



# BTA25 BW BTA25 CW

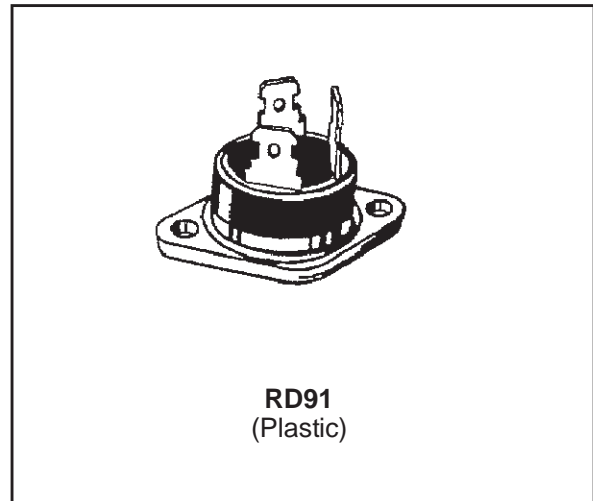
## SNUBBERLESS™ TRIACS

### FEATURES

- $I_{T(RMS)} = 25A$
- HIGH COMMUTATION:  
( $di/dt$ )<sub>c</sub> ≥ 12A/ms BTA25-xxxCW  
( $di/dt$ )<sub>c</sub> ≥ 22A/ms BTA25-xxxBW
- INSULATING VOLTAGE 2500V<sub>(RMS)</sub>

### DESCRIPTION

The BTA25-xxxBW/CW series use a high performance MESA GLASS technology. The SNUBBERLESS concept offers suppression of RC network and it is suitable for application such as water heaters, motor control, welding equipment, ...



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_c = 85^\circ C$	25	A
$I_{TSM}$	Non repetitive surge peak on-state current ( $T_j$ initial = $25^\circ C$ )	$t_p = 8.3$ ms	260	A
		$t_p = 10$ ms	250	
$I^2t$	$I^2t$ Value for fusing	$t_p = 10$ ms	312	A <sup>2</sup> s
$di/dt$	Critical rate of rise of on-state current $I_G = 500$ mA $di_G/dt = 1$ A/ $\mu$ s.	Repetitive F = 50 Hz	20	A/ $\mu$ s
		Non Repetitive	100	
$T_{stg}$ $T_j$	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	$^\circ C$
TI	Maximum lead temperature for soldering during 10s		260	$^\circ C$

Symbol	Parameter	BTA25-xxxBW/CW		Unit
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage $T_j = 125^\circ C$	600	800	V

## BTA25BW / BTA25CW

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth(j-c)	Junction to case for DC	1.7	°C/W
Rth(j-c)	Junction to case for AC 360° conduction angle (F=50Hz)	1.3	°C/W

### GATE CHARACTERISTICS (maximum values)

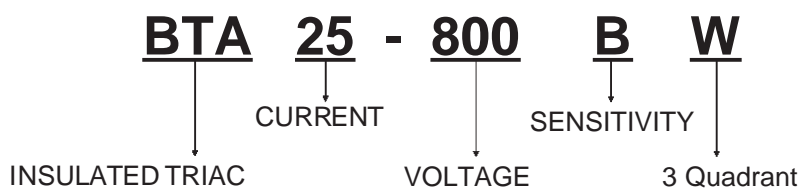
$P_{G(AV)} = 1 \text{ W}$     $P_{GM} = 10 \text{ W}$  ( $t_p = 20 \mu\text{s}$ )    $I_{GM} = 4 \text{ A}$  ( $t_p = 20 \mu\text{s}$ )

### ELECTRICAL CHARACTERISTICS

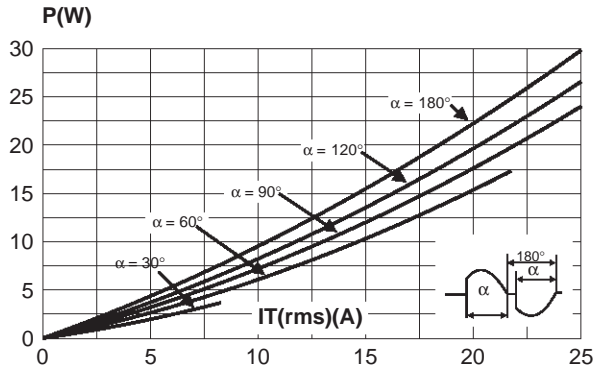
Symbol	Test Conditions		Quadrant		Sensitivity		Unit
					CW	BW	
$I_{GT}$	$V_D = 12\text{V (DC)}$ $R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III	MIN	4	5	mA
				MAX	35	50	
$V_{GT}$	$V_D = 12\text{V (DC)}$ $R_L = 33\Omega$	$T_j = 25^\circ\text{C}$	I-II-III	MAX	1.3		V
$I_H^*$	$I_T = 250 \text{ mA}$ Gate open	$T_j = 25^\circ\text{C}$		MAX	50	70	mA
$I_L$	$I_G = 1.2 I_{GT}$	$T_j = 25^\circ\text{C}$	I-III	MAX	50	70	mA
			II	MAX	60	80	
$V_{TM}^*$	$I_{TM} = 35\text{A}$ $t_p = 380\mu\text{s}$	$T_j = 25^\circ\text{C}$		MAX	1.5		V
$I_{DRM}$ $I_{RRM}$	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^\circ\text{C}$		MAX	5		$\mu\text{A}$
		$T_j = 125^\circ\text{C}$		MAX	3		mA
$dV/dt^*$	$V_D = 67\% V_{DRM}$ Gate open	$T_j = 125^\circ\text{C}$		MIN	750	1000	V/ $\mu\text{s}$
$(di/dt)_c^*$	Without snubber	$T_j = 125^\circ\text{C}$		MIN	12	22	A/ms

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

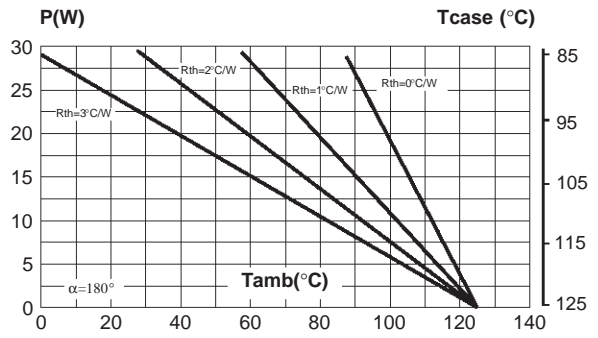
### ORDERING INFORMATION



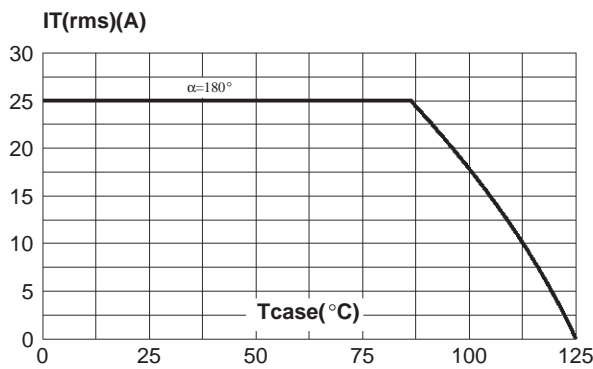
**Fig.1 :** Maximum power dissipation versus RMS on-state current.



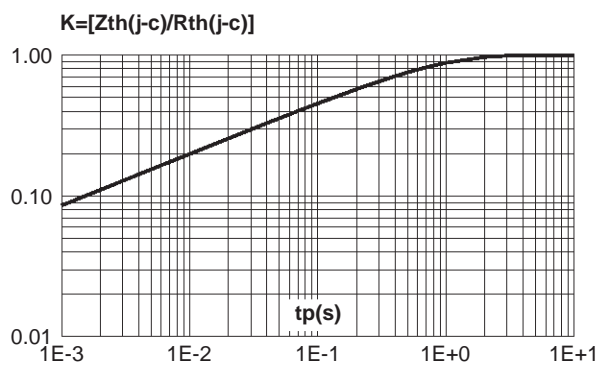
**Fig.2 :** Correlation between maximum power dissipation and maximum allowable temperature (Tamb and Tcase) for different thermal resistances heatsink + contact.



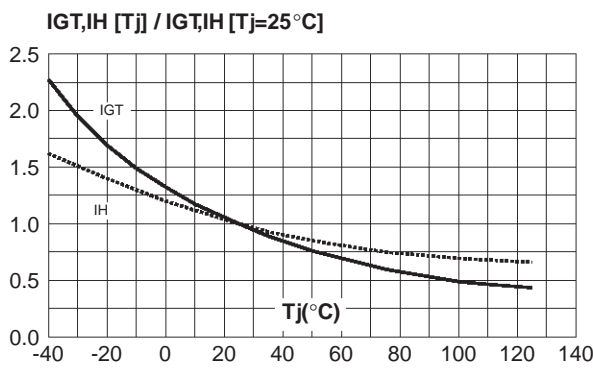
**Fig.3 :** RMS on-state current versus case temperature.



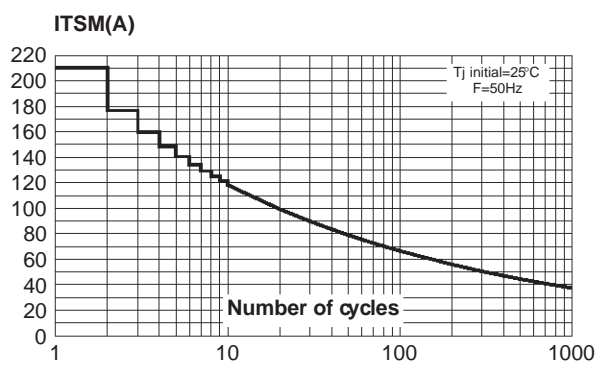
**Fig.4 :** Relative variation of thermal impedance versus pulse duration.



**Fig.5 :** Relative variation of gate trigger current and holding current versus junction temperature (typical value).

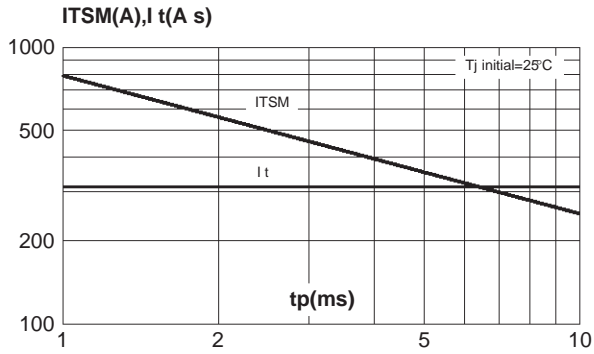


**Fig.6 :** Non repetitive surge peak on-state current versus number of cycles.

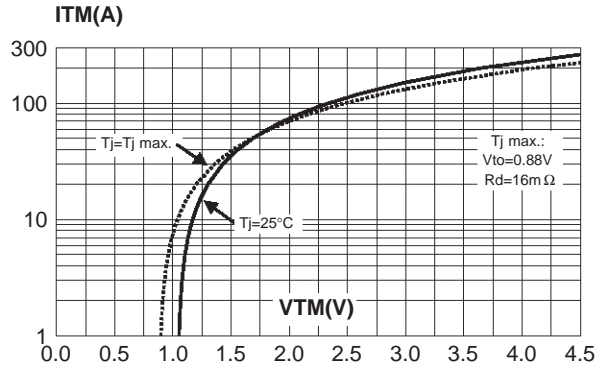


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**Fig.7 :** Non repetitive surge peak on-state current for a sinusoidal pulse with width :  $t_p < 10\text{ms}$ , and corresponding value of  $I^2t$ .

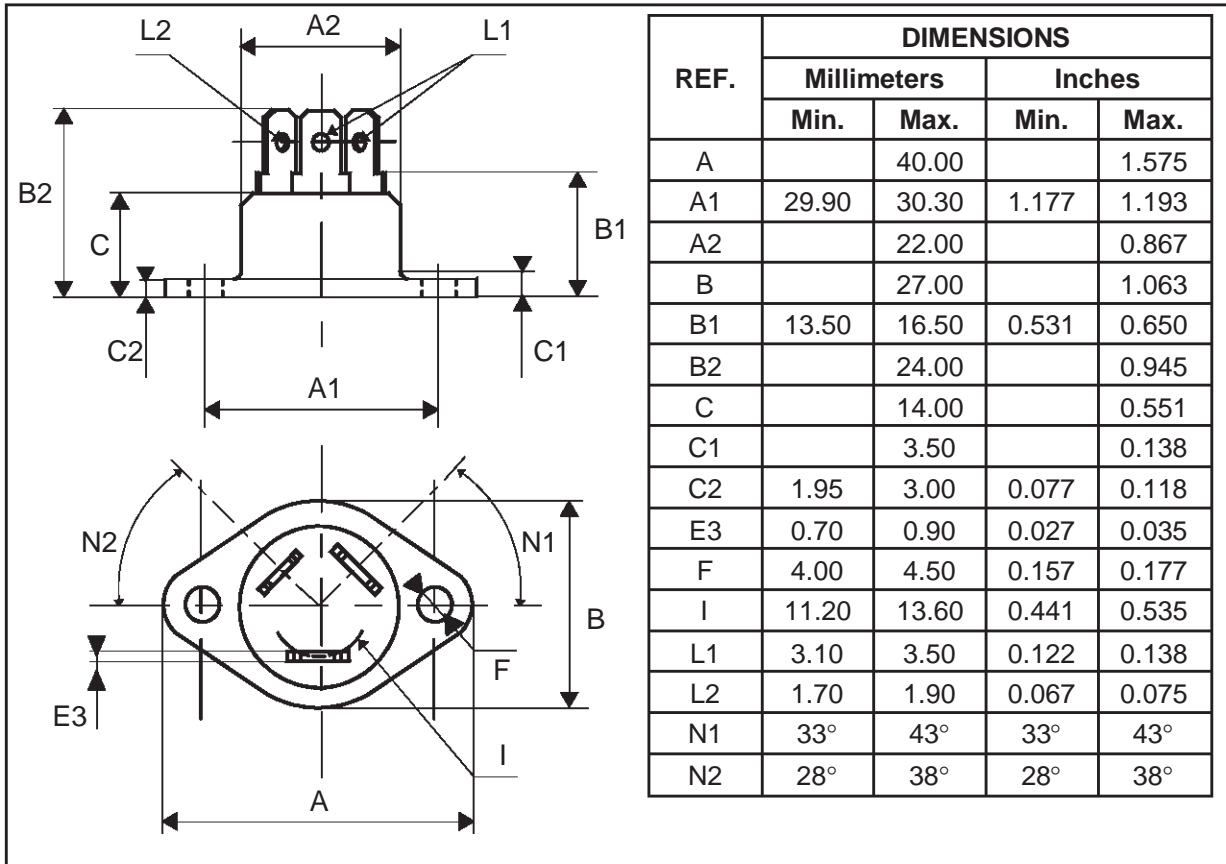


**Fig.8 :** On-state characteristics (maximum values).



**PACKAGE MECHANICAL DATA**

RD91 (Plastic)



Marking : type number  
Weight : 20 g

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