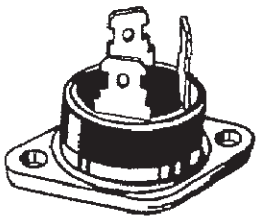
BTA25 BW
BTA25 CW

SNUBBERLESS™ TRIACS

FEATURES

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



RD91
(Plastic)

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)	Tc= 85°C	25	A
I_{TSM}	Non repetitive surge peak on-state current (T_j initial = 25°C)	tp = 8.3 ms	260	A
		tp = 10 ms	250	
I^2t	I^2t Value for fusing	tp = 10 ms	312	A^2s
dI/dt	Critical rate of rise of on-state current I_G = 500 mA di_G/dt = 1 A/µs.	Repetitive F = 50 Hz	20	A/µs
		Non Repetitive	100	
T_{stg} T_j	Storage and operating junction temperature range		- 40, + 150 - 40, + 125	°C
Tl	Maximum lead temperature for soldering during 10s		260	°C

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

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 W P_{GM} = 10 W (tp = 20 µs) I_{GM} = 4 A (tp = 20 µs)

ELECTRICAL CHARACTERISTICS

Symbol	Test Conditions		Quadrant		Sensitivity		Unit
					CW	BW	
I_{GT}	V_D=12V (DC) R_L=33Ω	Tj= 25°C	I-II-III	MIN	4	5	mA
				MAX	35	50	
V_{GT}	V_D=12V (DC) R_L=33Ω	Tj= 25°C	I-II-III	MAX	1.3		V
I_H *	I_T= 250 mA Gate open	Tj= 25°C		MAX	50	70	mA
I_L	I_G= 1.2 I_{GT}	Tj= 25°C	I-III	MAX	50	70	mA
			II	MAX	60	80	
V_{TM} *	I_{TM}= 35A tp= 380µs	Tj= 25°C		MAX	1.5		V
I_{DRM} I_{RRM}	V_D = V_{DRM} V_R = V_{RRM}	Tj= 25°C		MAX	5		µA
		Tj= 125°C		MAX	3		mA
dV/dt *	VD=67%V_{DRM} Gate open	Tj= 125°C		MIN	750	1000	V/µs
(dI/dt)c *	Without snubber	Tj= 125°C		MIN	12	22	A/ms

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

ORDERING INFORMATION

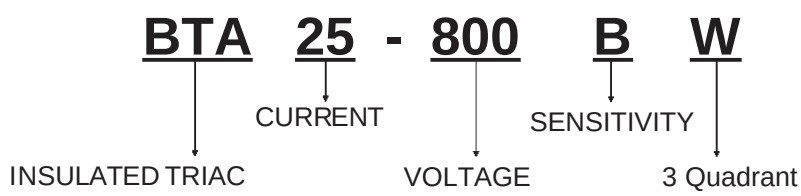


Fig.1 : Maximum power dissipation versus RMS on-state current.

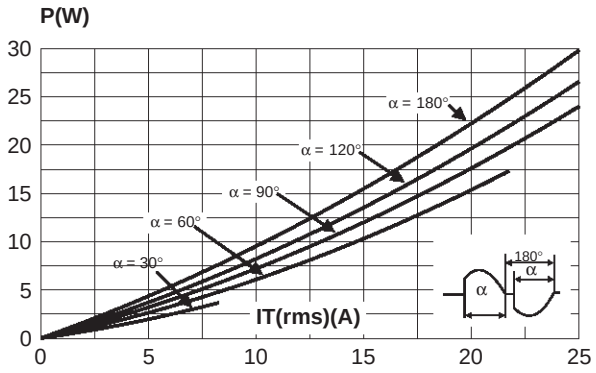


Fig.2 : Correlation between maximum power dissipation and maximum allowable temperature (Tamb and Tcase) for different thermal resistances heatsink + contact.

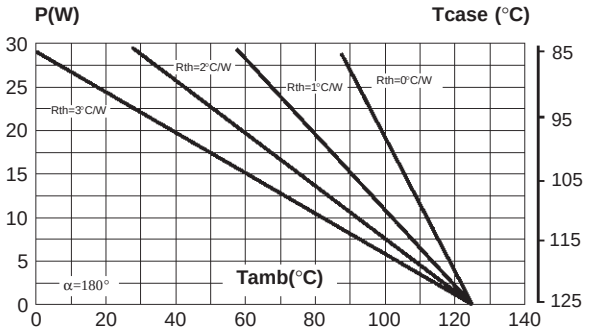


Fig.3 : RMS on-state current versus case temperature.

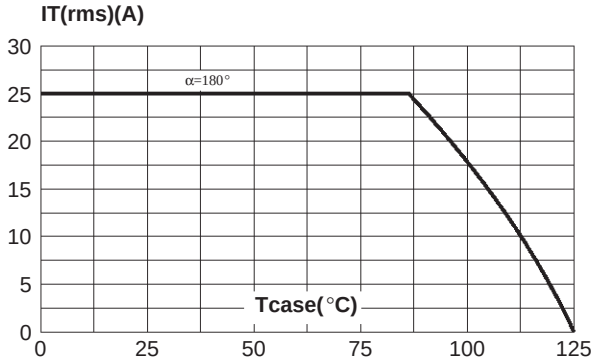


Fig.4 : Relative variation of thermal impedance versus pulse duration.

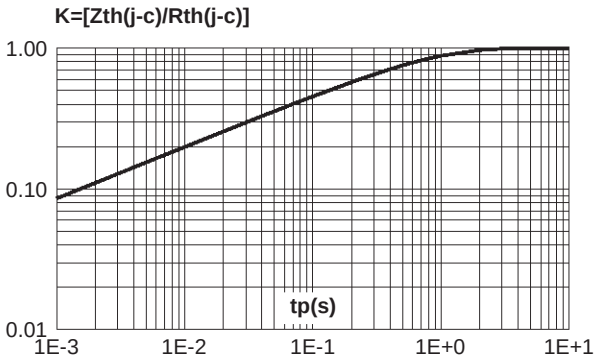


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature (typical value).

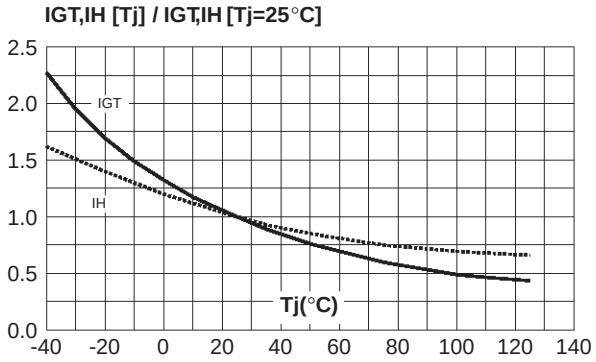


Fig.6 : Non repetitive surge peak on-state current versus number of cycles.

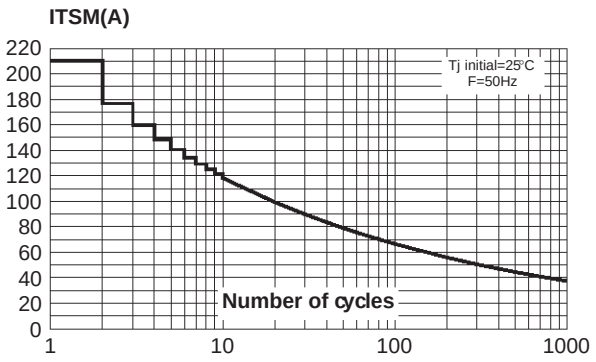


Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : tp < 10ms, and corresponding value of I^2t.

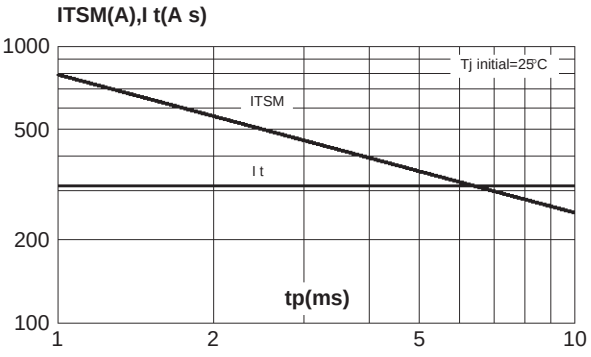
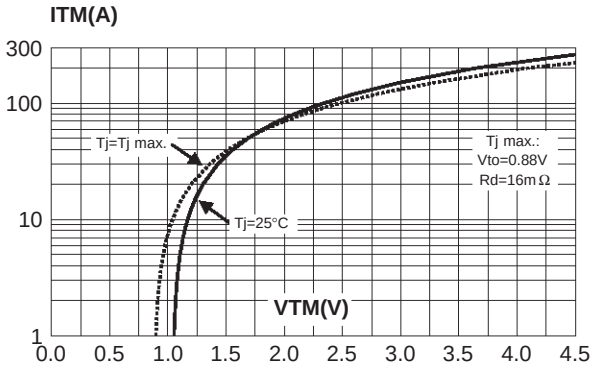
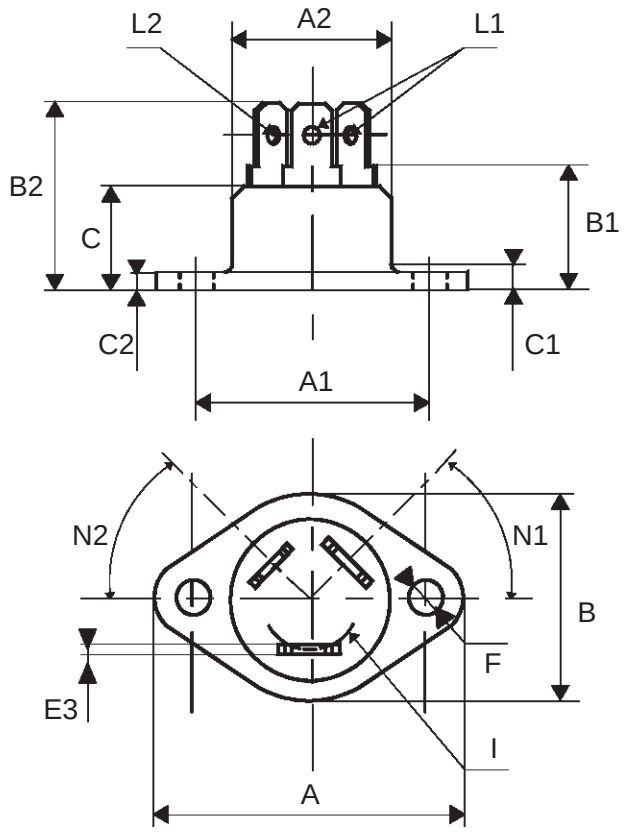


Fig.8 : On-state characteristics (maximum values).



PACKAGE MECHANICAL DATA
RD91 (Plastic)



REF.	DIMENSIONS			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A		40.00		1.575
A1	29.90	30.30	1.177	1.193
A2		22.00		0.867
B		27.00		1.063
B1	13.50	16.50	0.531	0.650
B2		24.00		0.945
C		14.00		0.551
C1		3.50		0.138
C2	1.95	3.00	0.077	0.118
E3	0.70	0.90	0.027	0.035
F	4.00	4.50	0.157	0.177
I	11.20	13.60	0.441	0.535
L1	3.10	3.50	0.122	0.138
L2	1.70	1.90	0.067	0.075
N1	33°	43°	33°	43°
N2	28°	38°	28°	38°

Marking : type number
Weight : 20 g