

**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.

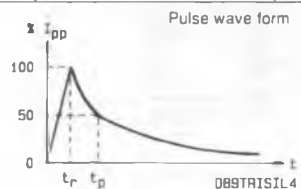
**ABSOLUTE RATINGS** (limiting values) ( $T_j = 25\text{ }^\circ\text{C}$ )

Symbol	Parameter		Value	Unit
$I_{pp}$	Peak Pulse Current	1 ms expo	100	A
		8-20 $\mu\text{s}$ expo*	500	
$I_{TSM}$	Non Repetitive Surge Peak on-state Current	$t_p = 20\text{ ms} - \text{Sinus}$	50	A
di/dt	Critical Rate of Rise of on-state Current	Non repetitive	100	A/ $\mu\text{s}$
$T_{stg}$ $T_j$	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	$^\circ\text{C/W}$

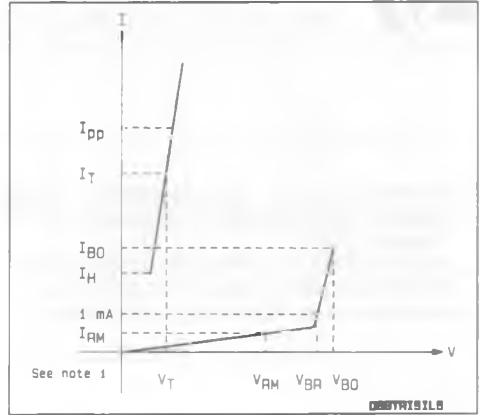
\* ANSI STD C62.



**ELECTRICAL CHARACTERISTICS**

( $T_j = 25\text{ }^\circ\text{C}$ )

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

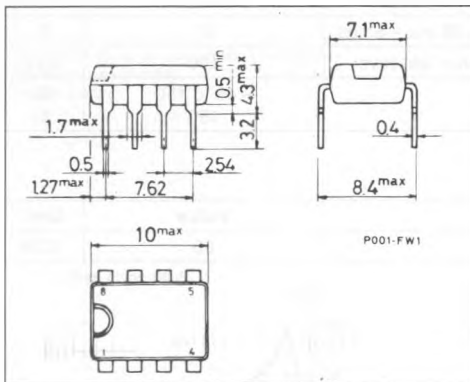


Type	$I_{RM}$ @ $V_{RM}$ max.		$V_{(BR)}$ @ $I_R$ min.		$V_{BO}$ @ max.		$I_{BO}$ typ. max. See note 2		$I_H$ min.	$V_T$ typ. $I_T = 1\text{ A}$	$C$ max. $V_R = 5\text{ V}$ $F = 1\text{ MHz}$
	( $\mu\text{A}$ )	(V)	(V)	(mA)	(V)	(mA)	(mA)	(mA)	(mA)	(V)	(pF)
LS5018B	5	16	17	1	22		1300		200	2	150
LS5060B	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

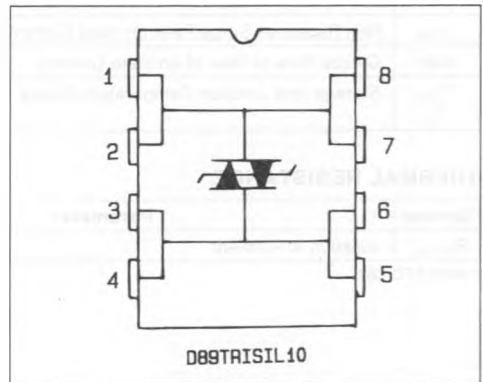
- Notes : 1. Same characteristic both sides  
 2. These devices are not designed to function as zeners ; continuous operation between 1 mA and  $I_{BO}$  will damage them.

**PACKAGE MECHANICAL DATA**

MINIDIP Plastic



**CONNECTION DIAGRAM**



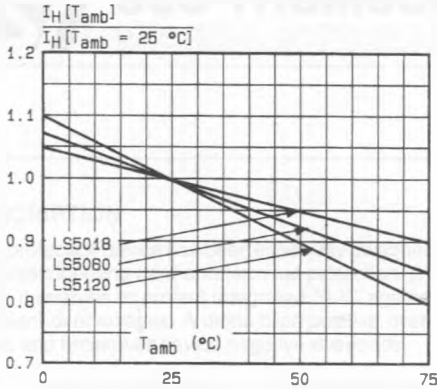


Fig. 1 - Relative variation of holding current versus ambient temperature.

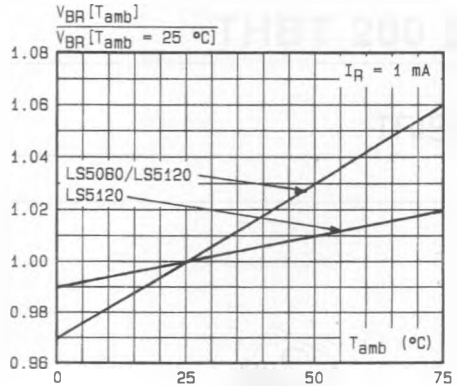


Fig. 2 - Relative variation of breakdown voltage versus ambient temperature.

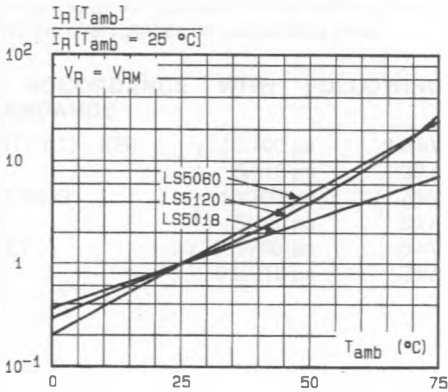


Fig. 3 - Relative variation of leakage current versus ambient temperature.

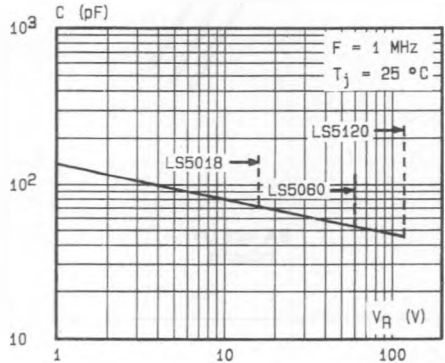


Fig. 4 - Junction capacitance versus reverse applied voltage.

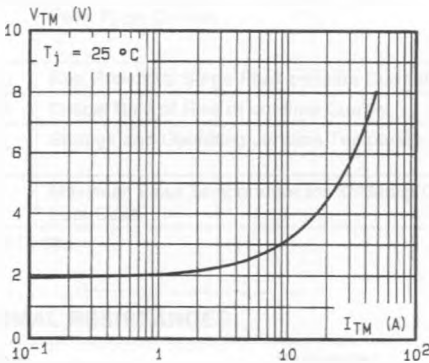


Fig. 5 - On-state voltage versus on-state current (typical values).

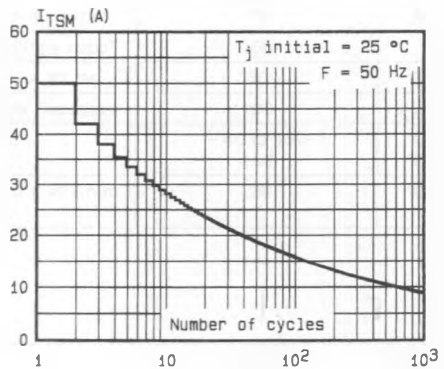


Fig. 6 - Non repetitive surge peak on-state current versus number of cycles.