



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Micro Commercial Components

Micro Commercial Components
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TSMBJ1005C-064

Features

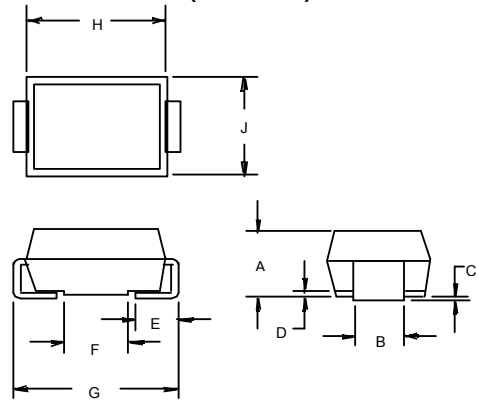
- Oxide-Glass passivated Junction
- Bi-Directional protection in a single device
- Surge capabilities up to 100A@10/1000us or 400A@8/20us
- High Off-State impedance and Low On-State voltage
- Plastic material has UL flammability classification 94V-0

**Transient Voltage
 Protection Device
 58 Volts**

Mechanical Data

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

**DO-214AA
 (SMBJ)**



Maximum Ratings

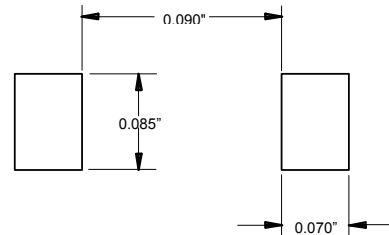
| Characteristic | Symbol | Value | Unit |
|----------------------------------------|----------------|-----------|-----------------------|
| Non-repetitive peak impulse current | I_{PP} | 100A | 10/1000us |
| Non-repetitive peak On-state current | I_{TSM} | 50A | 8.3ms, one-half cycle |
| Operating temperature 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**



TSMBJ1005C-064



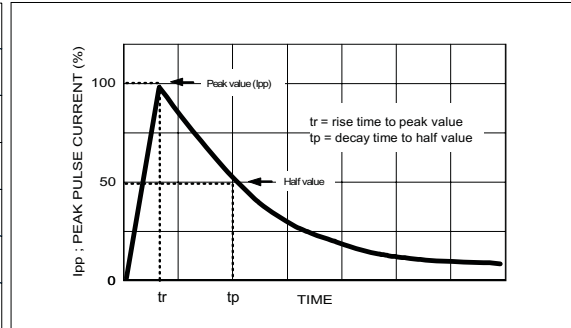
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ELECTRICAL CHARACTERISTIC @25 : Unless otherwise specified

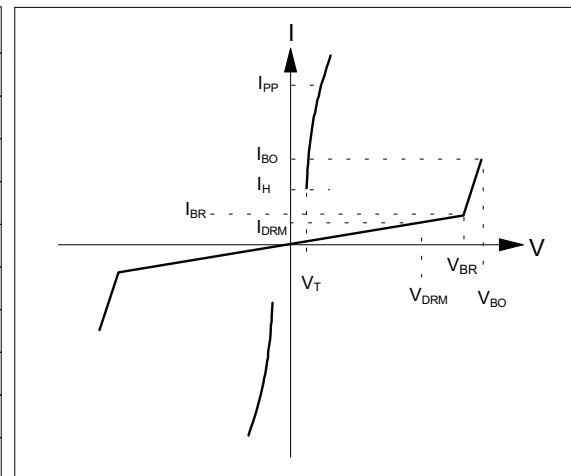
| Parameter | Rated Repetitive Off-state Voltage | Off-state Leakage Current@V _{DRM} | Breakover Voltage | On-State Voltage @I _T =1.0A | Breakover Current | Holding Current | Off-State Capacitance |
|----------------|------------------------------------|--------------------------------------------|-------------------|----------------------------------------|-------------------|-----------------|-----------------------|
| 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-064 | 58 | 5 | 77 | 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 |



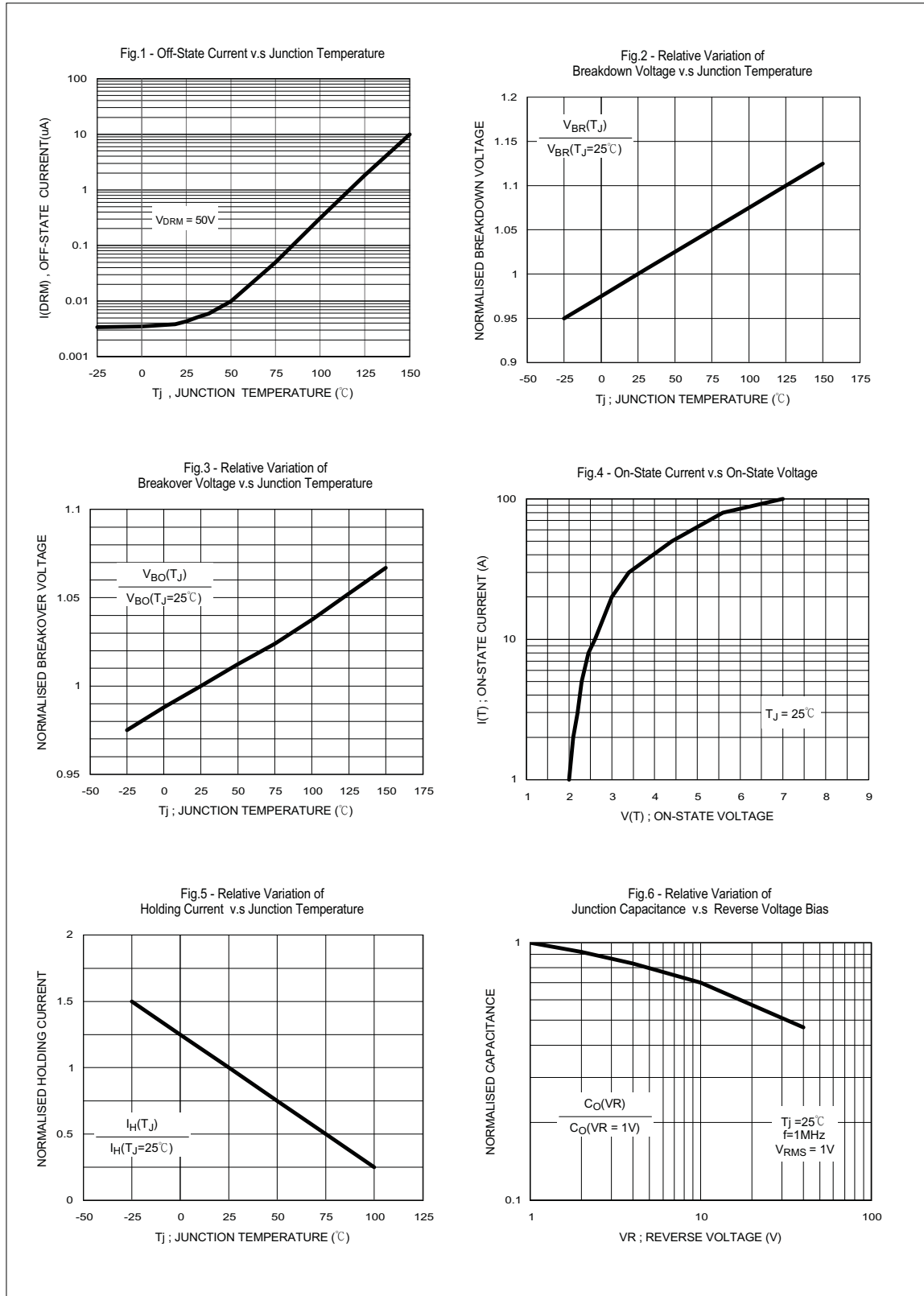
| Symbol | Parameter | |
|------------------|--------------------------------------|---------|
| V _{DRM} | Stand-off voltage | |
| I _{DRM} | Leakage current at stand-off voltage | |
| V _{BR} | Breakdown voltage | |
| I _{BR} | Breakdown current | |
| V _{BO} | Breakover voltage | |
| I _{BO} | Breakover 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 :

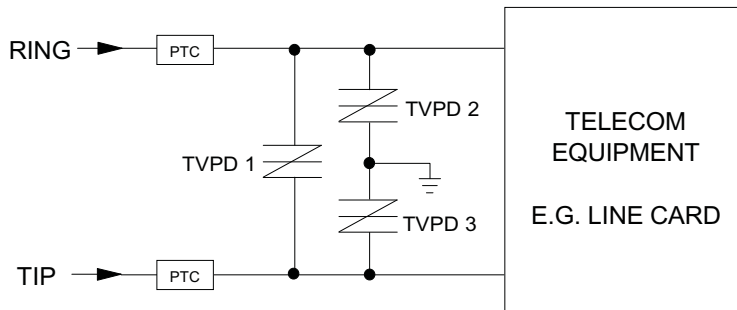
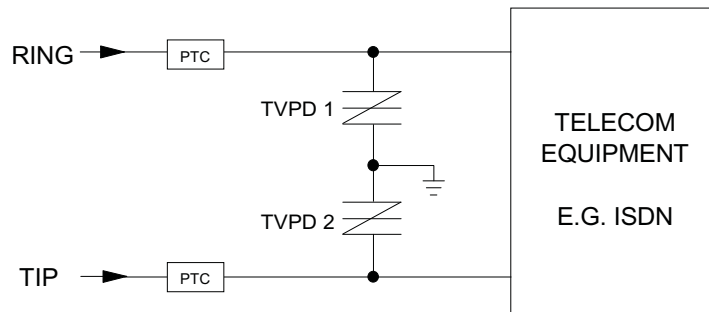
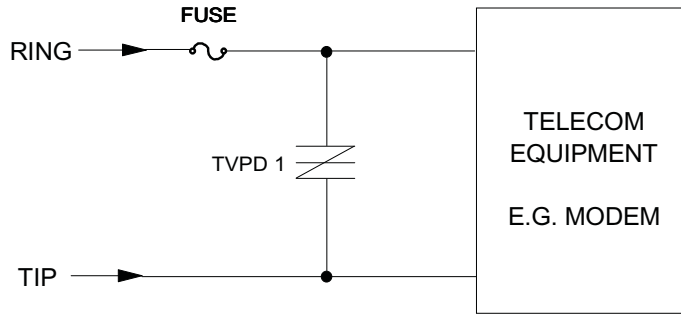
1. $I_H > (V_L / R_L)$ If this criterion is not obeyed, the TSPD triggers but does not return correctly to high-resistance state. The surge recovery time. It does not exceed 30ms.
2. Off-state capacitance measured at f=1.0MHz , 1.0Vrms signal , VR=2Vdc bias.

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TYPICAL APPLICATION CIRCUITS



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

MARKING CODE

