

DESCRIPTION

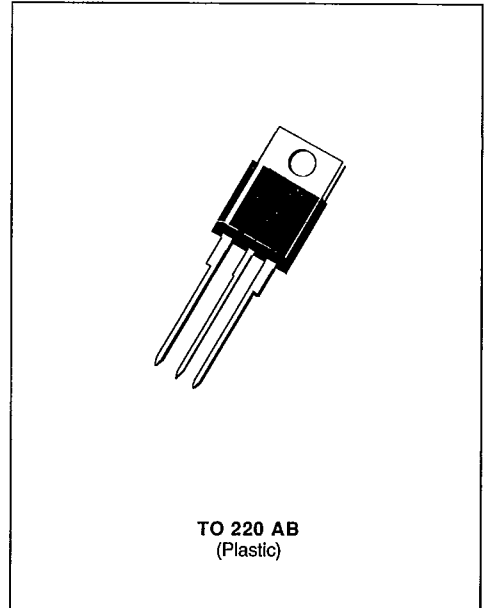
This protection device has been especially designed for subscriber line-card and terminal protection. By itself, it enables to protect integrated SLIC against transient overvoltages. A diode clips positive overloads and breakover device negative overloads.

Its ion-implanted technology confers excellent electrical characteristics on it.

This is why this THBT 200 D easily corresponds to the main protection standard norms which are related to the overvoltages on subscribers lines.

IN ACCORDANCE WITH FOLLOWING STANDARDS :

| | | |
|-----------------|-------------------|--------|
| CCITT K17 - K20 | { 10/700 μ s | 1.5 kV |
| | { 5/310 μ s | 38 A |
| VDE 0433 | { 10/700 μ s | 2 kV |
| | { 5/200 μ s | 50 A |
| CNET | { 0.5/700 μ s | 1.5 kV |
| | { 0.2/310 μ s | 38 A |

**ABSOLUTE RATINGS** (limiting values) ($T_j = 25\text{ }^\circ\text{C}$)

| Symbol | Parameter | Value | Unit |
|-----------|--|--------------------|------------------|
| I_{pp} | Peak Pulse Current | 1 ms expo | 75 |
| | | 8-20 μ s expo* | 150 |
| I_{TSM} | Non Repetitive Surge Peak on-state Current | $t_p = 20$ ms | 30 |
| di/dt | Critical Rate of Rise of on-state Current | Non Repetitive | 100 |
| T_{stg} | Storage and Operating Junction Temperature Range | - 40 to 150 | $^\circ\text{C}$ |
| T_j | | 150 | $^\circ\text{C}$ |
| T_L | Maximum Lead Temperature for Soldering During 10 s at 4 mm from Case | 230 | $^\circ\text{C}$ |

* ANSI STD C62.

THERMAL RESISTANCES

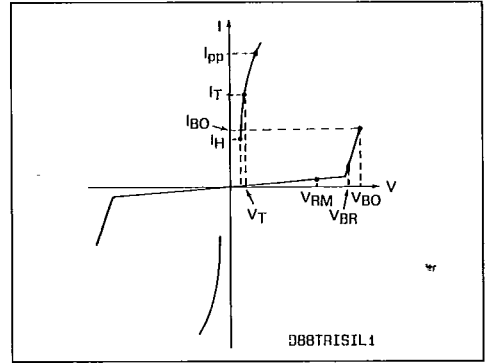
| Symbol | Parameter | Value | Unit |
|---------------|-------------------------|-------|--------------------|
| $R_{th(j-c)}$ | Junction to Case for DC | 5 | $^\circ\text{C/W}$ |
| $R_{th(j-a)}$ | Junction to Ambient | 60 | $^\circ\text{C/W}$ |

THBT 200 D

S G S-THOMSON

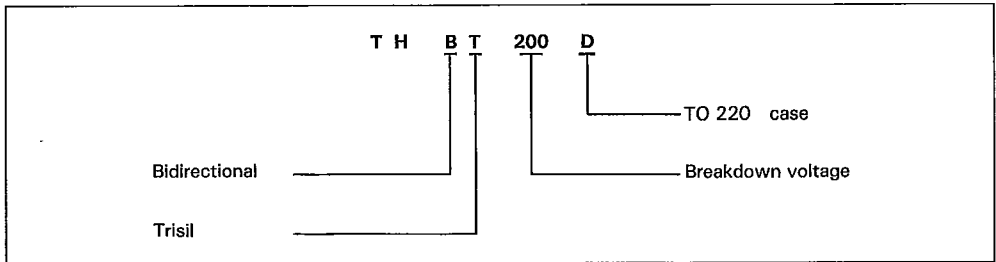
ELECTRICAL CHARACTERISTICS

| Symbol | Parameter |
|----------|--------------------|
| V_{RM} | Stand-off Voltage |
| V_{BR} | Breakdown Voltage |
| V_{BO} | Clamping Voltage |
| I_H | Holding Current |
| V_T | On-state Voltage |
| I_{BO} | Breakover Current |
| I_{pp} | Peak-pulse Current |



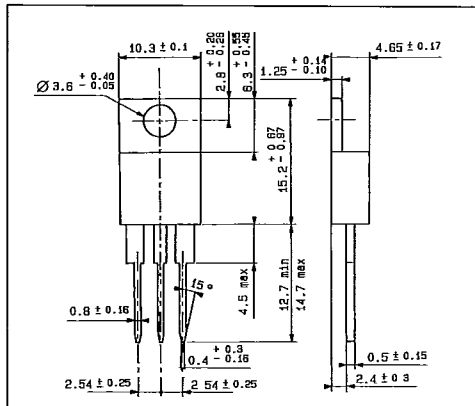
| Symbol | Test Conditions | | Min. | Typ. | Max. | Unit |
|------------|----------------------------------|--------------------------------|------|------|------|--------------------------|
| I_{RM} | $T_j = 25\text{ }^\circ\text{C}$ | $V_{RM} = 180\text{ V}$ | | | 10 | μA |
| V_{BR} | $T_j = 25\text{ }^\circ\text{C}$ | $I_R = 1\text{ mA}$ | 200 | | | V |
| V_{BO} | $T_j = 25\text{ }^\circ\text{C}$ | $t_p = 100\text{ }\mu\text{s}$ | | | 290 | V |
| I_{BO} | $T_j = 25\text{ }^\circ\text{C}$ | $t_p = 100\text{ }\mu\text{s}$ | 150 | | 800 | mA |
| I_H | $T_j = 25\text{ }^\circ\text{C}$ | $I_T = 2\text{ A}$ | 150 | | | mA |
| V_T | $T_j = 25\text{ }^\circ\text{C}$ | $I_T = 5\text{ A}$ | | | 3 | V |
| α_T | | | | 20 | | $10^{-4}/^\circ\text{C}$ |
| C | $T_j = 25\text{ }^\circ\text{C}$ | $F = 1\text{ MHz}$ | | | 200 | pF |
| dv/dt | $T_j = 25\text{ }^\circ\text{C}$ | Exponential Ramp 67 % V_{BR} | 5000 | | | V/ μs |

ORDER CODE

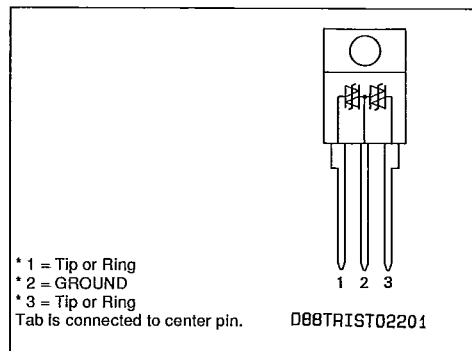


PACKAGE MECHANICAL DATA

TO 220 AB Plastic



PIN CONNECTIONS

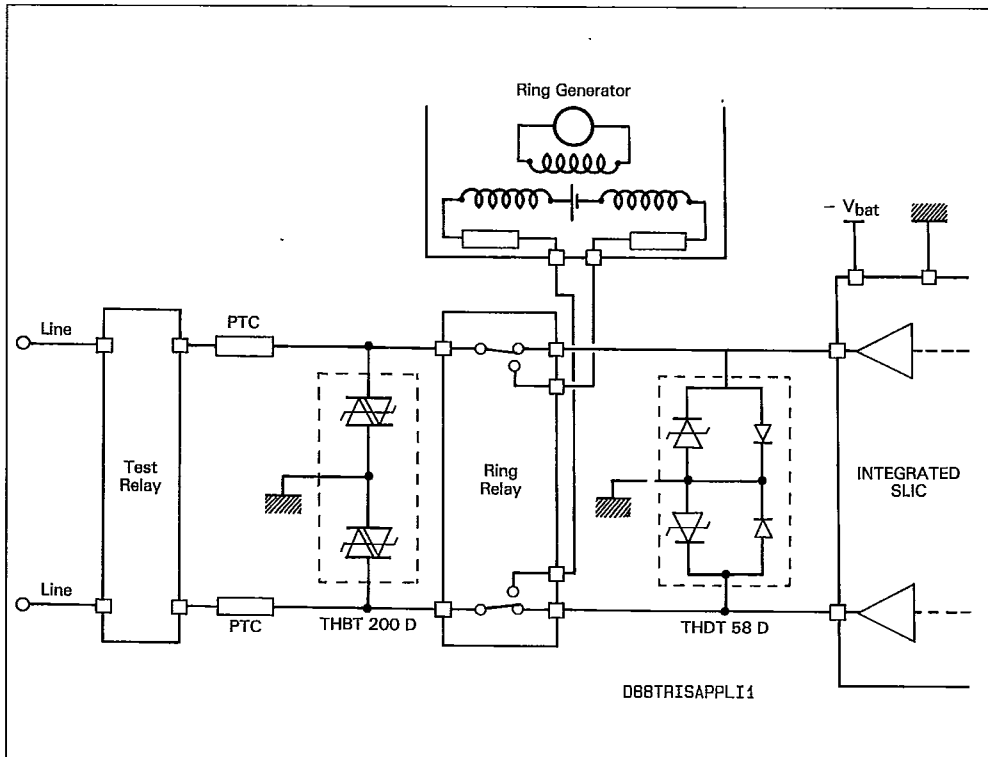


Cooling method : by conduction (Method C)

Marking : type number

Weight : 2 g.

APPLICATION CIRCUIT



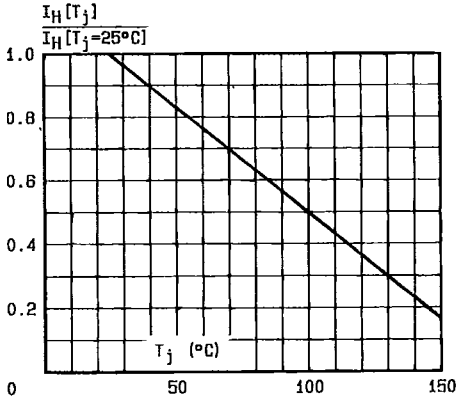


Fig.1 - Relative variation of holding current versus junction temperature.

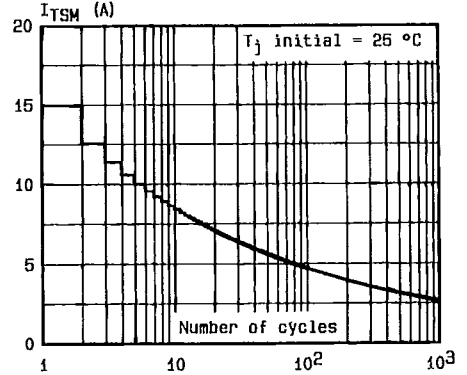


Fig.2 - Non_repetitive surge peak on-state current versus number of cycles (1 cycle = 20 ms).

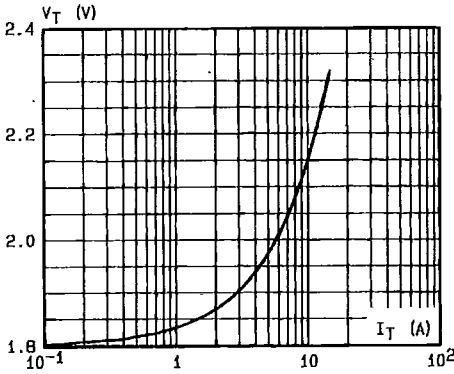


Fig.3 - Peak on-state voltage versus peak on-state current (typical values).

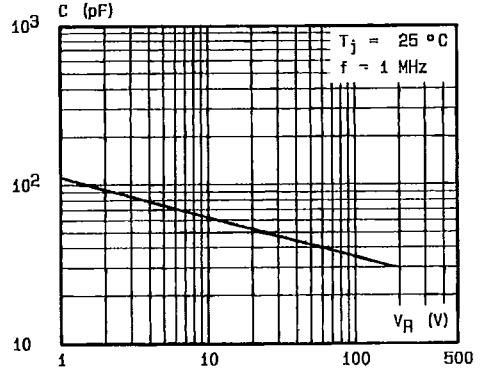


Fig.4 - Capacitance versus reverse applied voltage (typical values).

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