



PEC1605M1Q-AU

ULTRA LOW CAPACITANCE ESD PROTECTION

Voltage

5 V

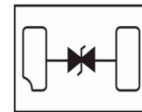
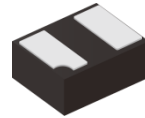
Features

- IEC61000-4-2(ESD): ± 20 kV Air, ± 15 kV Contact
- IEC61000-4-4(EFT): 40 A(5/50 ns)
- IEC61000-4-5(Lightning): 2 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: DFN 2L, Plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00004 ounces, 0.0011 grams

DFN 2L



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} | $I_{BR} = 1\text{ mA}$ | 6.8 | 7.8 | 11.2 | V |
| Reverse Leakage Current | I_R | $V_R = 5\text{ V}$ | - | - | 75 | nA |
| Clamping Voltage | V_{CL} | $I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$ | - | - | 12 | V |
| | | $I_{PP} = 2\text{ A}, t_P = 8/20\text{ us}$ | - | 11 | 14 | |
| Clamping Voltage TLP | $V_{CL}^{(2)}$ | $I_{PP} = 8\text{ A}, t_P = 100\text{ ns},$ | - | 14 | - | V |
| | | $I_{PP} = 16\text{ A}, t_P = 100\text{ ns},$ | - | 16 | - | |
| Dynamic Resistance | R_{DYN} | $t_P = 100\text{ ns}$ | - | 0.25 | - | Ω |
| Off State Junction Capacitance | C_J | 0 Vdc Bias $f = 1\text{ MHz},$ | - | - | 0.6 | pF |

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

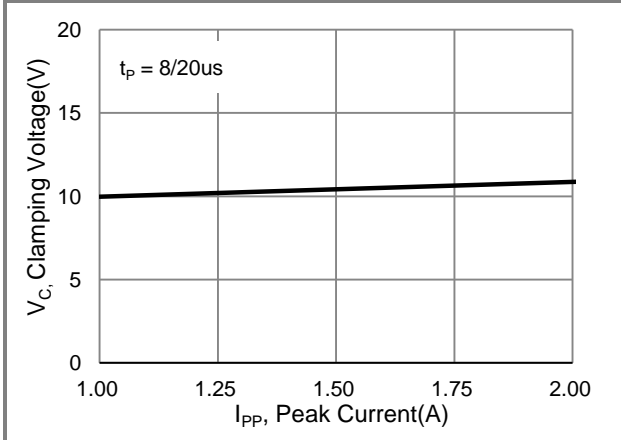


Fig.1 Typical Peak Clamping Voltage

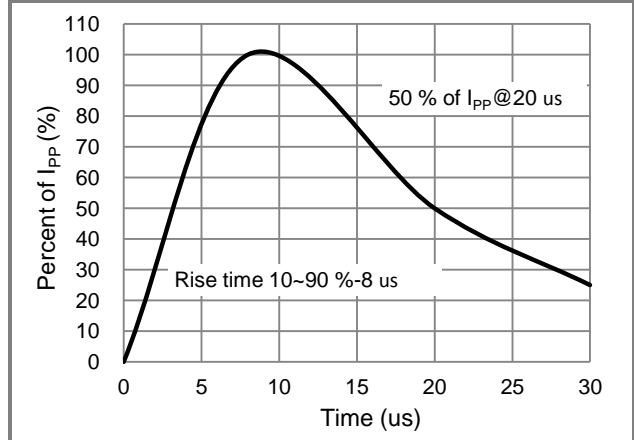


Fig.2 Pulse Waveform

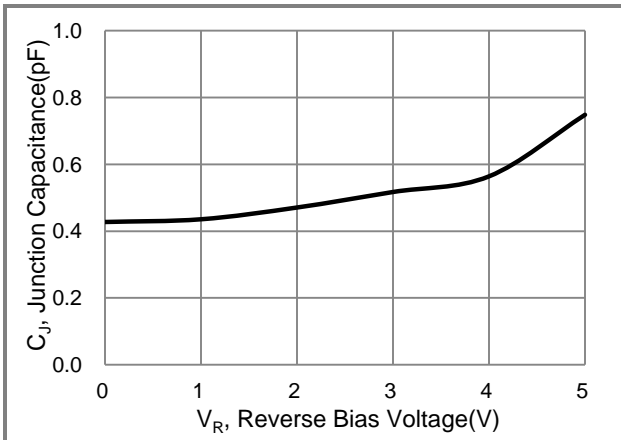


Fig.3 Typical Junction Capacitance

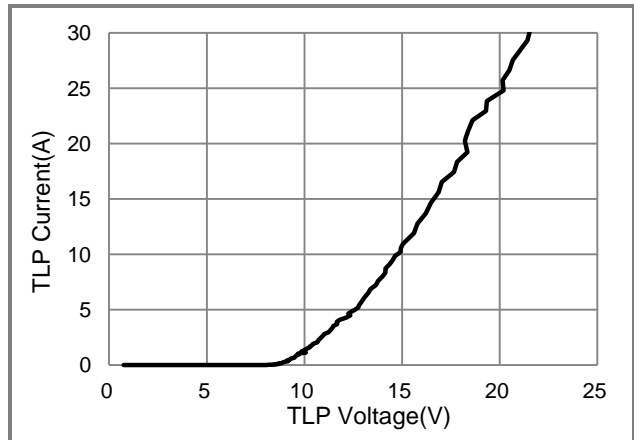


Fig.4 TLP Measurement

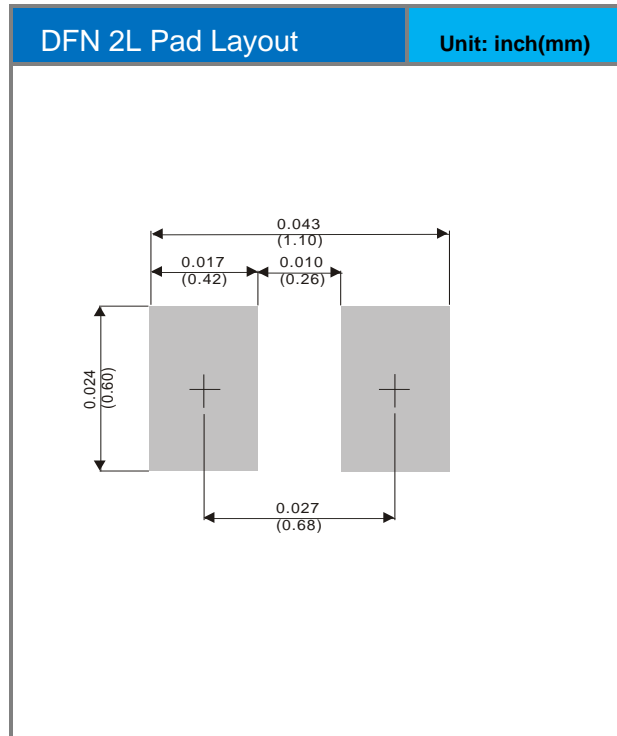
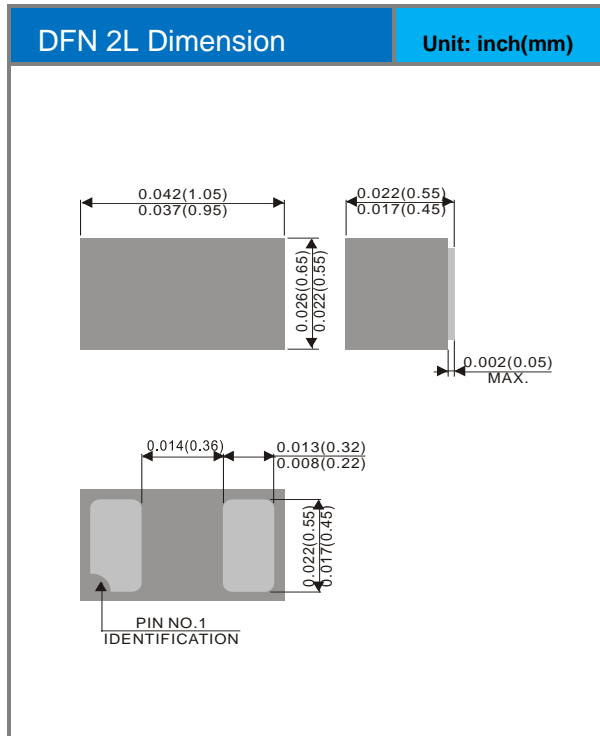


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Part No Packing Code Version

| Part No Packing Code | Package Type | Packing Type | Marking | Version |
|------------------------|--------------|--------------|---------|--------------|
| PEC1605M1Q-AU_R1_000A1 | DFN 2L | 8K / 7" Reel | BF | Halogen Free |

Packaging Information & Mounting Pad Layout





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