

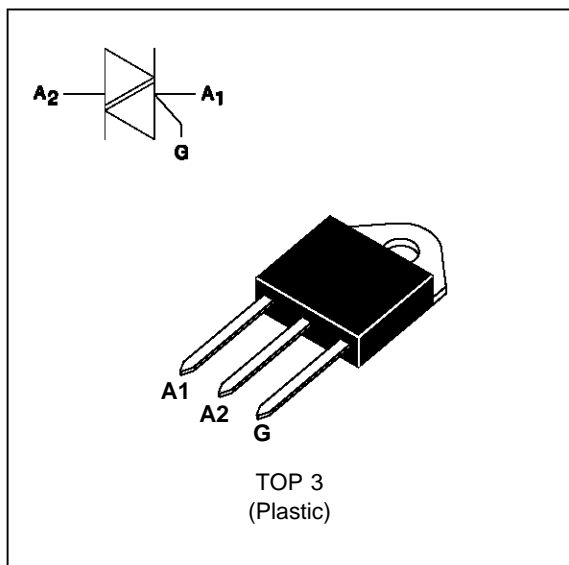
## SNUBBERLESS TRIACS

### FEATURES

- HIGH COMMUTATION :  $(di/dt)_c > 22A/ms$  without snubber
- HIGH SURGE CURRENT :  $I_{TSM} = 250A$
- $V_{DRM}$  UP TO 800V
- BTA Family :  
INSULATING VOLTAGE = 2500V(RMS)  
(UL RECOGNIZED : E81734)

### DESCRIPTION

The BTA26 BW/CW triac family are high performance glass passivated chips technology. The SNUBBERLESS™ concept offer suppression of RC network and it is suitable for application such as phase control and static switching on inductive or resistive load.



### ABSOLUTE RATINGS (limiting values)

Symbol	Parameter	Value	Unit
$I_{T(RMS)}$	RMS on-state current (360° conduction angle)	$T_c = 85\text{ °C}$ 25	A
$I_{TSM}$	Non repetitive surge peak on-state current ( $T_j$ initial = 25°C)	$t_p = 8.3\text{ ms}$	262
		$t_p = 10\text{ ms}$	250
$i^2t$	$i^2t$ value	$t_p = 10\text{ ms}$	312.5
$di/dt$	Critical rate of rise of on-state current Gate supply : $I_G = 500mA$ $di_G/dt = 1A/\mu s$	Repetitive $F = 50\text{ Hz}$	20
		Non Repetitive	100
$T_{stg}$ $T_j$	Storage and operating junction temperature range	- 40 to + 150 - 40 to + 125	°C °C
$T_l$	Maximum lead temperature for soldering during 10 s at 4.5 mm from case	260	°C

Symbol	Parameter	BTA26-... BW/CW				Unit
		400	600	700	800	
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage $T_j = 125\text{ °C}$	400	600	700	800	V

## BTA26 BW/CW

### THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j-a)	Junction to ambient	50	°C/W
Rth (j-c) DC	Junction to case for DC	1.5	°C/W
Rth (j-c) AC	Junction to case for 360° conduction angle ( F= 50 Hz)	1.1	°C/W

### GATE CHARACTERISTICS (maximum values)

$P_G$  (AV) = 1W     $P_{GM}$  = 40W (tp = 20 μs)     $I_{GM}$  = 8A (tp = 20 μs)     $V_{GM}$  = 16V (tp = 20 μs).

### ELECTRICAL CHARACTERISTICS

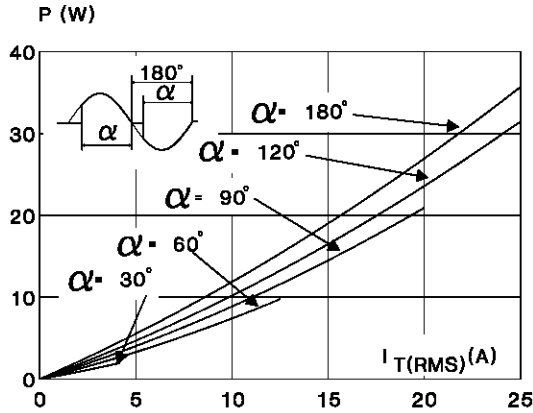
Symbol	Test Conditions	Quadrant		Suffix		Unit	
				BW	CW		
IGT	VD=12V (DC) RL=33Ω	Tj=25°C	I-II-III	MIN	2	2	mA
				MAX	50	35	
VGT	VD=12V (DC) RL=33Ω	Tj=25°C	I-II-III	MAX	1.5		V
VGD	VD=VDRM RL=3.3kΩ	Tj=125°C	I-II-III	MIN	0.2		V
tgt	VD=VDRM IG = 500mA dIG/dt = 3A/μs	Tj=25°C	I-II-III	TYP	2		μs
IL	IG=1.2 IGT	Tj=25°C	I-III	TYP	50	-	mA
			II	TYP	90	-	
			I-II-III	MAX	-	80	
I <sub>H</sub> *	I <sub>T</sub> = 500mA gate open	Tj=25°C		MAX	75	50	mA
V <sub>TM</sub> *	I <sub>TM</sub> = 35A tp= 380μs	Tj=25°C		MAX	1.80		V
IDRM IRRM	VDRM Rated VRRM Rated	Tj=25°C		MAX	0.01		mA
		Tj=125°C		MAX	3		
dV/dt *	Linear slope up to VD=67%VDRM gate open	Tj=125°C		MIN	500	250	V/μs
				TYP	750	500	
(di/dt)c *	Without snubber	Tj=125°C		MIN	22	13	A/ms
				TYP	44	26	

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

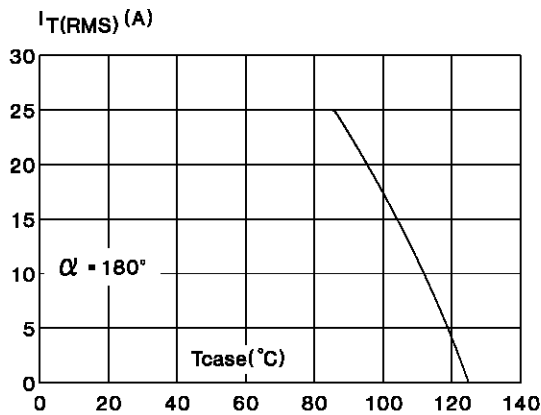
ORDERING INFORMATION

Package	$I_T(RMS)$	$V_{DRM} / V_{RRM}$	Sensitivity Specification	
	A	V	BW	CW
BTA (Insulated)	25	400	X	X
		600	X	X
		700	X	X
		800	X	X

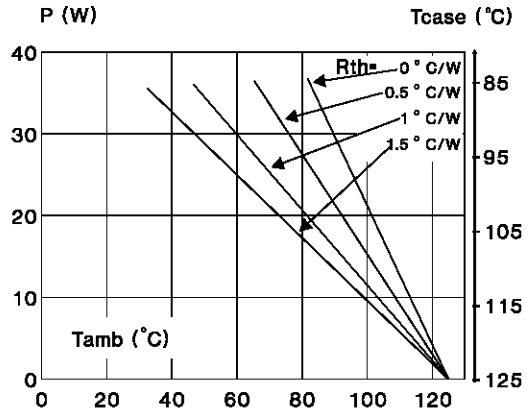
**Fig.1** : Maximum RMS power dissipation versus RMS on-state current ( $F=50Hz$ ).  
(Curves are cut off by  $(di/dt)_c$  limitation)



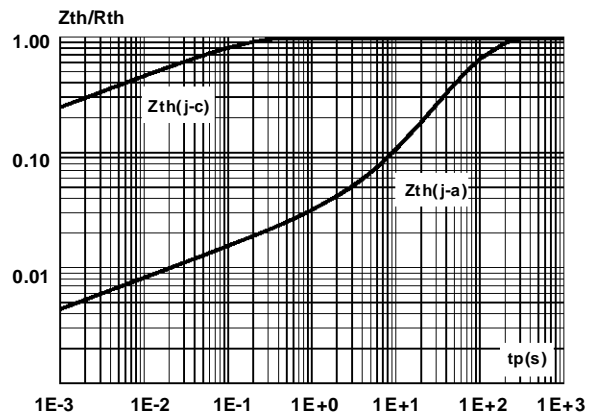
**Fig.3** : RMS on-state current versus case temperature.



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

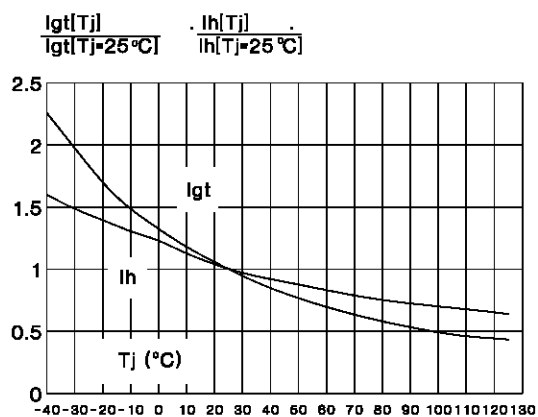


**Fig.4** : Relative variation of thermal impedance versus pulse duration.

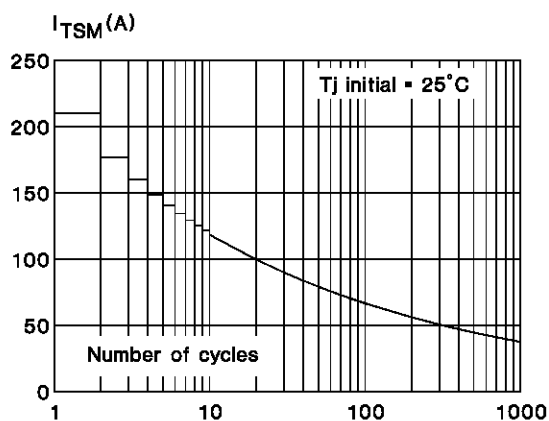


# BTA26 BW/CW

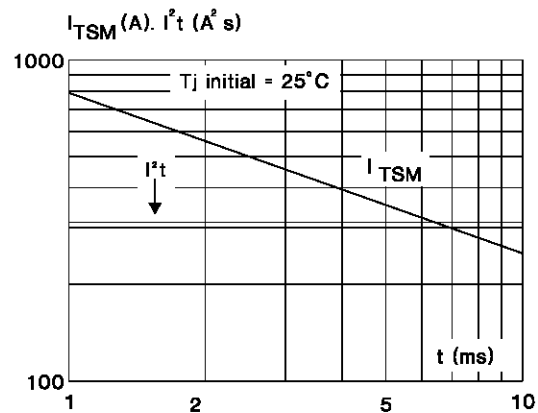
**Fig.5** : Relative variation of gate trigger current and holding current versus junction temperature.



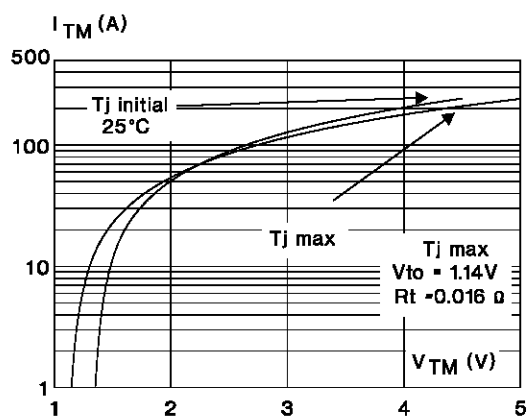
**Fig.6** : Non Repetitive surge peak on-state current versus number of cycles.



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

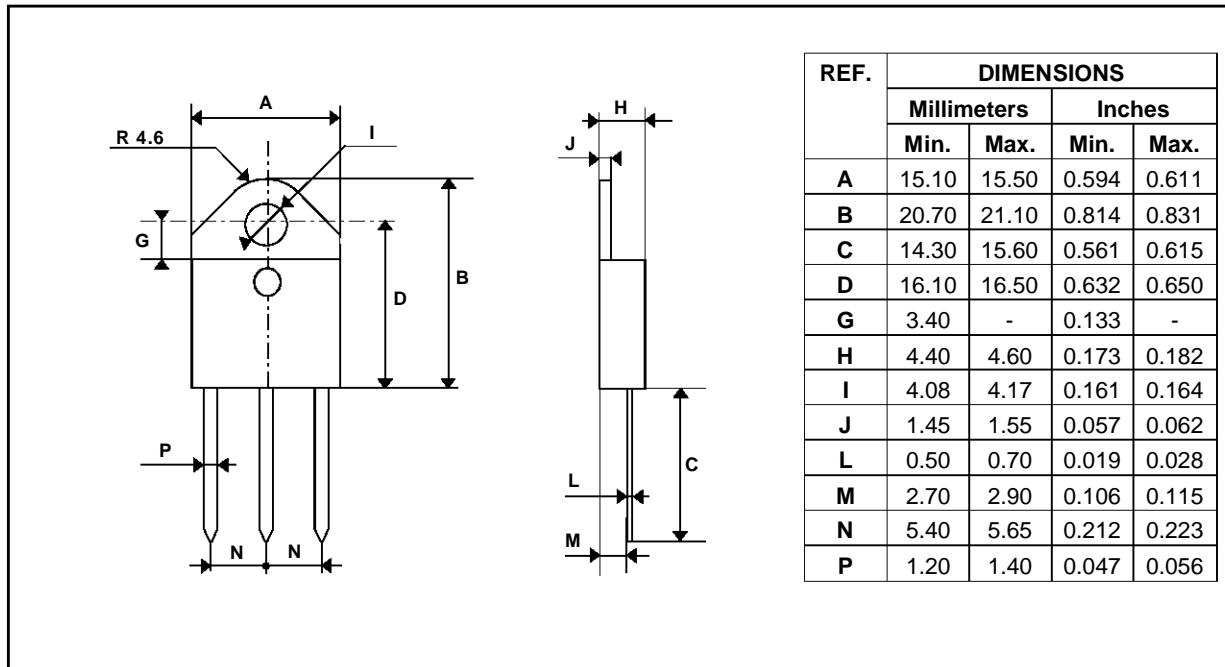


**Fig.8** : On-state characteristics (maximum values).



**PACKAGE MECHANICAL DATA**

TOP 3 Plastic



Cooling method : C  
 Marking : type number  
 Weight : 4.7 g  
 Recommended torque value : 0.8 m.N.  
 Maximum torque value : 1 m.N.

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