



PJEC12VM1TA-AU

ESD Protection

V_{RWM}

12 V

Features

- Bidirectional ESD protection of one line
- IEC61000-4-2(ESD): $\pm 15\text{kV}$ Air, $\pm 8\text{kV}$ Contact Compliance with the capability up to $\pm 30\text{kV}$
- IEC61000-4-4(EFT): $40\text{A}(5/50\text{nS})$
- IEC61000-4-5(Lightning): $3\text{A}(8/20\mu\text{S})$
- Low leakage current, maximum of $0.05\mu\text{A}$ at rated voltage
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std.
(Halogen Free)

Mechanical Data

- Case: SOT-23, Plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0003 ounces, 0.008 grams
- Marking: 12W

Applications

- Computers and peripherals
- Audio and video equipment
- Communication systems
- Control Signal Lines Protection
- Digital Cameras

SOT-23

Unit : inch(mm)

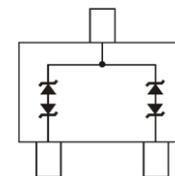
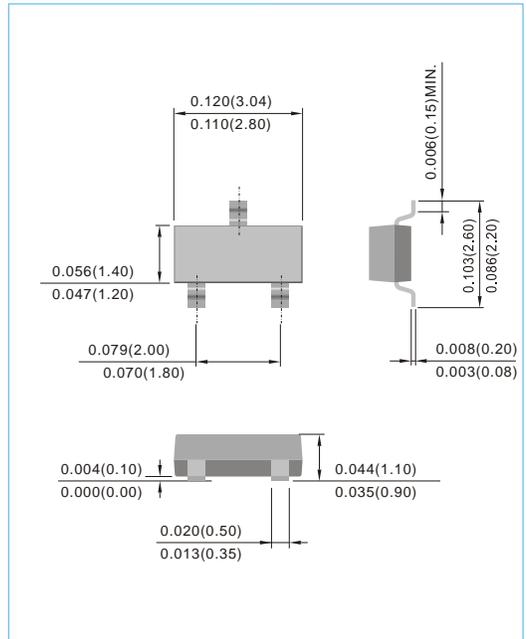


Fig.84(Top View)

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

| PARAMETER | SYMBOL | LIMIT | UNITS |
|--------------------------------|-----------|-------------|------------------|
| ESD IEC61000-4-2(Air) | V_{ESD} | ± 30 | kV |
| ESD IEC61000-4-2(Contact) | | ± 30 | |
| Operating Junction Temperature | T_J | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +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} | - | - | - | 12 | V |
| Reverse Breakdown Voltage | V_{BR} | $I_{BR}=1\text{mA}$, Between any I/O pins to GND | 14 | - | 16.5 | V |
| Reverse leakage current | I_R | $V_R=12\text{V}$ | - | - | 0.05 | μA |
| Clamping Voltage | V_{CL} | $I_{PP}=1\text{A}$, $t_p=8/20\mu\text{s}$ | - | - | 19 | V |
| | | $I_{PP}=3\text{A}$, $t_p=8/20\mu\text{s}$ | - | - | 25 | |
| Clamping Voltage TLP ^(Note 1) | V_{CL} | $I_{PP}=4\text{A}$, $t_p=100\text{ns}$ | - | 17.7 | - | V |
| | | $I_{PP}=8\text{A}$, $t_p=100\text{ns}$ | - | 19.5 | - | |
| Dynamic Resistance | R_{DYN} | $t_p=100\text{ns}$ | - | 0.45 | - | Ω |
| Off State Junction Capacitance | C_J | 0Vdc Bias $f=1\text{MHz}$ | - | - | 10 | pF |

NOTES :

1. Testing using Transmission Line Pulse (TLP) conditions: $Z_0 = 50\Omega$, $t_p = 100\text{ ns}$.



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TYPICAL CHARACTERISTIC CURVES

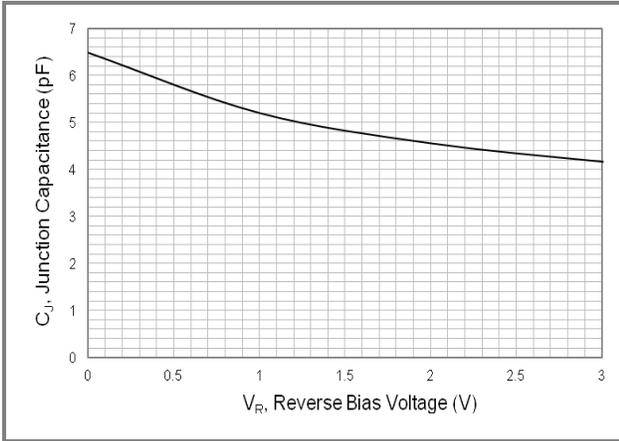


Fig.1 Typical Junction Capacitance

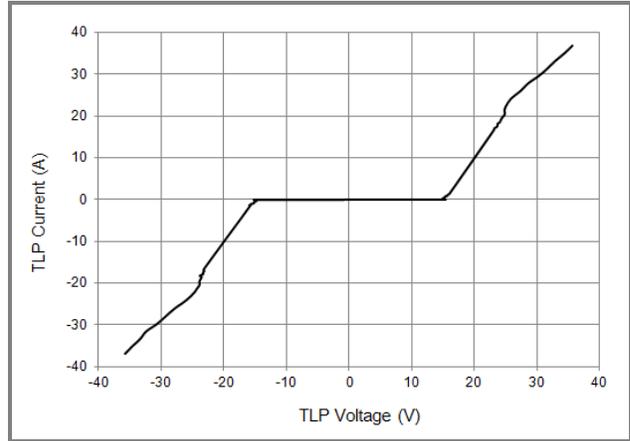


Fig.2 Transmission Line Pulsing (TLP) Measurement

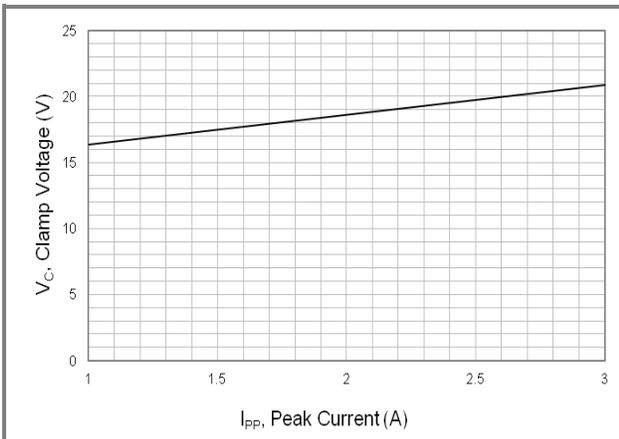


Fig.3 Typical Peak Clamping Voltage(8/20 μ s)

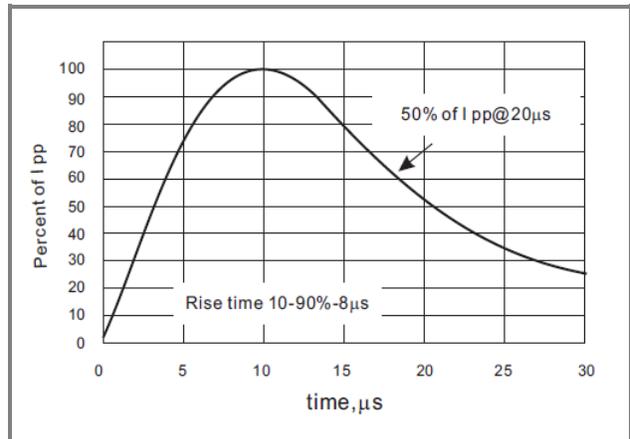


Fig.4 8/20 μ s Pulse Waveform

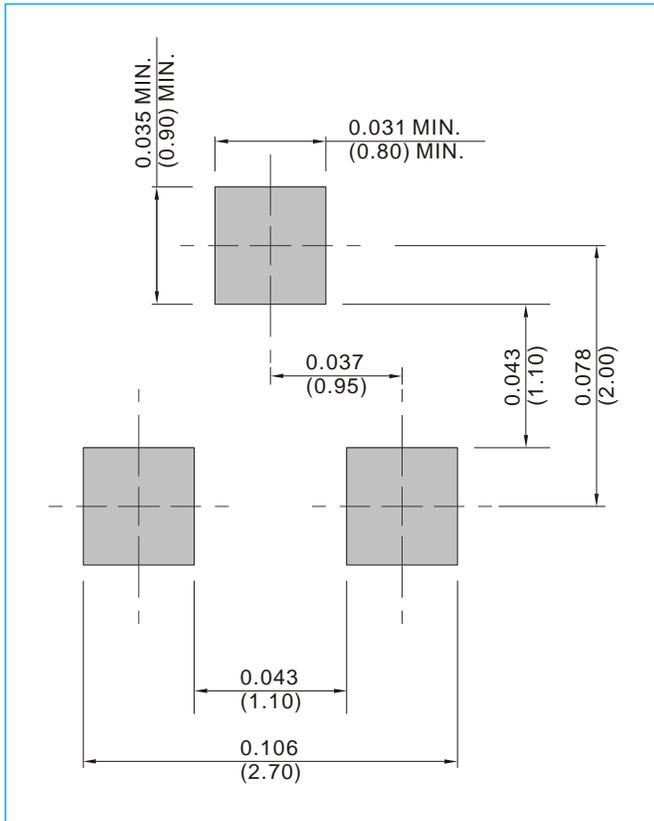


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MOUNTING PAD LAYOUT

SOT-23

Unit : inch(mm)



ORDER INFORMATION

- Packing information
T/R – 12K per 13" plastic Reel
T/R – 3K per 7" plastic Reel



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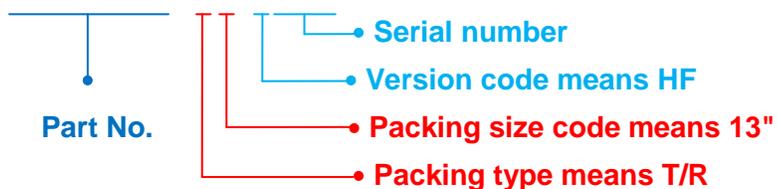
Part No_packing code_Version

PJEC12VM1TA-AU_R1_000A1

PJEC12VM1TA-AU_R2_000A1

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



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