

S G S-THOMSON

SENSITIVE GATE TRIACS

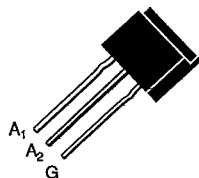
- GLASS PASSIVATED CHIP
- HIGH SURGE CURRENT

DESCRIPTION

Low power triacs suited for 50 and 60 Hz up to 380 V_{RMS}.

APPLICATIONS

- CONTROL SPEED FOR LITTLE MOTORS ;
ELECTRIC PUMP OR VENTILATOR, SEWING MACHINE
- RELAY, DETECTOR, ALARM SYSTEM
- ELECTRONIC STARTER FOR LAMP
- HIGH POWER TRIAC DRIVER



TL
(Plastic)

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state Current (360° conduction angle)	$T_1 = 40\text{ °C}$	1	A
$I_{T(RMS)}$	RMS on-state Current on Printed Circuit (360° conduction angle)	$T_a = 25\text{ °C}$	0.77	A
I_{TSM}	Non Repetitive Surge Peak on-state Current (T_1 initial = 25 °C - Half sine wave)	$t = 8.3\text{ ms}$	16	A
		$t = 10\text{ ms}$	15	
I^2t	I^2t Value for Fusing	$t = 10\text{ ms}$	1.125	A ² s
di/dt	Critical Rate of Rise of on-state Current (1)	Repetitive	10	A/μs
T_{stg} T_j	Storage and Operating Junction Temperature Range		- 40 to 150	°C
			- 40 to 110	°C

Symbol	Parameter	TLC111S	TLC221S	TLC331S	TLC381S	Unit
V_{DRM}	Repetitive Peak off-state Voltage (2)	200	400	600	700	V

(1) $I_G = 100\text{ mA}$ $di/dt = 1\text{ A/μs}$

(2) $T_1 = 110\text{ °C}$.

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to Ambient on Printed Circuit	75	°C/W
$R_{th(j-l)}$	Junction-leads for 360° Conduction Angle ($F = 50\text{ Hz}$)	45	°C/W

2 G 3-111015011

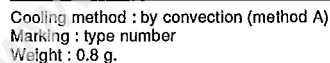
T-25-13

$$V_{GM} = 16 \text{ V } (t_p = 10 \text{ } \mu\text{s})$$

T-25-13

* For either polarity of electrode A₂ voltage with reference to electrode A₁.

TL Plastic



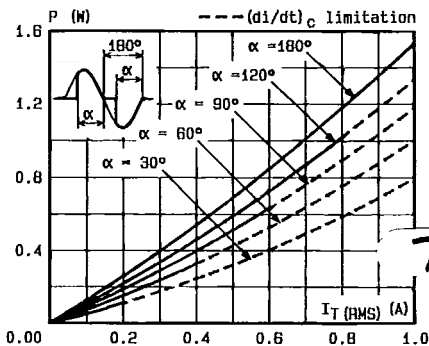


Fig.1 - Maximum mean power dissipation versus RMS on-state current ($F = 60$ Hz).

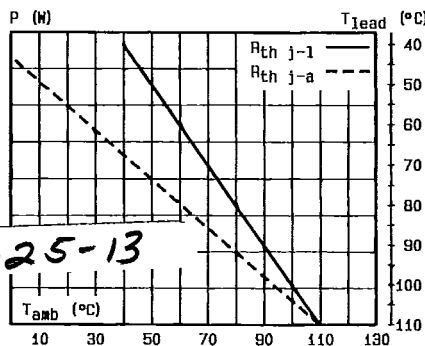


Fig.2 - Correlation between maximum mean power dissipation and maximum allowable temperatures (T_{amb} and T_{lead}). resistances heatsink + contact.

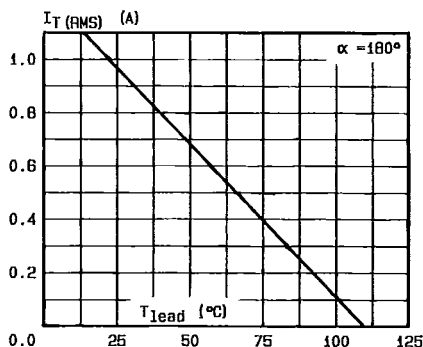


Fig.3 - RMS on-state current versus lead temperature.

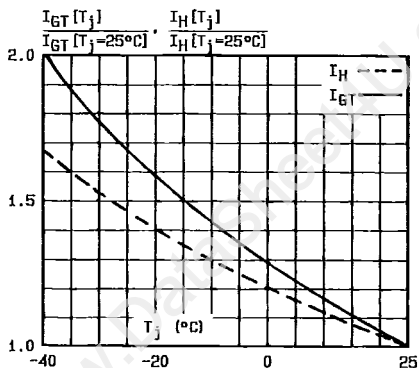


Fig.5 - Relative variation of gate trigger current and holding current versus junction temperature.

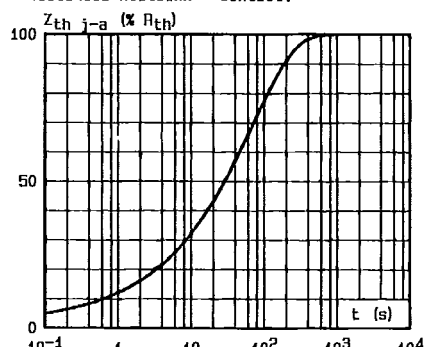


Fig.4 - Thermal transient impedance junction to ambient versus pulse duration.

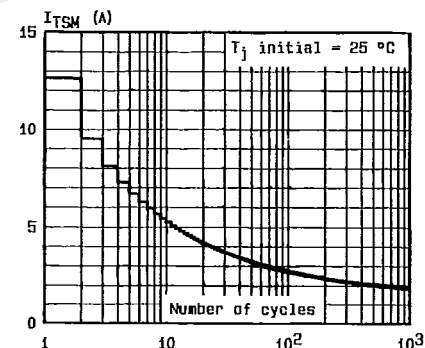


Fig.6 - Non repetitive surge peak on state current versus number of cycles.

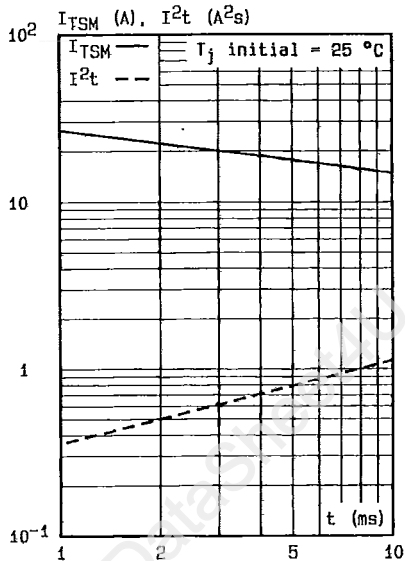


Fig. 7 - Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms, and corresponding value of I^2t .

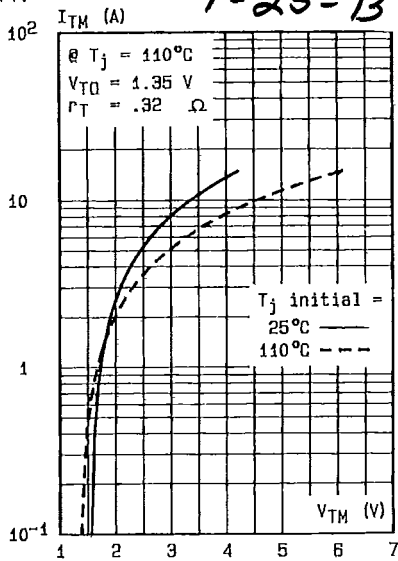


Fig. 8 - On-state characteristics (maximum values).