



# PEC33712C2A

## ESD PROTECTION

**Voltage**

**7 V / 12 V**

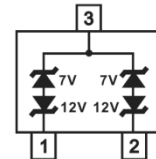
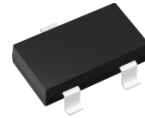
### Features

- Protects two +12V to -7V line
- IEC61000-4-2(ESD):  $\pm 30$  kV Air,  $\pm 30$  kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 5A(8/20  $\mu$ 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-23
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.0084 grams

SOT-23



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

| PARAMETER                            | SYMBOL           | LIMIT    | UNITS            |
|--------------------------------------|------------------|----------|------------------|
| ESD IEC61000-4-2(Air)                | $V_{\text{ESD}}$ | $\pm 30$ | kV               |
| ESD IEC61000-4-2(Contact)            |                  | $\pm 30$ |                  |
| Operating Junction Temperature Range | $T_J$            | -55~150  | $^\circ\text{C}$ |
| Storage Temperature Range            | $T_{\text{STG}}$ | -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      | $V_{RWM}^{(1)}$ | Pin1 to Pin3 or Pin2 to Pin3  | -    | -    | 12   | V     |
|                                |                 | Pin3 to Pin1 or Pin3 to Pin2  | -    | -    | 7    |       |
| Reverse Breakdown Voltage      | $V_{BR}$        | Pin1 to Pin3 or Pin2 to Pin3, $I_R = 1\text{ mA}$                               | 13.3 | -    | -    | V     |
|                                |                 | Pin3 to Pin1 or Pin3 to Pin2, $I_R = 1\text{ mA}$                               | 7.5  | -    | -    |       |
| Reverse Leakage Current        | $I_R$           | Pin1 to Pin3 or Pin2 to Pin3, $V_R = 12\text{ V}$                               | -    | -    | 1    | uA    |
|                                |                 | Pin3 to Pin1 or Pin3 to Pin2, $V_R = 7\text{ V}$                                | -    | -    | 1    |       |
| Clamping Voltage               | $V_{CL}$        | Pin1 to Pin3 or Pin2 to Pin3, $I_{PP} = 1\text{ A}$ ,<br>$t_P = 8/20\text{ us}$ | -    | -    | 19   | V     |
|                                |                 | Pin1 to Pin3 or Pin2 to Pin3, $I_{PP} = 5\text{ A}$ ,<br>$t_P = 8/20\text{ us}$ | -    | -    | 25   |       |
|                                |                 | Pin3 to Pin1 or Pin3 to Pin2, $I_{PP} = 1\text{ A}$ ,<br>$t_P = 8/20\text{ us}$ | -    | -    | 12   |       |
|                                |                 | Pin3 to Pin1 or Pin3 to Pin2, $I_{PP} = 8\text{ A}$ ,<br>$t_P = 8/20\text{ us}$ | -    | -    | 15   |       |
| Off State Junction Capacitance | $C_J$           | 0Vdc Bias $f = 1\text{ MHz}$  | -    | 29   | 35   | pF    |

**NOTE:**

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.



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## TYPICAL CHARACTERISTIC CURVES

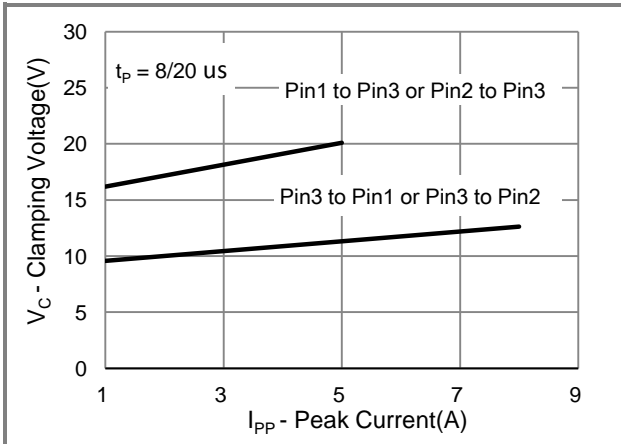


Fig.1 Typical Peak Clamping Voltage

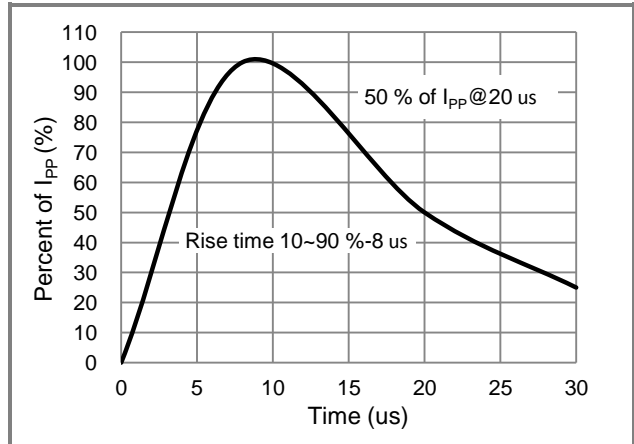


Fig.2 Pulse Waveform

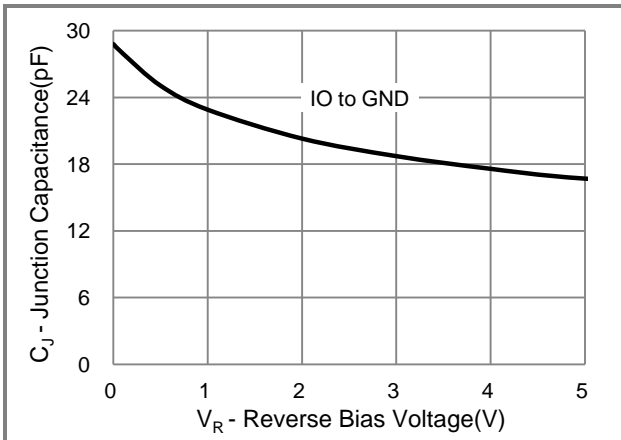


Fig.3 Typical Junction Capacitance

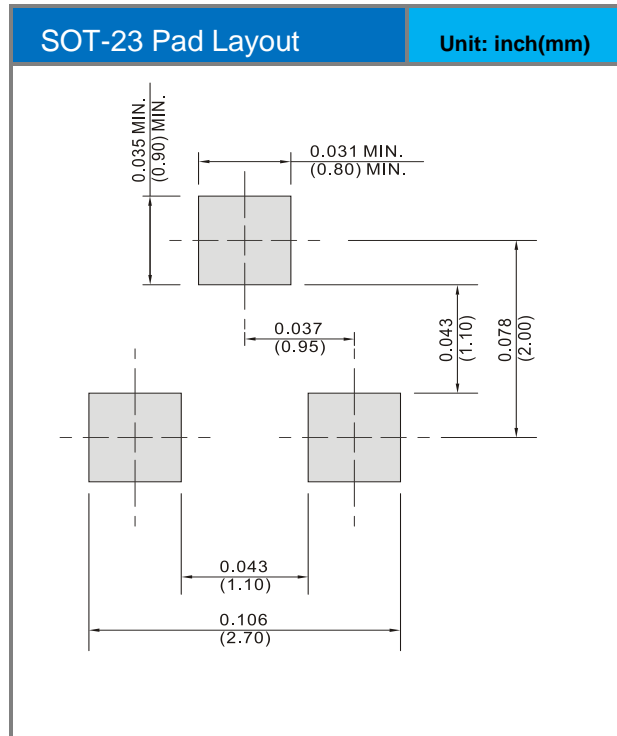
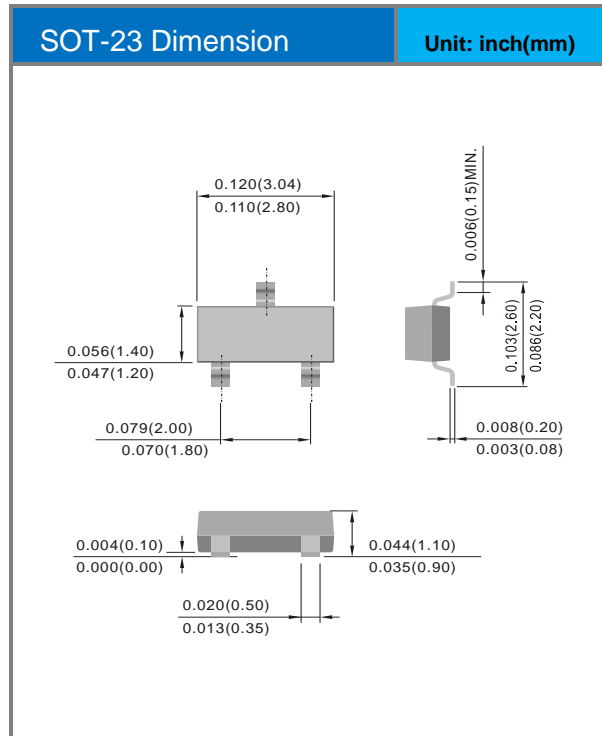


# PEC33712C2A

## Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version      |
|----------------------|--------------|--------------|---------|--------------|
| PEC33712C2A_R1_00001 | SOT-23       | 3K / 7" Reel | 3TA     | Halogen Free |

## Packaging Information & Mounting Pad Layout





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