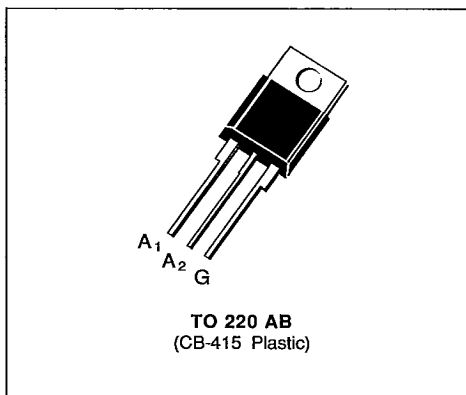


SNUBBERLESS TRIACS

- $I_{TRMS} = 6\text{ A}$ at $T_c = 95^\circ\text{C}$.
- $V_{DRM} : 200\text{ V to } 800\text{ V}$.
- $I_{GT} = 50\text{ mA}$ (QI-II-III).
- GLASS PASSIVATED CHIP.
- HIGH SURGE CURRENT : $I_{TSM} = 60\text{ A}$.
- HIGH COMMUTATION CAPABILITY :
(di/dt)_c > 5 A / ms without snubber.
- INSULATING VOLTAGE : 2500 V_{RMS}.



DESCRIPTION

ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
I_{TRMS}	RMS on-state current (360 ° conduction angle)	$T_c = 95^\circ\text{C}$	6	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = 25°C)	$t = 8.3\text{ ms}$	63	A
		$t = 10\text{ ms}$	60	
$I^2 t$	$I^2 t$ value	$t = 10\text{ ms}$	18	$\text{A}^2\text{ s}$
di/dt	Critical rate of rise of on-state current (1)	Repetitive $F = 50\text{ Hz}$	20	A / μs
		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	BTA 06-					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) $T_j = 125^\circ\text{C}$.

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THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
$R_{th(j-a)}$	Junction to ambient	60	$^{\circ}\text{C/W}$
$R_{th(j-c)} \text{ DC}$	Junction to case for DC	4.3	$^{\circ}\text{C/W}$
$R_{th(j-c)} \text{ AC}$	Junction to case for 360° conduction angle ($F = 50 \text{ Hz}$)	3.2	$^{\circ}\text{C/W}$

GATE CHARACTERISTICS (maximum values)

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

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions			Quadrants	Min.	Typ.	Max.	Unit
I_{GT}	$T_J = 25^{\circ}\text{C}$ Pulse duration $> 20 \mu\text{s}$	$V_D = 12 \text{ V}$ $R_L = 33 \Omega$		I-II-III	2		50	mA
V_{GT}	$T_J = 25^{\circ}\text{C}$ Pulse duration $> 20 \mu\text{s}$	$V_D = 12 \text{ V}$ $R_L = 33 \Omega$		I-II-III			1.5	V
V_{GD}	$T_J = 125^{\circ}\text{C}$ Pulse duration $> 20 \mu\text{s}$	$V_D = V_{DRM}$ $R_L = 3.3 \text{ k}\Omega$		I-II-III	0.2			V
I_H^*	$T_J = 25^{\circ}\text{C}$ Gate open	$I_T = 100 \text{ mA}$ $R_L = 140 \Omega$					50	mA
I_L	$T_J = 25^{\circ}\text{C}$ Pulse duration $> 20 \mu\text{s}$	$V_D = 12 \text{ V}$ $I_G = 500 \text{ mA}$	I-III			50		mA
			II			100		
V_{TM}^*	$T_J = 25^{\circ}\text{C}$	$I_{TM} = 8.5 \text{ A}$ $t_p = 10 \text{ ms}$					1.75	V
I_{DRM}^*	$T_J = 25^{\circ}\text{C}$	$V_{DRM} \text{ rated}$ Gate open					0.01	mA
	$T_J = 125^{\circ}\text{C}$						2	
dv/dt^*	$T_J = 125^{\circ}\text{C}$ Linear slope up to $0.67 V_{DRM}$	Gate open			500	750		V/ μs
$(di/dt)_c^*$	$T_J = 125^{\circ}\text{C}$ Without snubber	$V_{DRM} \text{ rated}$			5	10		A/ms
t_{gt}	$T_J = 25^{\circ}\text{C}$ $I_T = 8.5 \text{ A}$	$di_G/dt = 3.5 \text{ A}/\mu\text{s}$ $V_D = V_{DRM}$	$I_G = 500 \text{ mA}$	I-II-III		2		μs

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

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T-25-15

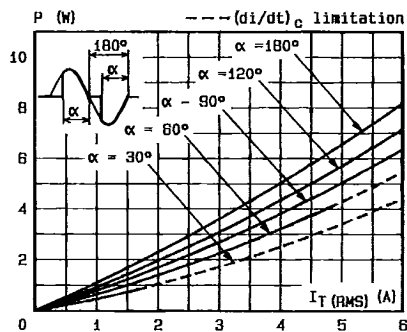


Fig.1 - Maximum mean power dissipation versus RMS on-state current ($F = 60$ Hz).

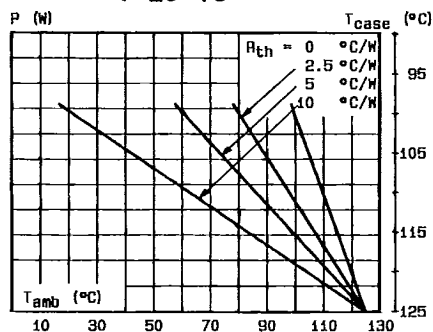


Fig.2 - Correlation between maximum mean power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

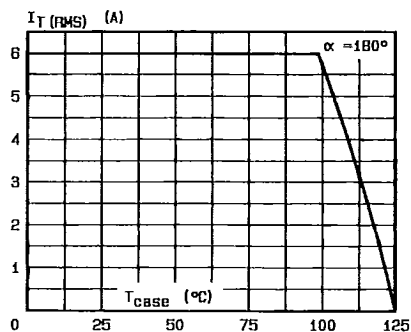


Fig.3 - RMS on-state current versus case temperature.

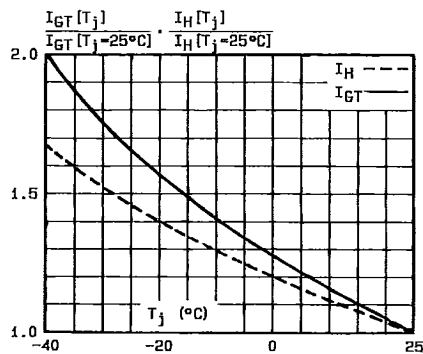


Fig.5 - Relative variation of gate trigger current and holding current versus junction temperature.

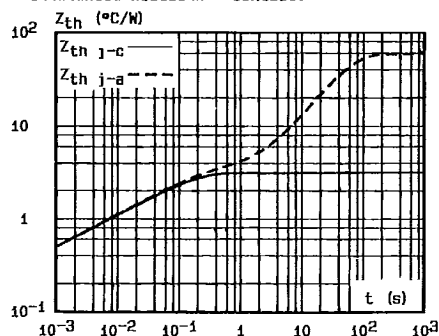


Fig.4 - Thermal transient impedance junction to case and junction to ambient versus pulse duration.

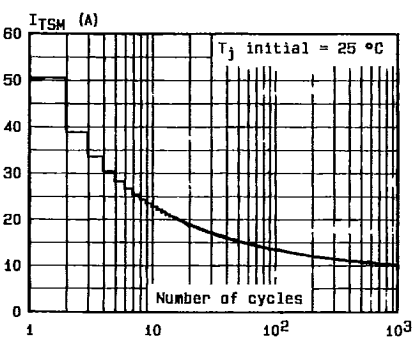
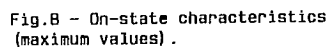
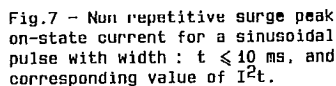


Fig.6 - Non repetitive surge peak on-state current versus number of cycles.



TO 220 AB (CB-415) Plastic

