# PEC4102CS-AU ~ PEC4105CS-AU Series

## ESD Protection

**Voltage** **2.5~5 V**

**SOD-323**


## Features

- IEC61000-4-2(ESD): ± 15 kV Air, ± 8 kV Contact Compliance with the capability up to ± 30 kV
- IEC61000-4-5(Lightning) : 20~30A(8/20uS)
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

## Mechanical Data

- Case : SOD-323 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0041 grams

## Maximum Ratings and Thermal Characteristics ($T_A$ = 25 °C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|---|---|---|
| ESD IEC61000-4-2(Air)<br>ESD IEC61000-4-2(Contact) | $V_{ESD}$ | ±30<br>±30 | kV |
| Typical Thermal Resistance(Note 1) | $R_{\theta JA}$ | 650 | °C/W |
| Operating Junction Temperature Range | $T_J$ | -55~150 | °C |
| Storage Temperature Range | $T_{STG}$ | -55~150 | °C |

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## Electrical Characteristics ($T_A$ = 25 °C unless otherwise noted)

| PEC4102CS-AU | | | | | | |
|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **TEST CONDITION** | **MIN.** | **TYP.** | **MAX.** | **UNITS** |
| Reverse Stand-Off Voltage(Note 2) | $V_{RWM}$ | - | - | - | 2.5 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$ = 50 mA | 2.6 | - | 4 | V |
| Reverse Leakage Current | $I_R$ | $V_R$ = 2.5 V | - | - | 0.5 | uA |
| Clamping Voltage | $V_{CL}$ | $I_{PP}$ = 1 A, $t_P$ = 8/20 us | - | - | 4.5 | V |
| | | $I_{PP}$ = 30 A, $t_P$ = 8/20 us | - | - | 9 | |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias f = 1 MHz | - | - | 120 | pF |

| PEC4103CS-AU | | | | | | |
|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **TEST CONDITION** | **MIN.** | **TYP.** | **MAX.** | **UNITS** |
| Reverse Stand-Off Voltage(Note 2) | $V_{RWM}$ | - | - | - | 3.3 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{BR}$ = 50 mA | 3.5 | - | 4.5 | V |
| Reverse Leakage Current | $I_R$ | $V_R$ = 3.3 V | - | - | 0.5 | uA |
| Clamping Voltage | $V_{CL}$ | $I_{PP}$ = 1 A, $t_P$ = 8/20 us | - | - | 5.5 | V |
| | | $I_{PP}$ = 30 A, $t_P$ = 8/20 us | - | - | 9 | |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias f = 1 MHz | - | - | 100 | pF |

| PEC4105CS-AU | | | | | | |
|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **TEST CONDITION** | **MIN.** | **TYP.** | **MAX.** | **UNITS** |
| Reverse Stand-Off Voltage(Note 2) | $V_{RWM}$ | - | - | - | 5 | V |
| Reverse Breakdown Voltage | $V_{BR}$ | $I_{SB}$ = 50 mA | 5.5 | - | 8 | V |
| Reverse Leakage Current | $I_R$ | $V_R$ = 5 V | - | - | 0.5 | uA |
| Clamping Voltage | $V_{CL}$ | $I_{PP}$ = 1 A, $t_P$ = 8/20 us | - | - | 10 | V |
| | | $I_{PP}$ = 20 A, $t_P$ = 8/20 us | - | - | 13 | |
| Off State Junction Capacitance | $C_J$ | 0Vdc Bias f = 1 MHz | - | - | 80 | pF |

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
2. 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

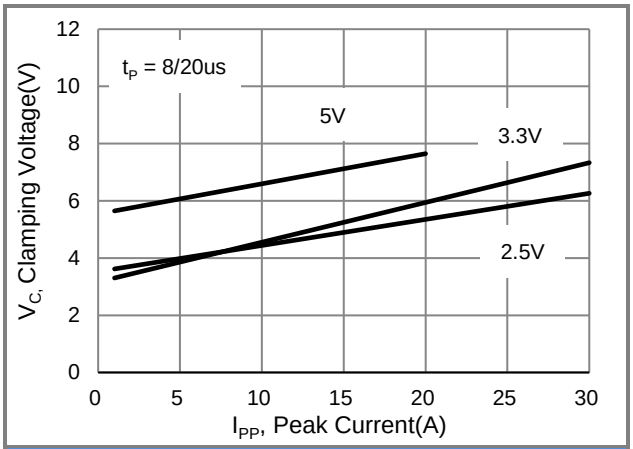


Fig.1 Typical Peak Clamping Voltage

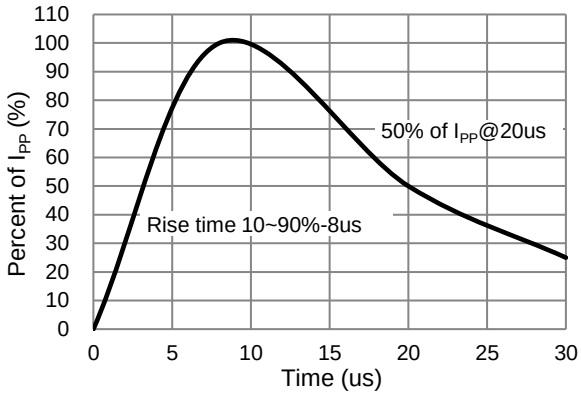


Fig.2 Pulse Waveform

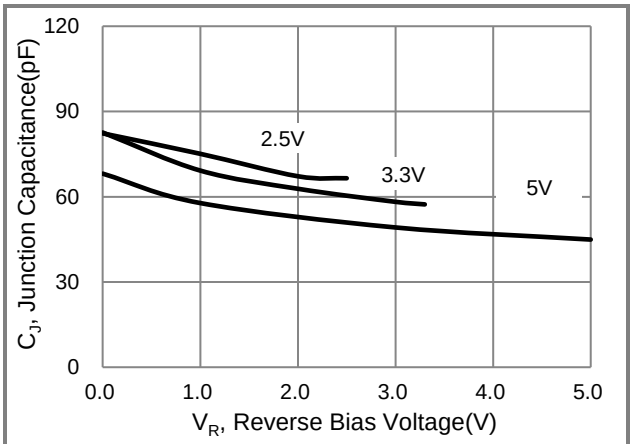


Fig.3 Typical Junction Capacitance

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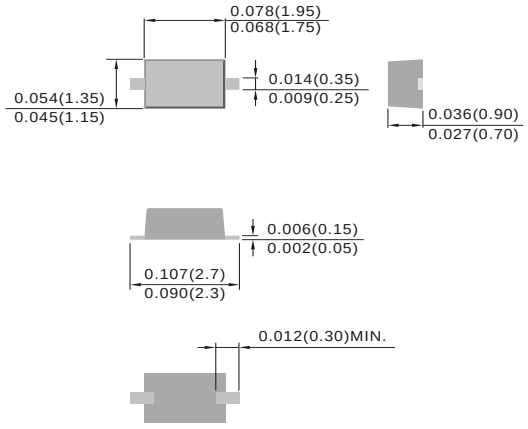
## Product and Packing Information

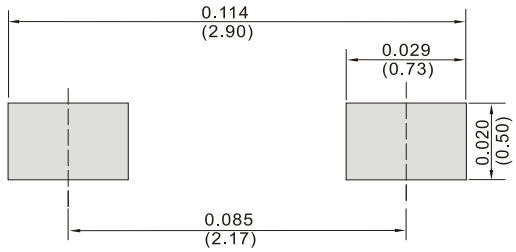
| Part No. | Package Type | Packing Type | Marking |
|---|---|---|---|
| PEC4102CS-AU | SOD-323 | 5K pcs / 7" reel | ACA |
| PEC4103CS-AU | SOD-323 | 5K pcs / 7" reel | ACB |
| PEC4105CS-AU | SOD-323 | 5K pcs / 7" reel | ACC |

## Packaging Information & Mounting Pad Layout

SOD-323 Dimension — Unit: inch(mm)




SOD-323 Pad Layout — Unit: inch(mm)



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