



# PEC2305C4E5

## VERY LOW CAPACITANCE ESD PROTECTION

**Voltage**

**5 V**

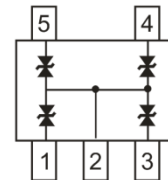
### Features

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

### Mechanical Data

- Case : SOT-553 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0025 grams

SOT-553



## 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> | $\pm 15$ | kV    |
| ESD IEC61000-4-2(Contact)            |                  | $\pm 8$  |       |
| Operating Junction Temperature Range | T <sub>J</sub>   | -55~150  | °C    |
| Storage Temperature Range            | T <sub>STG</sub> | -55~150  | °C    |



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## Electrical Characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

| PARAMETER                      | SYMBOL                          | TEST CONDITION                                  | MIN. | TYP. | MAX. | UNITS |
|--------------------------------|---------------------------------|---|------|------|------|-------|
| Reverse Stand-Off Voltage      | V <sub>RWM</sub> <sup>(1)</sup> | -   | -    | -    | 5    | V     |
| Reverse Breakdown Voltage      | V <sub>BR</sub>                 | I <sub>BR</sub> = 1 mA                          | 5.5  | -    | 10   | V     |
| Reverse Leakage Current        | I <sub>R</sub>                  | V <sub>R</sub> = 5 V                            | -    | -    | 100  | nA    |
| Clamping Voltage               | V <sub>CL</sub>                 | I <sub>PP</sub> = 1 A, t <sub>P</sub> = 8/20 μs | -    | -    | 12   | V     |
|                                |                                 | I <sub>PP</sub> = 2 A, t <sub>P</sub> = 8/20 μs | -    | -    | 15   |       |
| Clamping Voltage TLP           | V <sub>CL</sub> <sup>(2)</sup>  | I <sub>PP</sub> = 8 A, t <sub>P</sub> = 100 ns  | -    | 12.1 | -    | V     |
|                                |                                 | I <sub>PP</sub> = 16 A, t <sub>P</sub> = 100 ns | -    | 13.7 | -    |       |
| Dynamic Resistance             | R <sub>DYN</sub>                | t <sub>P</sub> = 100 ns                         | -    | 0.2  | -    | Ω     |
| Off State Junction Capacitance | C <sub>J</sub>                  | 0Vdc Bias f = 1 MHz                             | -    | -    | 3.5  | pF    |

NOTES :

1. A transient suppressor is selected according to the working peak reverse voltage(V<sub>RWM</sub>), 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<sub>0</sub> = 50 Ω, t<sub>P</sub> = 100 ns.



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## TYPICAL CHARACTERISTIC CURVES

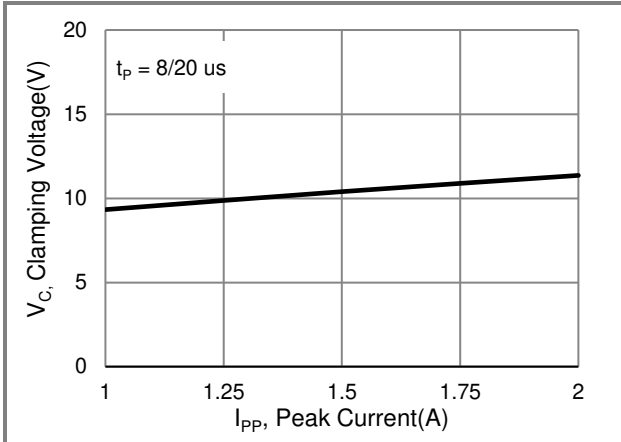


Fig.1 Typical Peak Clamping Voltage

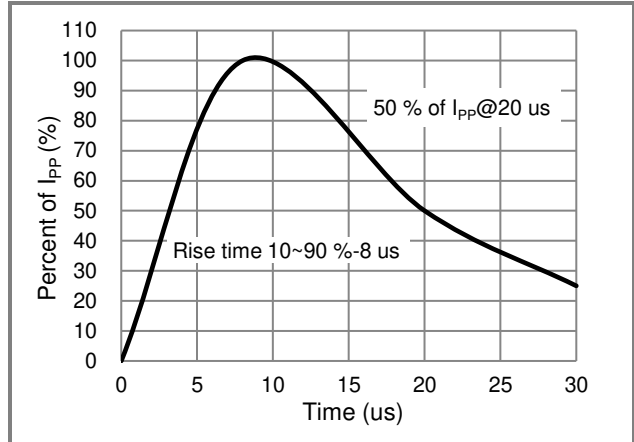


Fig.2 Pulse Waveform

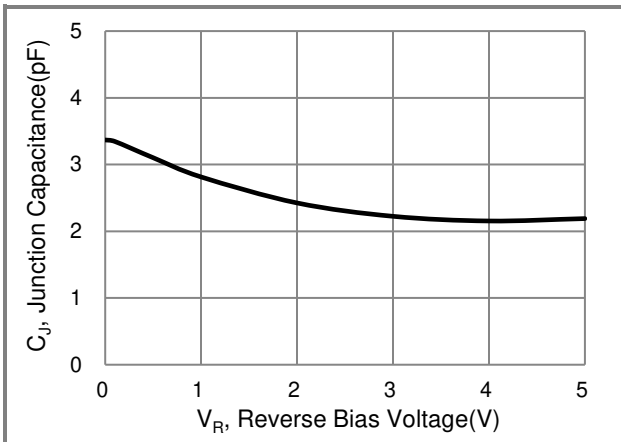


Fig.3 Typical Junction Capacitance

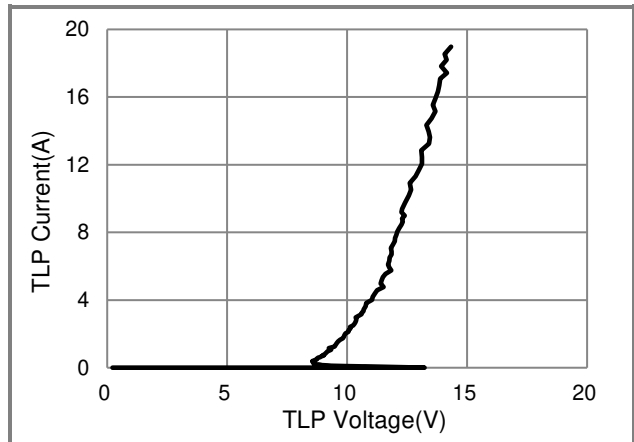


Fig.4 TLP Measurement

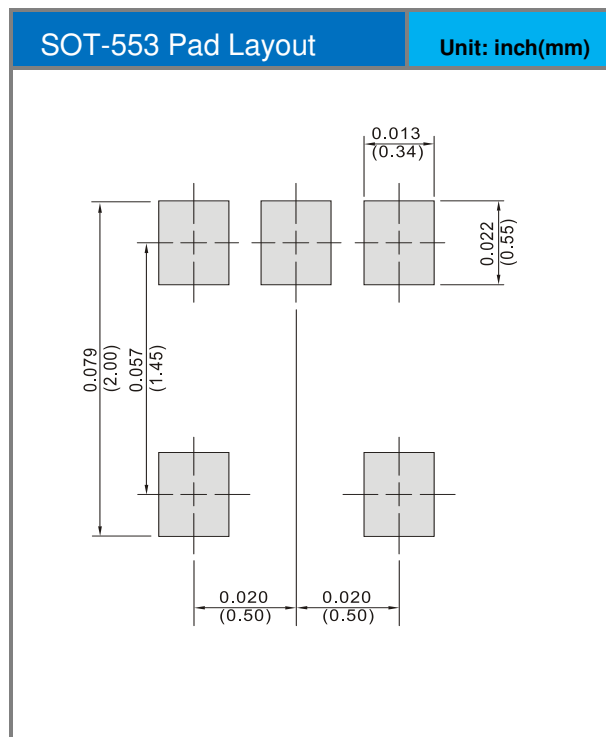
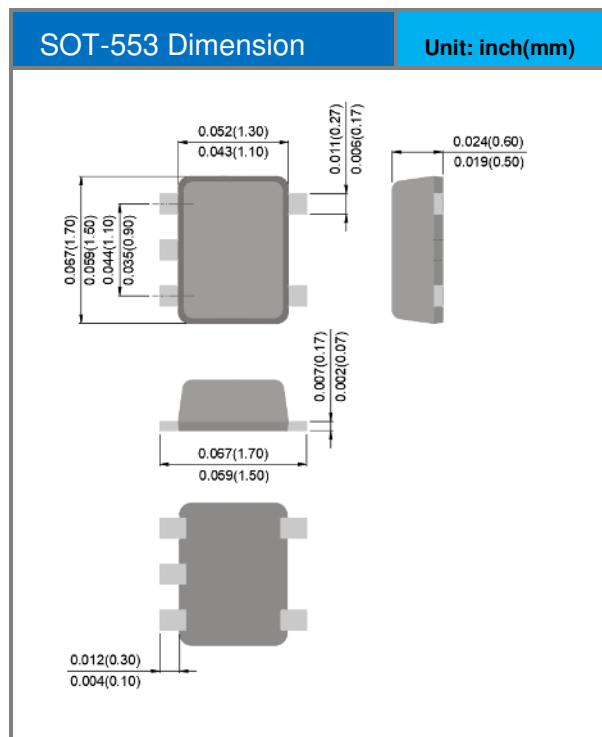


# PEC2305C4E5

**Part No. Packing Code Version**

| Part No. Packing Code | Package Type | Packing Type | Marking | Version                        |
|-----------------------|--------------|--------------|---------|--------------------------------|
| PEC2305C4E5_R1_00001  | SOT-553      | 4K / 7" Reel | SA      | Halogen free<br>RoHS compliant |

## Packaging Information & Mounting Pad Layout





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