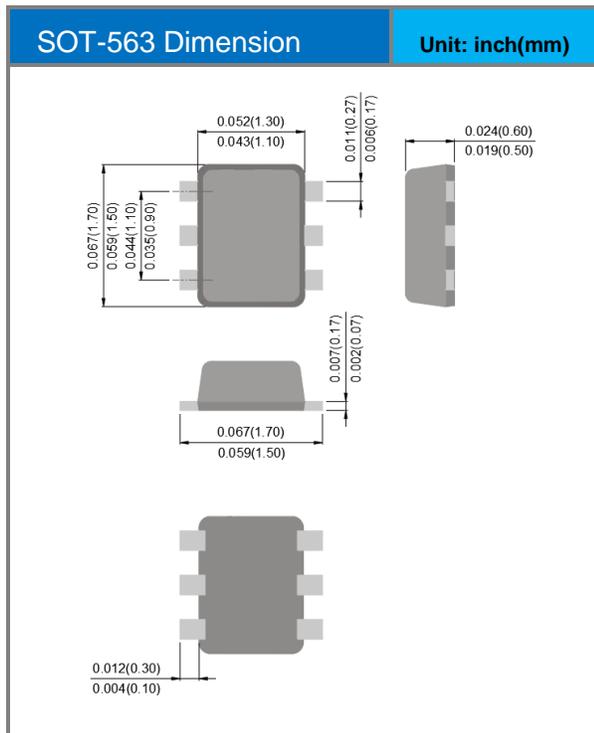


# PE1605C4E6-AU

Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PE1605C4E6-AU_R1_000A1	SOT-563	4K / 7" Reel	KCC	Halogen free RoHS compliant

## Packaging Information & Mounting Pad Layout





## PE1605C4E6-AU

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.