



Micro Commercial Components

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 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

TSMBJ1005C-072

Features

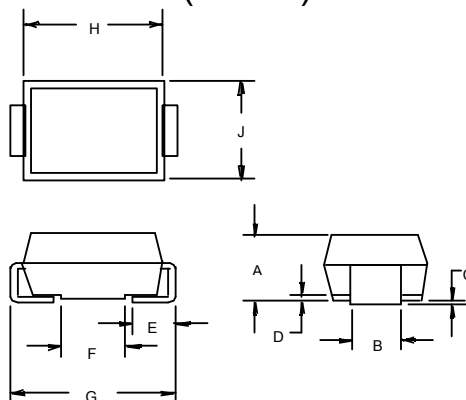
- Oxide-Glass passivated Junction
- Bi-Directional protection in a single device
- Surge capabilities up to 100A@10/1000us or 400A@8/20us
- High Off-State impedance and Low On-State voltage
- Plastic material has UL flammability classification 94V-0

**Transient Voltage
 Protection Device
 65 Volts**

Mechanical Data

- Case : Molded plastic
- Polarity : None cathode band denotes
- Approx Weight : 0.093grams

**DO-214AA
 (SMBJ)**



Maximum Ratings

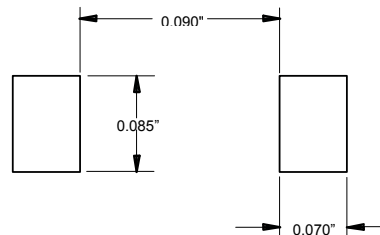
| Characteristic | Symbol | Value | Unit |
|--|----------------|-----------|-----------------------|
| Non-repetitive peak impulse current | I_{PP} | 100A | 10/1000us |
| Non-repetitive peak On-state current | I_{TSM} | 50A | 8.3ms, one-half cycle |
| Operating temperature range | T_{OP} | -40~150°C | |
| Junction and storage temperature range | T_J, T_{STG} | -55~150°C | |

| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .078 | .096 | 2.00 | 2.44 | |
| B | .077 | .083 | 1.96 | 2.10 | |
| C | .002 | .008 | .05 | .20 | |
| D | — | .02 | — | .51 | |
| E | .030 | .060 | .76 | 1.52 | |
| F | .065 | .091 | 1.65 | 2.32 | |
| G | .205 | .220 | 5.21 | 5.59 | |
| H | .160 | .180 | 4.06 | 4.57 | |
| J | .130 | .155 | 3.30 | 3.94 | |

Thermal Resistance

| Characteristic | Symbol | Value | Unit |
|--|----------------------------|---------|---------------------------|
| Thermal Resistance junction to lead | $R_{\theta JL}$ | 20°C/W | |
| Thermal Resistance junction to ambient | $R_{\theta JA}$ | 100°C/W | On recommended pad layout |
| Typical positive temperature coefficient for breakdown voltage | $\Delta V_{BR}/\Delta T_J$ | 0.1%/°C | |

**SUGGESTED SOLDER
 PAD LAYOUT**

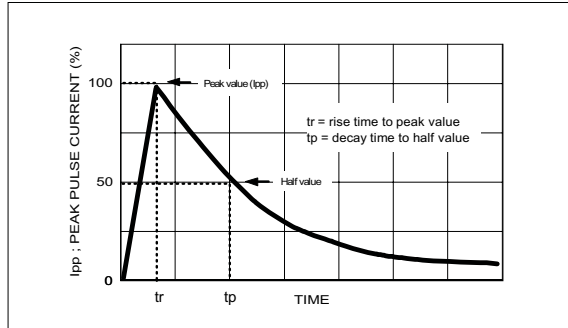


ELECTRICAL CHARACTERISTIC @25°C Unless otherwise specified

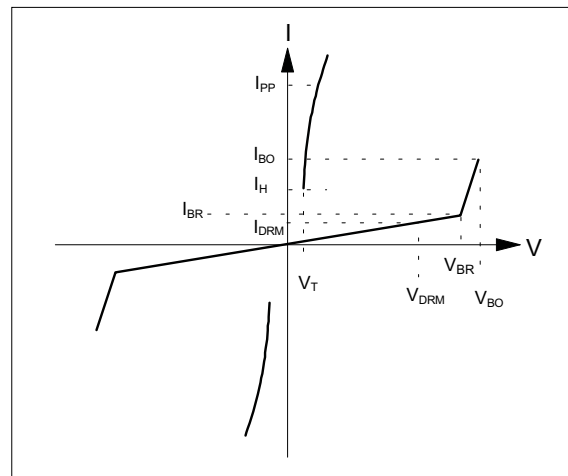
| Parameter | Rated Repetitive Off-state Voltage | Off-state Leakage Current@V _{DRM} | Breakover Voltage | On-State Voltage @I _T =1.0A | Breakover Current | Holding Current | Off-State Capacitance |
|----------------|------------------------------------|--|-------------------|--|-------------------|-----------------|-----------------------|
| Symbol | V _{DRM} | I _{DRM} | V _{BO} | V _T | I _{BO+} | I _H | C _J |
| Units | Volts | uA | Volts | Volts | mA | mA | pF |
| Limit | Max | Max | Max | Max | Max | Min | Typ. |
| TSMBJ1005C-072 | 65 | 5 | 88 | 5 | 800 | 150 | 200 |

MAXIMUM RATED SURGE WAVEFORM

| Waveform | Standard | I _{pp} (A) |
|------------|---------------|---------------------|
| 2/10 us | GR-1089-CORE | 500 |
| 8/20 us | IEC 61000-4-5 | 400 |
| 10/160 us | FCC Part 68 | 200 |
| 10/700 us | ITU-T K20/21 | 200 |
| 10/560 us | FCC Part 68 | 150 |
| 10/1000 us | GR-1089-CORE | 100 |



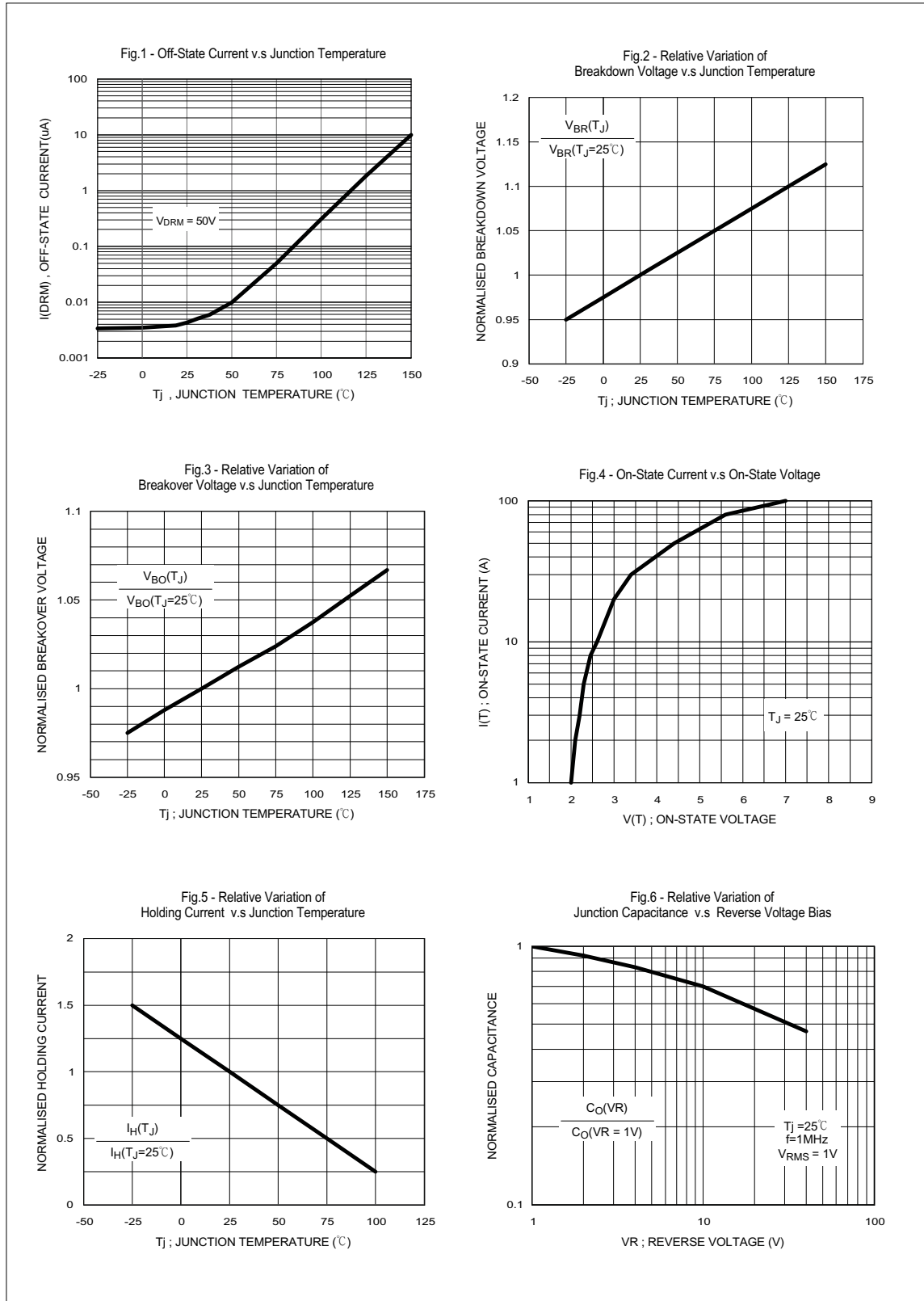
| Symbol | Parameter | |
|------------------|--------------------------------------|---------|
| V _{DRM} | Stand-off voltage | |
| I _{DRM} | Leakage current at stand-off voltage | |
| V _{BR} | Breakdown voltage | |
| I _{BR} | Breakdown current | |
| V _{BO} | Breakover voltage | |
| I _{BO} | Breakover current | |
| I _H | Holding current | NOTE: 1 |
| V _T | On state voltage | |
| I _{PP} | Peak pulse current | |
| C _O | Off-state capacitance | NOTE: 2 |



NOTE :

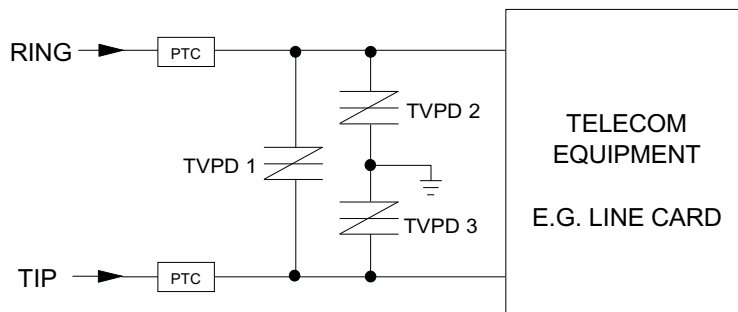
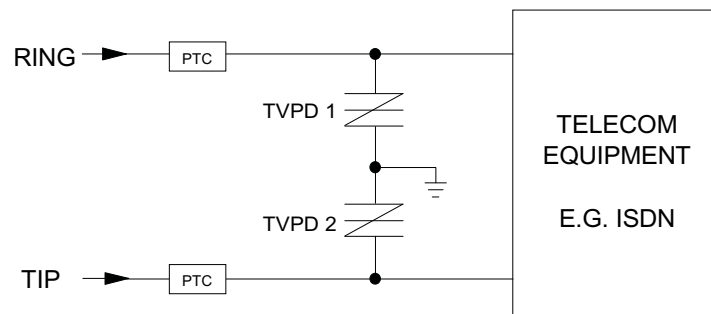
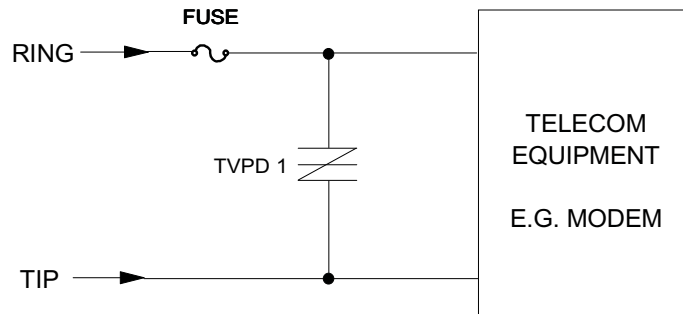
1. I_H > (V_L / R_L) If this criterion is not obeyed, the TSPD triggers but does not return correctly to high-resistance state. The surge recovery time. It does not exceed 30ms.
2. Off-state capacitance measured at f=1.0MHz , 1.0Vrms signal , VR=2Vdc bias.

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TYPICAL APPLICATION CIRCUITS



The PTC (Positive Temperature Coefficient) is an overcurrent protection device.

MARKING CODE

