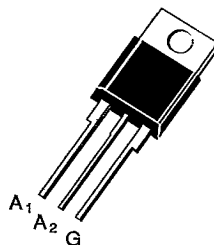


SNUBBERLESS TRIACS

- $I_{TRMS} = 8\text{ A}$ at $T_c = 95\text{ }^\circ\text{C}$.
- $V_{DRM} : 200\text{ V}$ to 800 V .
- $I_{GT} = 75\text{ mA}$ (QI-II-III).
- GLASS PASSIVATED CHIP.
- HIGH SURGE CURRENT : $I_{TSM} = 80\text{ A}$.
- HIGH COMMUTATION CAPABILITY :
 $(di/dt)_c > 10\text{ A/ms}$ without snubber.



TO 220 AB
 (CB-415 Plastic)

DESCRIPTION

New range suited for applications such as phase control and static switching on inductive or resistive load.

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{TRMS}	RMS on-state current (360 ° conduction angle)	$T_c = 95\text{ }^\circ\text{C}$	8	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = $25\text{ }^\circ\text{C}$)	$t = 8.3\text{ ms}$	85	A
		$t = 10\text{ ms}$	80	
I^2t	I^2t value	$t = 10\text{ ms}$	32	A^2s
di/dt	Critical rate of rise of on-state current (1)	Repetitive $F \approx 50\text{ Hz}$	20	$\text{A}/\mu\text{s}$
		Non Repetitive	100	
T_{stg} T_j	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ\text{C}$ $^\circ\text{C}$

Symbol	Parameter	BTB 08-					Unit
		200 AW	400 AW	600 AW	700 AW	800 AW	
V_{DRM}	Repetitive peak off-state voltage (2)	± 200	± 400	± 600	± 700	± 800	V

(1) Gate supply : $I_G = 750\text{ mA}$ - $di_G / dt = 1\text{ A}/\mu\text{s}$.

(2) $T_j = 125\text{ }^\circ\text{C}$.

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient	60	°C/W
$R_{th(j-c)} DC$	Junction to case for DC	3.5	°C/W
$R_{th(j-c)} AC$	Junction to case for 360 ° conduction angle (F = 50 Hz)	2.7	°C/W

GATE CHARACTERISTICS (maximum values)

$P_{GM} = 40 W$ ($t = 10 \mu s$) $P_{G(AV)} = 1 W$ $I_{GM} = 4 A$ ($t = 10 \mu s$) $V_{GM} = 16 V$ ($t = 10 \mu s$).

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions			Quadrants	Min.	Typ.	Max.	Unit
I_{GT}	$T_J = 25\text{ °C}$ Pulse duration > 20 μs	$V_D = 12 V$ $R_L = 33 \Omega$		I-II-III	2		75	mA
V_{GT}	$T_J = 25\text{ °C}$ Pulse duration > 20 μs	$V_D = 12 V$ $R_L = 33 \Omega$		I-II-III			1.5	V
V_{GD}	$T_J = 125\text{ °C}$ Pulse duration > 20 μs	$V_D = V_{DRM}$ $R_L = 3.3 k\Omega$		I-II-III	0.2			V
I_H^*	$T_J = 25\text{ °C}$ Gate open	$I_T = 100 mA$ $R_L = 140 \Omega$					75	mA
I_L	$T_J = 25\text{ °C}$ Pulse duration > 20 μs	$V_D = 12 V$ $I_G = 500 mA$	I-III		75			mA
			II		150			
V_{TM}^*	$T_J = 25\text{ °C}$	$I_{TM} = 11 A$	$t_p = 10 ms$				1.75	V
I_{DRM}^*	$T_J = 25\text{ °C}$	V_{DRM} rated Gate open					0.01	mA
	$T_J = 125\text{ °C}$						2	
dv/dt^*	$T_J = 125\text{ °C}$ Linear slope up to 0.67 V_{DRM}	Gate open			750	1000		V/ μs
$(di/dt)_c^*$	$T_J = 125\text{ °C}$ Without snubber	V_{DRM} rated			10	20		A/ms
t_{gt}	$T_J = 25\text{ °C}$ $I_T = 11 A$	$di_G/dt = 3.5 A/\mu s$ $V_D = V_{DRM}$	$I_G = 500 mA$	I-II-III		2		μs

* For either polarity of electrode A_2 voltage with reference to electrode A_1 .

T-25-15

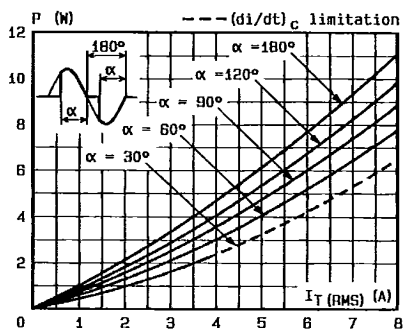


Fig.1 - Maximum mean power dissipation versus RMS on-state current ($F = 60$ Hz).

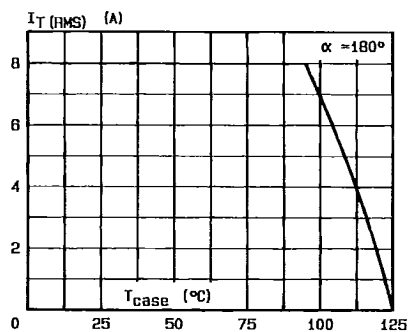


Fig.3 - RMS on-state current versus case temperature.

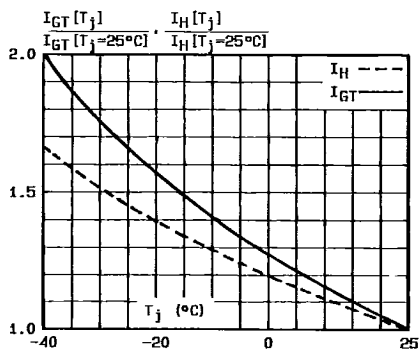


Fig.5 - Relative variation of gate trigger current and holding current versus junction temperature.

S G S-THOMSON

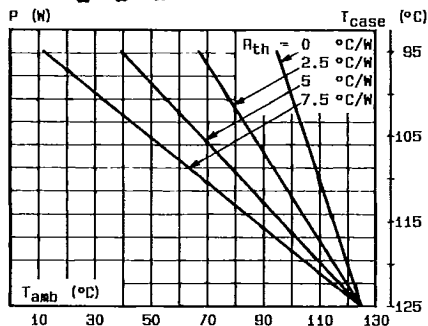


Fig.2 - Correlation between maximum mean power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

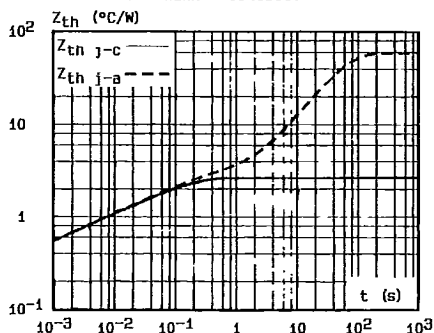


Fig.4 - Thermal transient impedance junction to case and junction to ambient versus pulse duration.

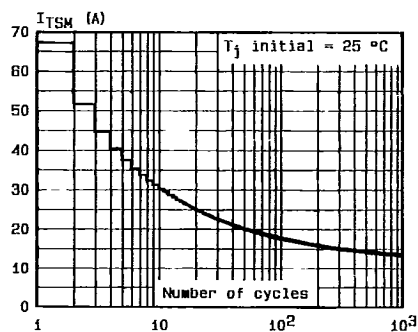


Fig.6 - Non repetitive surge peak on-state current versus number of cycles.

S G S-THOMSON

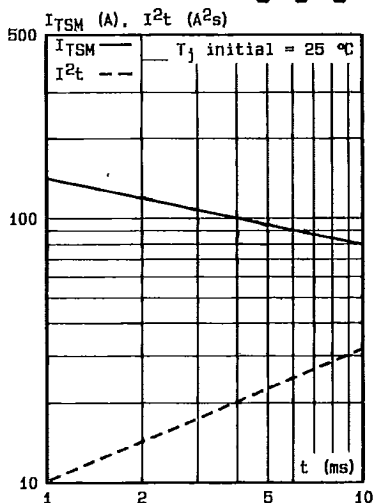


Fig.7 - Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms, and corresponding value of I^2t .

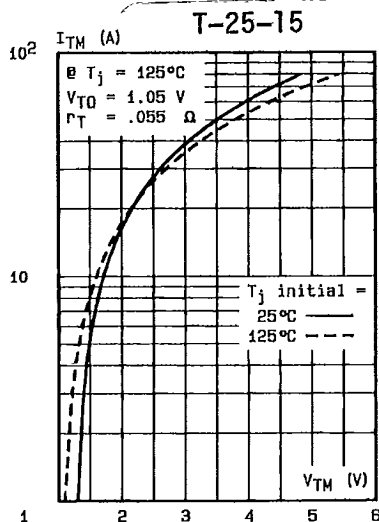
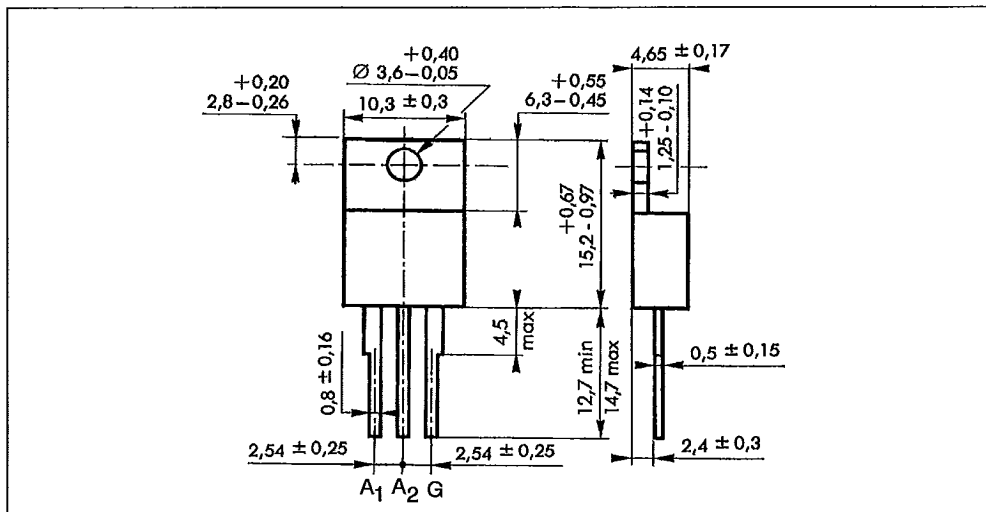


Fig.8 - On-state characteristics (maximum values).

PACKAGE MECHANICAL DATA

TO 220 AB (CB-415) Plastic



Cooling method : by conduction (method C)

Marking : type number

Weight : 2 g