



**TSMBJ1005C
 thru
 TSMBJ1024CB**

**Bi-directional
 100 AMP
 Thyristor Surge
 Protective Devices
 (TSPD)**

FEATURES

- Bidirectional Transient Voltage Protection
- Surge capabilities up to 100 Amps @ 10/1000 μ s or 300 Amps @ 8/20 μ s (note 2,5)
- Initial Breakdown Voltage from 60 to 300 volts
- Positive Resistance Breakover Voltages from 100 to 400 volts
- Clamping speeds of Nanoseconds and Oxide-Glass Passivated Junctions
- High Off-State Impedance (low leakage) and low on-state voltage (crowbar action)
- Encapsulating material meets UL 94VO requirements
- UL RECOGNIZED: Qualified to UL 497B File No. E152273
- **Belcore 1089 compliant add "B" suffix (TSMBJ1005CB - TSMBJ1024CB)**

MAXIMUM RATINGS

- Operating Temperatures: -40^oC to +150^oC
- Storage Temperature: -65^oC to +150^oC
- Repetitive Off-State Voltage (both directions): See Electrical Characteristics for V_{DRM}
- Non-Repetitive Peak Impulse Current (I_{PP}): 100 A @ 10/1000 μ s or 300 A @ 8/20 μ s
- Option: Bellcore 1089 compliant (I_{PP} = 312.5 A @ 8/20 μ s)
- Non-Repetitive Peak On-State Current (I_{TSM}): @ 8.3 ms (one-half cycle); 60 Amps

MECHANICAL

- Lead solder temperature (10 sec duration) 260^oC
- Weight: 1.5 grams(approximate)
- Marked with logo and marking code

PACKAGING

- Tape & Reel EIA Standard 481-1-A
- 13 inch reel 2,500, pieces

Electrical Characteristics @ 25°C

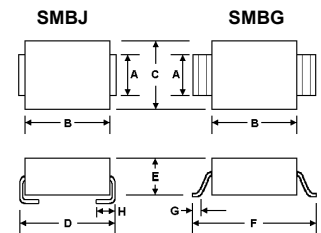
| Rated Peak Pulse Current 100 Amps @ 10/1000 μ s | Product Marking | Rated Repetitive Off-State Voltage (see note 3) | Off-State Leakage Current @ V _{DRM} | Breakdown Voltage @ I _{BR} =1 mA (see note 3) | Breakover Voltage (see note 1) | On-State Voltage @ I _T = 1 A (pulsed) | Holding Current | | Capacitance (1 MHz) | |
|---|-----------------|--|---|--|-----------------------------------|--|-----------------------|-----------------------|------------------------|-------------------|
| | | | | | | | I _H mA | I _H mA | Co @ 0v pF | Co @ 50v pF |
| Part Number | Marking | V _{DRM} VOLTS | I _{DRM} μ A | V _(BR) VOLTS | V _(BO) VOLTS | V _T VOLTS | I _H MIN | I _H MAX | Co MAX | Co MAX |
| TSMBJ1005C | T1005C | 50 | 5 | 60 | 100 | 3.5 | 150 | 750 | 200 | 100 |
| TSMBJ1006C | T1006C | 60 | 5 | 70 | 110 | 3.5 | 150 | 750 | 200 | 100 |
| TSMBJ1016C | T1016C | 160 | 5 | 190 | 265 | 3.5 | 150 | 750 | 200 | 100 |
| TSMBJ1018C | T1018C | 180 | 5 | 220 | 300 | 3.5 | 150 | 750 | 200 | 100 |
| TSMBJ1022C | T1022C | 220 | 5 | 275 | 350 | 3.5 | 150 | 750 | 200 | 100 |
| TSMBJ1024C | T1024C | 240 | 5 | 300 | 400 | 3.5 | 150 | 750 | 200 | 100 |

NOTES:

1. For rise times less than 1 kV/ms. For very fast times up to 1 kV/ μ s, V_(BO) will be 110% of V_(BO) Max., The I_(BO) is 750 mA.
2. Critical rate of rise of On-State current is 100 A/ μ s Max.
3. Maximum rate of rise of Off-State voltage V_{DRM} that will not trigger device is 5 kV/ μ s (T_J = 70°C).
4. Breakdown voltage V_(BR) has a positive temperature coefficient of + 0.1 %/°C.

MECHANICAL CHARACTERISTICS

CASE STYLE: SMBJ (DO-214AA)
 CASE STYLE: SMBG (DO-215AA)



| | INCHES MIN/MAX | MILLIMETERS MIN/MAX |
|---|-------------------|------------------------|
| A | .077/.083 | 1.96/2.10 |
| B | .160/.180 | 4.06/4.57 |
| C | .130/1.55 | 3.30/3.94 |
| D | .205/.220 | 5.21/5.59 |
| E | .075/.095 | 1.91/2.41 |
| F | .235/.255 | 5.97/6.48 |
| G | .015/.030 | 0.38/0.76 |
| H | .030/.060 | 0.76/1.52 |

LEAD FINISH: Solder Dip or Lead in Plate

POLARITY: Bi-directional