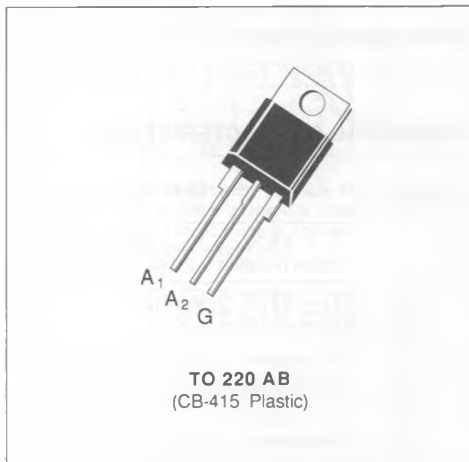


SNUBBERLESS TRIACS

- $I_{TRMS} = 8\text{ A}$ at $T_c = 95\text{ }^\circ\text{C}$.
- $V_{DRM} : 200\text{ V}$ to 800 V .
- $I_{GT} = 50\text{ mA}$ (QI-II-III).
- GLASS PASSIVATED CHIP.
- HIGH SURGE CURRENT : $I_{TSM} = 80\text{ A}$.
- HIGH COMMUTATION CAPABILITY :
 $(di/dt)_c > 7\text{ A/ms}$ without snubber.


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 $F = 50\text{ Hz}$	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 BW	400 BW	600 BW	700 BW	800 BW	
V_{DRM}	Repetitive peak off-state voltage (2)	± 200	± 400	± 600	± 700	± 800	V

(1) Gate supply : $I_G = 500\text{ mA}$ - $di_G / dt = 1\text{ A}/\mu\text{s}$.

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

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions			Quadrants	Min.	Typ.	Max.	Unit
I_{GT}	$T_j = 25 °C$ Pulse duration > 20 μs	$V_D = 12 V$	$R_L = 33 Ω$	I-II-III	2		50	mA
V_{GT}	$T_j = 25 °C$ Pulse duration > 20 μs	$V_D = 12 V$	$R_L = 33 Ω$	I-II-III			1.5	V
V_{GD}	$T_j = 125 °C$ Pulse duration > 20 μs	$V_D = V_{DRM}$	$R_L = 3.3 kΩ$	I-II-III	0.2			V
$I_H *$	$T_j = 25 °C$ Gate open	$I_T = 100 mA$ $R_L = 140 Ω$					50	mA
I_L	$T_j = 25 °C$ Pulse duration > 20 μs	$V_D = 12 V$	$I_G = 500 mA$	I-III		50		mA
				II		100		
$V_{TM} *$	$T_j = 25 °C$	$I_{TM} = 11 A$	$t_p = 10 ms$				1.75	V
$I_{DRM} *$	$T_j = 25 °C$	V_{DRM} rated	Gate open				0.01	mA
	$T_j = 125 °C$						2	
$dv/dt *$	$T_j = 125 °C$	Gate open Linear slope up to 0.67 V_{DRM}			500	750		V/μs
$(di/dt)_c *$	$T_j = 125 °C$	V_{DRM} rated Without snubber			7	14		A/ms
t_{g1}	$T_j = 25 °C$ $I_T = 11 A$	$di_G/dt = 3.5 A/μs$ $V_D = V_{DRM}$	$I_G = 500 mA$	I-II-III		2		μs

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

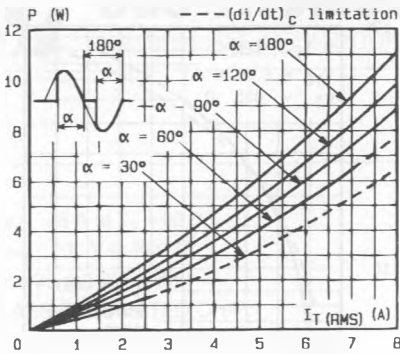


Fig. 1 - Maximum mean power dissipation versus RMS on-state current ($F = 60$ Hz).

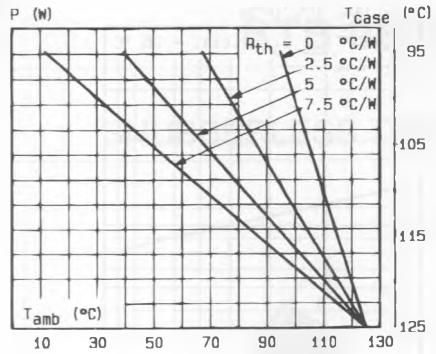


Fig. 2 - Correlation between maximum mean power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

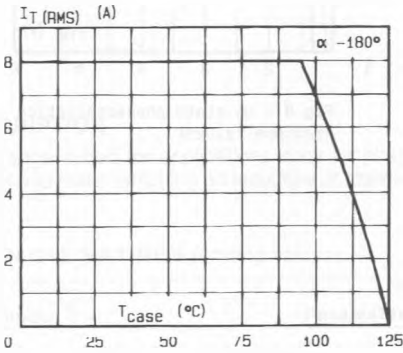


Fig. 3 - RMS on-state current versus case temperature.

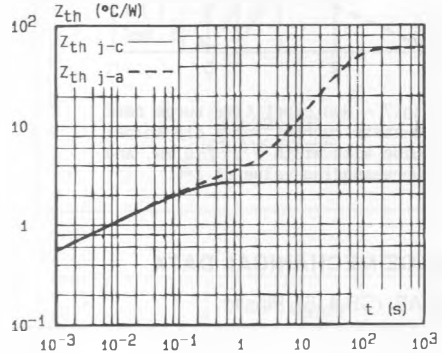


Fig. 4 - Thermal transient impedance junction to case and junction to ambient versus pulse duration.

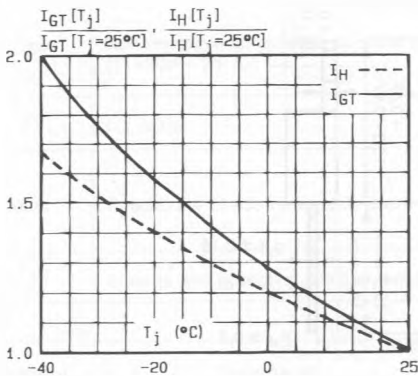


Fig. 5 - Relative variation of gate trigger current and holding current versus junction temperature.

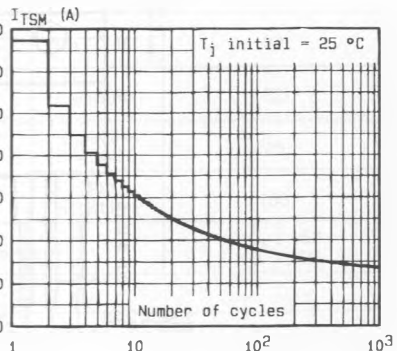


Fig. 6 - Non repetitive surge peak on-state current versus number of cycles.

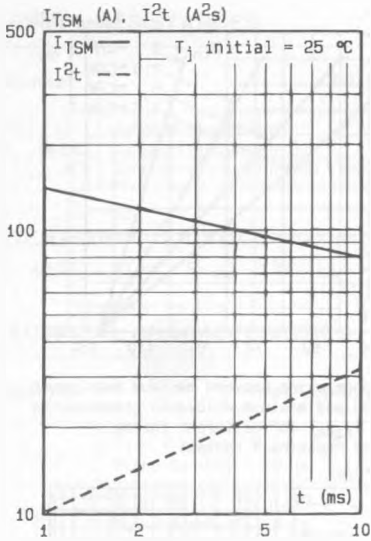


Fig.7 - Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10$ ms. and corresponding value of I^2t .

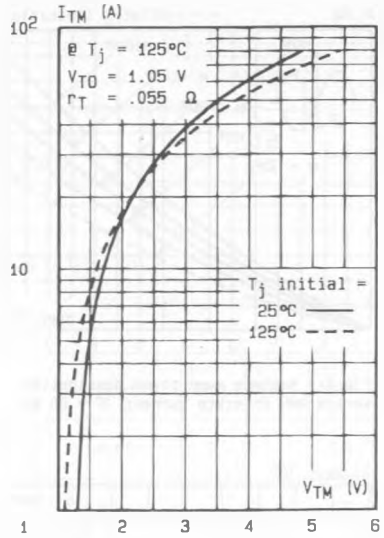
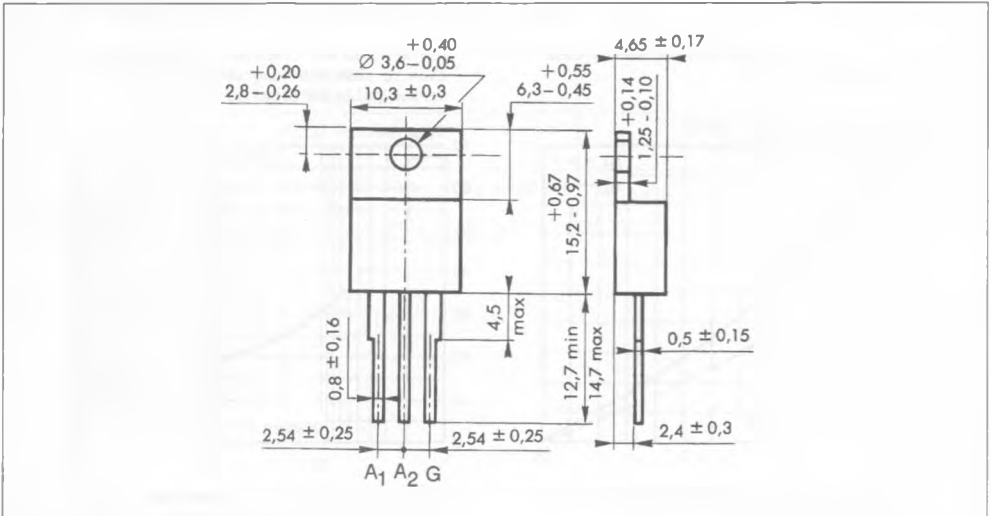


Fig.8 - On-state characteristics (maximum values).

PACKAGE MECHANICAL DATA

TO 220 AB (CB-415) Plastic



Cooling method : by conduction (method C)
 Marking : type number
 Weight : 2 g