

TRISIL

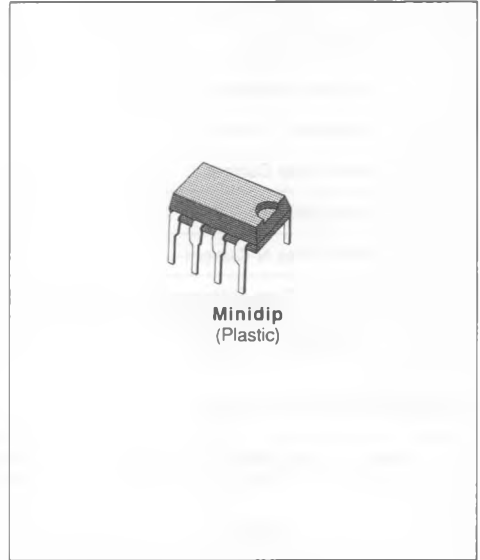
UNIDIRECTIONAL PROGRAMMABLE VOLTAGE AND CURRENT SUPPRESSOR

- HIGH CURRENT CAPABILITY
- PROGRAMMABILITY BOTH IN VOLTAGE AND CURRENT
- AUTOMATIC RECOVERY

DESCRIPTION

The L3100B/B1 is a transient overvoltage suppressor/overcurrent arrester designed to protect sensitive components in electronic telephones and telecommunication equipments against transients caused by lightning, induction from power lines, etc.

The L3100B/B1 characteristic, that is its firing voltage and current, can be easily programmed by means of inexpensive external components ; more over, since this device recovers automatically when the surge current falls below a fixed holding current, it may be used on remotely supplied lines. Finally, if destroyed, it becomes a permanent short circuit.

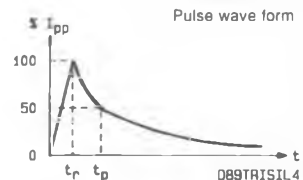

ABSOLUTE RATINGS (limiting values) ($T_j = 25\text{ }^\circ\text{C}$)

Symbol	Parameter	Value	Unit
I_{pp}	Peak Pulse Current	1 ms expo	150
		8-20 μs expo*	250
I_{TSM}	Non Repetitive Surge Peak on-state Current	$t_p = 10\text{ ms} - \text{Sinus}$	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	$^\circ\text{C/W}$

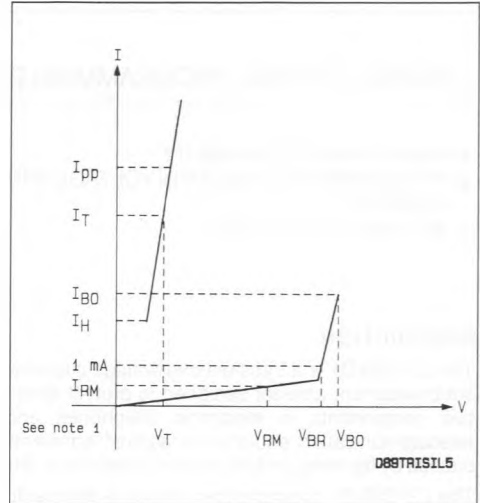
* ANSI STD C62.



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
V _{GN}	Gate Voltage
I _{GN}	Firing Gate N Current
V _{RGN}	Reverse Gate N Voltage
I _{GP}	Firing Gate P Current



OPERATION WITHOUT GATE

Type	I _{RM} @ V _{RM} max.		V _{BR} @ I _R min. max.		V _{BO} @ I _{BO} max. min. 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)	(V)	(mA)	(V)	(mA)	(mA)	(mA)	(V)	(pF)
L3100B/B1	6 40	60 250	255 (3) 265 (4)		1	350	200	500	210 (3) 280 (4)	2	100

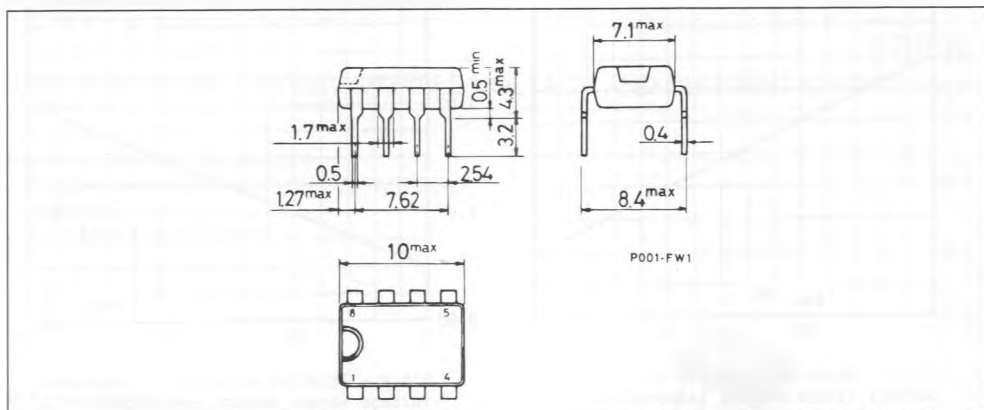
OPERATION WITH GATES

Type	V _{GN} (V) I _G = 200 mA		I _{GN} (mA) V _A - C = 100 V		V _{RGN} (V) I _G = - 1 mA		I _{GP} (mA) V _A - C = 100 V	
	min.	max.	min.	max.	min.	max.	min.	max.
L3100B/B1	0.6	1.8	30	200	0.7			150

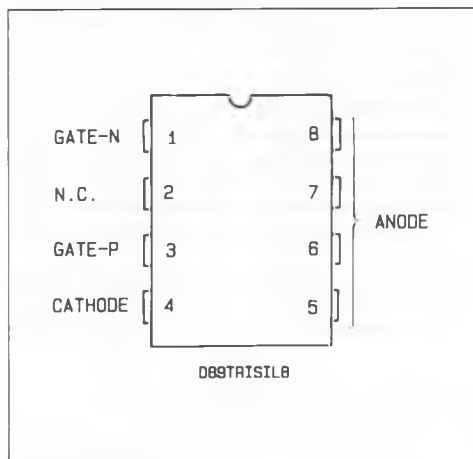
- Notes :**
- Reverse characteristic : I_R < 1 mA @ V_R = 0.7V.
 - These devices are not designed to function as zeners ; continuous operation between 1 mA and I_{BO} will damage them.
 - L3100B1
 - L3100B

PACKAGE MECHANICAL DATA

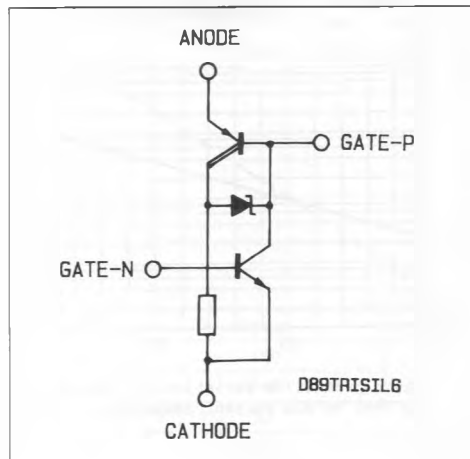
MINIDIP Plastic



CONNECTION DIAGRAM



SCHEMATIC DIAGRAM



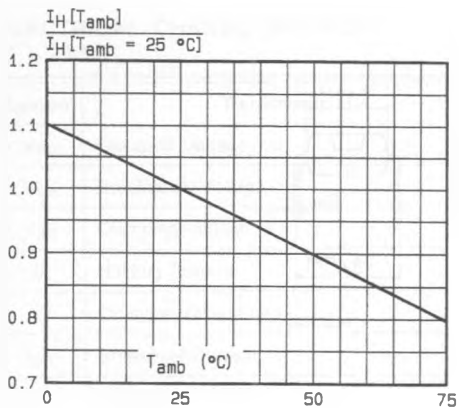


Fig.1 - Relative variation of holding current versus ambient temperature.

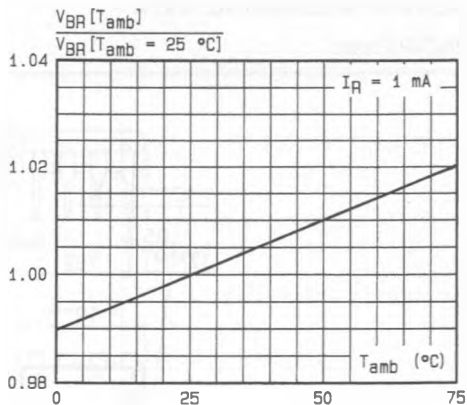


Fig.2 - Relative variation of breakdown voltage versus ambient temperature.

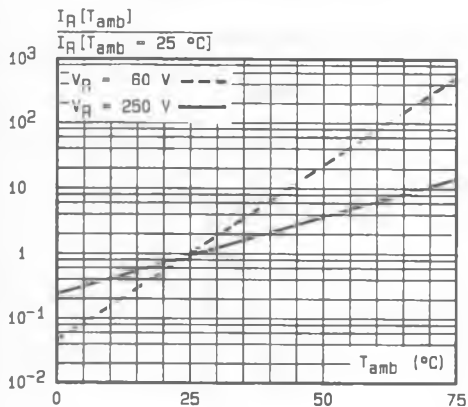


Fig.3 - Relative variation of leakage current versus ambient temperature.

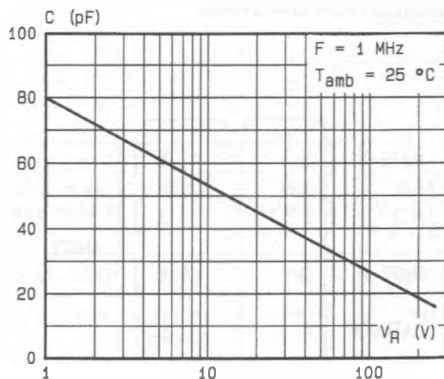


Fig.4 - Junction capacitance versus reverse applied voltage.

089L3100B1P4