SGS-THOMSON MICROELECTRONICS

LS5018B/LS5060B LS5120B/LS5120B1

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

Minidip
(Plastic)

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 °C)

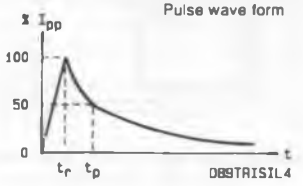
Symbol	Parameter		Value	Unit
I_{pp}	Peak Pulse Current	1 ms expo	100	A
		8-20 µs expo*	500	
I_{TSM}	Non Repetitive Surge Peak on-state Current	t_p = 20 ms – Sinus	50	A
di/dt	Critical Rate of Rise of on-state Current	Non repetitive	100	A/µs
T_{stg} T_j	Storage and Junction Temperature Range		– 40 to 150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

THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to Ambient	80	°C/W

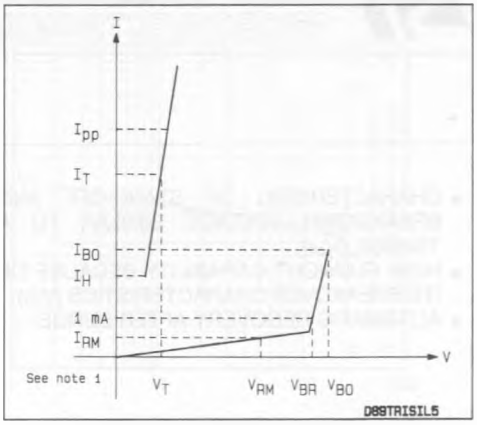
* ANSI STD C62.

Pulse wave form



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

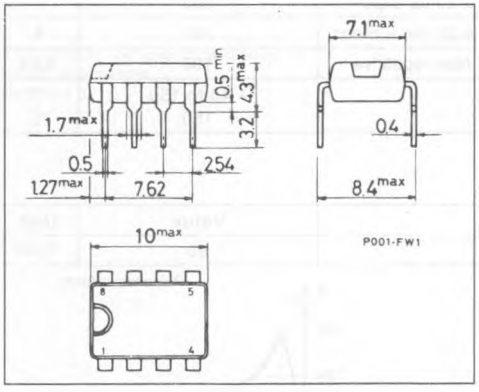


Type	I_{RM} @ V_{RM} max.		$V_{(BR)}$ @ I_R min.		V_{BO} @ max.		I_{BO} min. typ. max. See note 2		I_H min.	V_T typ. I_T = 1 A	C max. V_R = 5 V F = 1 MHz
	(µA)	(V)	(V)	(mA)	(V)	(mA)	(mA)	(mA)	(mA)	(V)	(pF)
LS5018B	5	16	17	1	22		1300		200	2	150
LS5060B	10	50	60	1	85		1000		200	2	150
LS5120B	20	100	120	1	180	500		1250	250	2	150
LS5120B1	20	100	120	1	180	500		1250	200	2	150

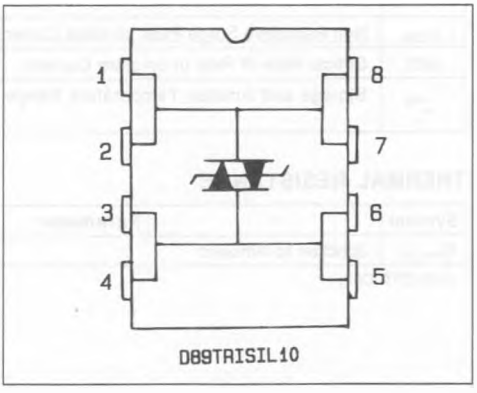
Notes : 1. Same characteristic both sides.
2. These devices are not designed to function as zeners ; continuous operation between 1 mA and I_{BO} will damage them.

PACKAGE MECHANICAL DATA

MINIDIP Plastic



CONNECTION DIAGRAM



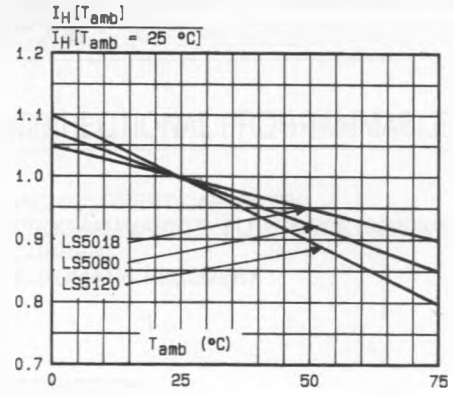


Fig.1 - Relative variation of holding current versus ambient temperature.

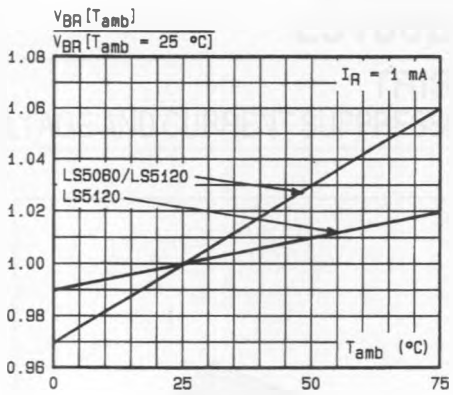


Fig.2 - Relative variation of breakdown voltage versus ambient temperature.

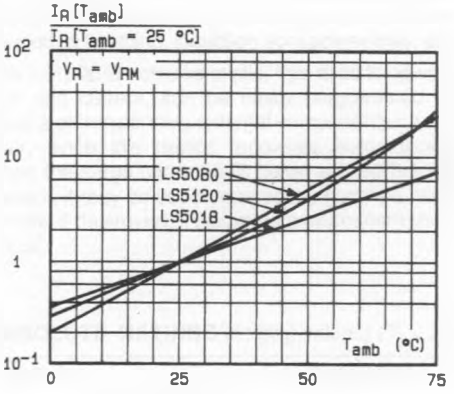


Fig.3 - Relative variation of leakage current versus ambient temperature.

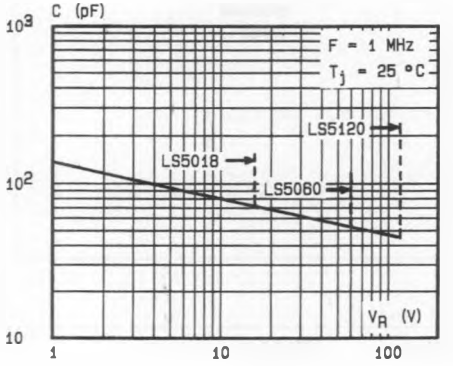


Fig.4 - Junction capacitance versus reverse applied voltage.

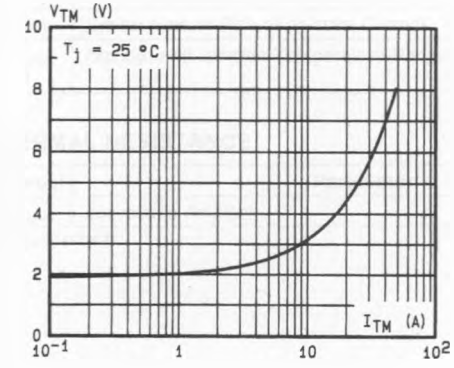


Fig.5 - On-state voltage versus on-state current (typical values).

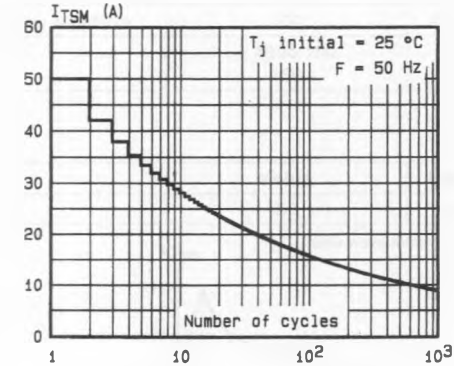


Fig.6 - Non repetitive surge peak on-state current versus number of cycles.