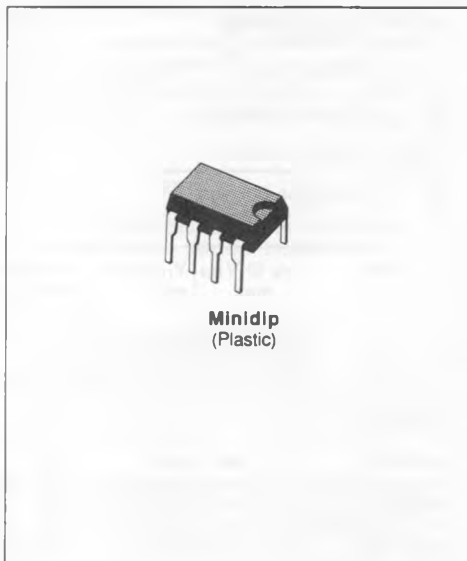


BIDIRECTIONAL TRISIL

- CHARACTERISTIC OF STAND-OFF AND BREAKDOWN VOLTAGE SIMILAR TO A TRANSIL (V_{off})
- HIGH FLOWOUT CAPABILITY BECAUSE OF ITS BREAKOVER CHARACTERISTICS (V_{on})
- AUTOMATIC RECOVERY AFTER SURGE



DESCRIPTION

The LS5018B, LS5060B and LS5120B/B1 are bidirectional transient overvoltage suppressor designed to protect sensitive components in electronic telephones and telecommunication equipments against transient caused by lightning, induction from power lines, etc.

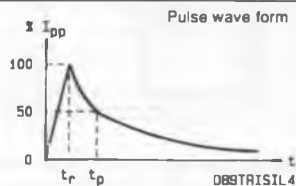
ABSOLUTE RATINGS (limiting values) ($T_j = 25\text{ }^\circ\text{C}$)

| Symbol | Parameter | Value | Unit |
|--------------------|--|-------------------------------------|------------------|
| I_{pp} | Peak Pulse Current | 1 ms expo | 100 |
| | | 8-20 μs expo* | 500 |
| I_{TSM} | Non Repetitive Surge Peak on-state Current | $t_p = 20\text{ ms} - \text{Sinus}$ | 50 |
| di/dt | Critical Rate of Rise of on-state Current | Non repetitive | 100 |
| T_{stg} T_j | Storage and Junction Temperature Range | - 40 to 150 | $^\circ\text{C}$ |
| | | 150 | $^\circ\text{C}$ |

THERMAL RESISTANCE

| Symbol | Parameter | Value | Unit |
|---------------|---------------------|-------|---------------------------|
| $R_{th(j-a)}$ | Junction to Ambient | 80 | $^\circ\text{C}/\text{W}$ |

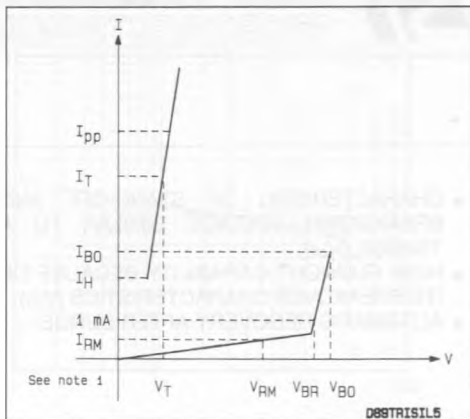
* ANSI STD C62.



ELECTRICAL CHARACTERISTICS

(T_j = 25 °C)

| 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 _T |
| I _{BO} | Breakover Current |
| I _{pp} | Peak-pulse Current |

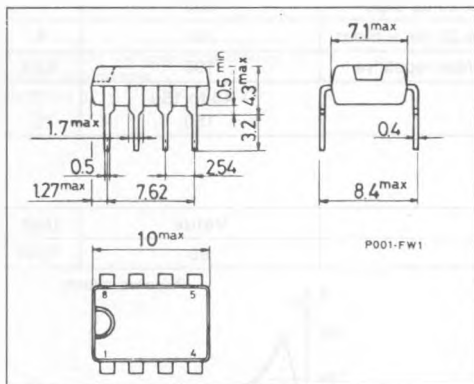


| Type | I _{RM} @ V _{RM} max. | | V _(BR) @ I _R min. | | V _{BO} @ max. min. typ. max. See note 2 | | | | I _H min. | V _T typ. I _T = 1 A | C max. V _R = 5 V F = 1 MHz |
|----------|--|-----|---|------|--|------|------|------|---------------------|--|---------------------------------------|
| | (μA) | (V) | (V) | (mA) | (V) | (mA) | (mA) | (mA) | (mA) | (V) | (pF) |
| LS5018B | 5 | 16 | 17 | 1 | 22 | | 1300 | | 200 | 2 | 150 |
| LS5060B | 10 | 50 | 60 | 1 | 85 | | 1000 | | 200 | 2 | 150 |
| LS5120B | 20 | 100 | 120 | 1 | 180 | 500 | | 1250 | 250 | 2 | 150 |
| LS5120B1 | 20 | 100 | 120 | 1 | 180 | 500 | | 1250 | 200 | 2 | 150 |

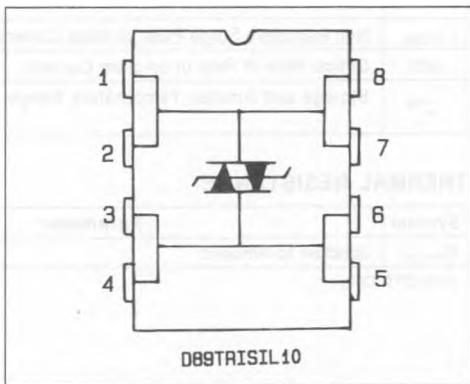
Notes : 1. Same characteristic both sides.
 2. These devices are not designed to function as zeners ; continuous operation between 1 mA and I_{BO} will damage them.

PACKAGE MECHANICAL DATA

MINIDIP Plastic



CONNECTION DIAGRAM



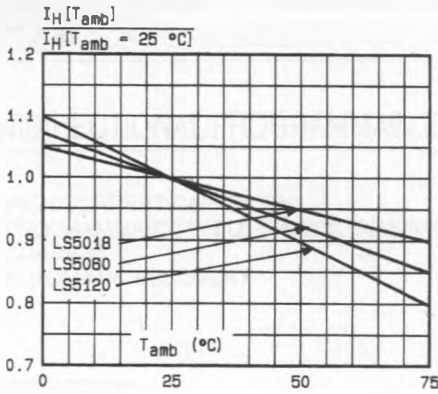


Fig. 1 - Relative variation of holding current versus ambient temperature.

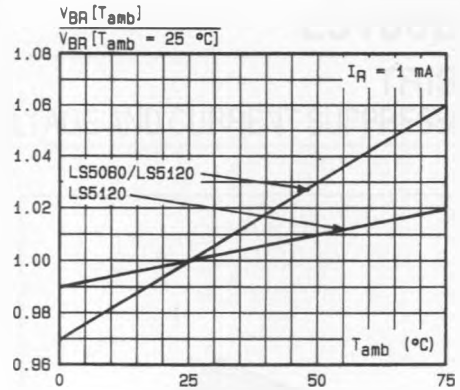


Fig. 2 - Relative variation of breakdown voltage versus ambient temperature.

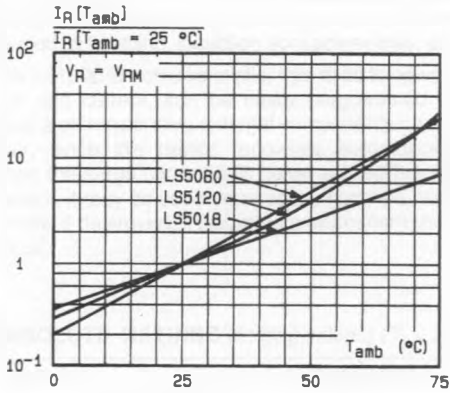


Fig. 3 - Relative variation of leakage current versus ambient temperature.

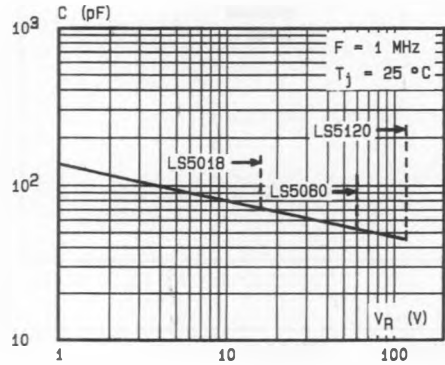


Fig. 4 - Junction capacitance versus reverse applied voltage.

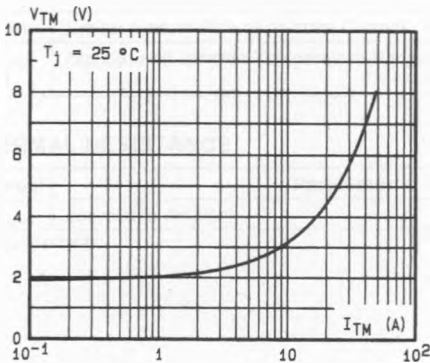


Fig. 5 - On-state voltage versus on-state current (typical values).

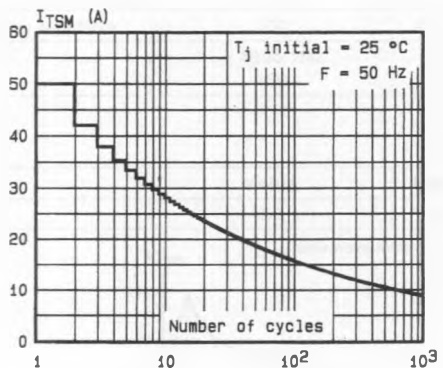


Fig. 6 - Non repetitive surge peak on-state current versus number of cycles.