

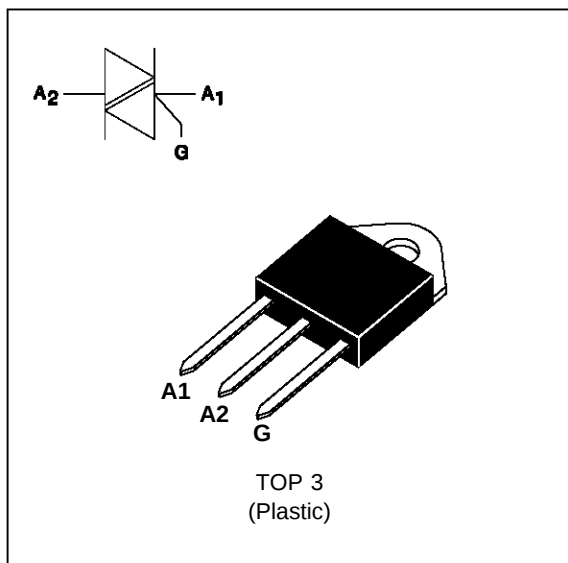
SNUBBERLESS TRIACS

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	A
		$t_p = 10\text{ ms}$	250	
I_{2t}	I_{2t} value	$t_p = 10\text{ ms}$	312.5	A ² s
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	A/ μs
		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

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	
I _{GT}	V _D =12V (DC) R _L =33Ω	T _j =25°C	I-II-III	MIN	2	2	mA
				MAX	50	35	
V _{GT}	V _D =12V (DC) R _L =33Ω	T _j =25°C	I-II-III	MAX	1.5		V
V _{GD}	V _D =V _{DRM} R _L =3.3kΩ	T _j =125°C	I-II-III	MIN	0.2		V
tgt	V _D =V _{DRM} I _G = 500mA dI _G /dt = 3A/μs	T _j =25°C	I-II-III	TYP	2		μs
I _L	I _G =1.2 I _{GT}	T _j =25°C	I-III	TYP	50	-	mA
			II	TYP	90	-	
			I-II-III	MAX	-	80	
I _H *	I _T = 500mA gate open	T _j =25°C		MAX	75	50	mA
V _{TM} *	I _{TM} = 35A tp= 380μs	T _j =25°C		MAX	1.80		V
I _{DRM} I _{RRM}	V _{DRM} Rated V _{RRM} Rated	T _j =25°C		MAX	0.01		mA
		T _j =125°C		MAX	3		
dV/dt *	Linear slope up to V _D =67%V _{DRM} gate open	T _j =125°C		MIN	500	250	V/μs
				TYP	750	500	
(dI/dt) _c *	Without snubber	T _j =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	$I_T(\text{RMS})$	$V_{\text{DRM}} / V_{\text{RRM}}$	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 ($F=50\text{Hz}$).
(Curves are cut off by $(di/dt)_c$ limitation)

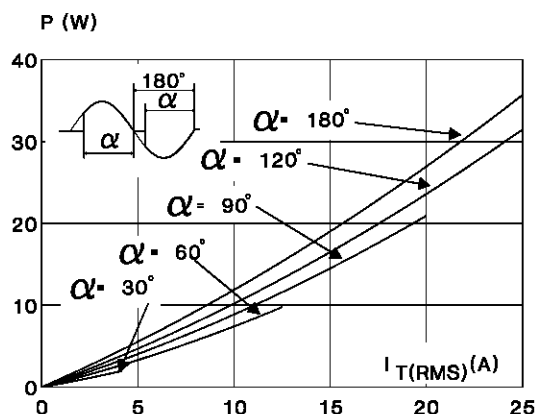


Fig.3 : RMS on-state current versus case temperature.

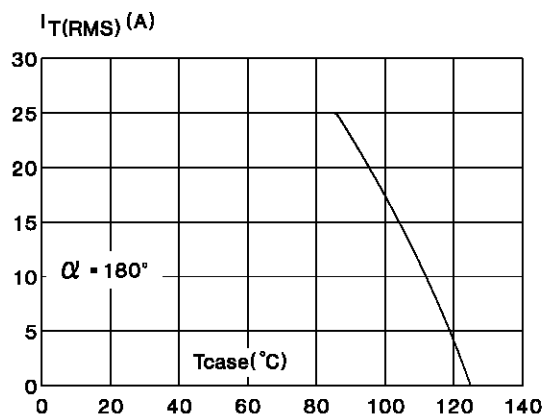


Fig.2 : Correlation between maximum RMS power dissipation and maximum allowable temperatures (T_{amb} and T_{case}) for different thermal resistances heatsink + contact.

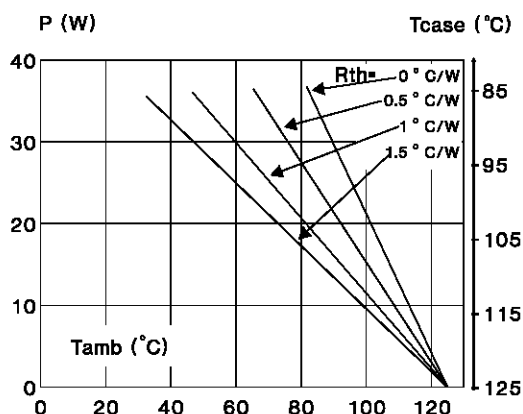


Fig.4 : Relative variation of thermal impedance versus pulse duration.

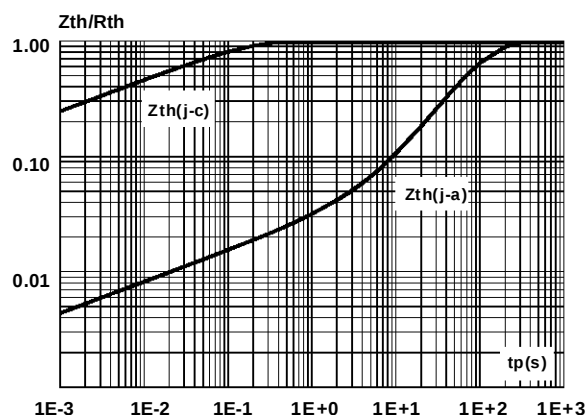


Fig.5 : Relative variation of gate trigger current and holding current versus junction temperature.

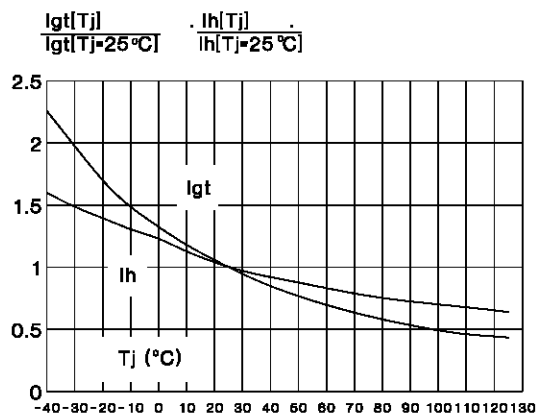


Fig.6 : Non Repetitive surge peak on-state current versus number of cycles.

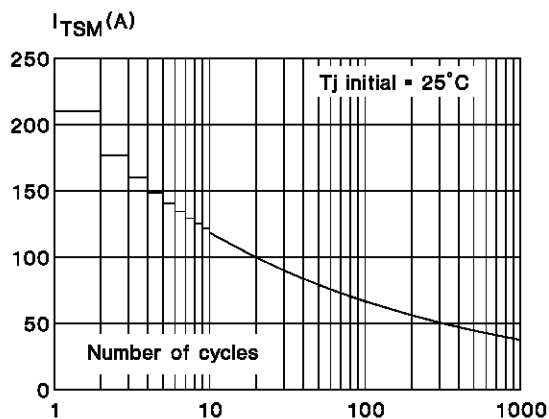


Fig.7 : Non repetitive surge peak on-state current for a sinusoidal pulse with width : $t \leq 10\text{ms}$, and corresponding value of I^2t .

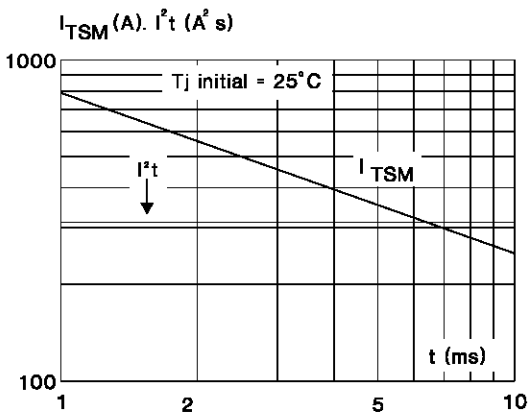
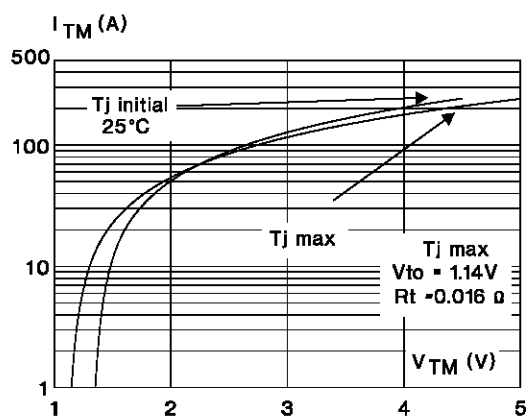
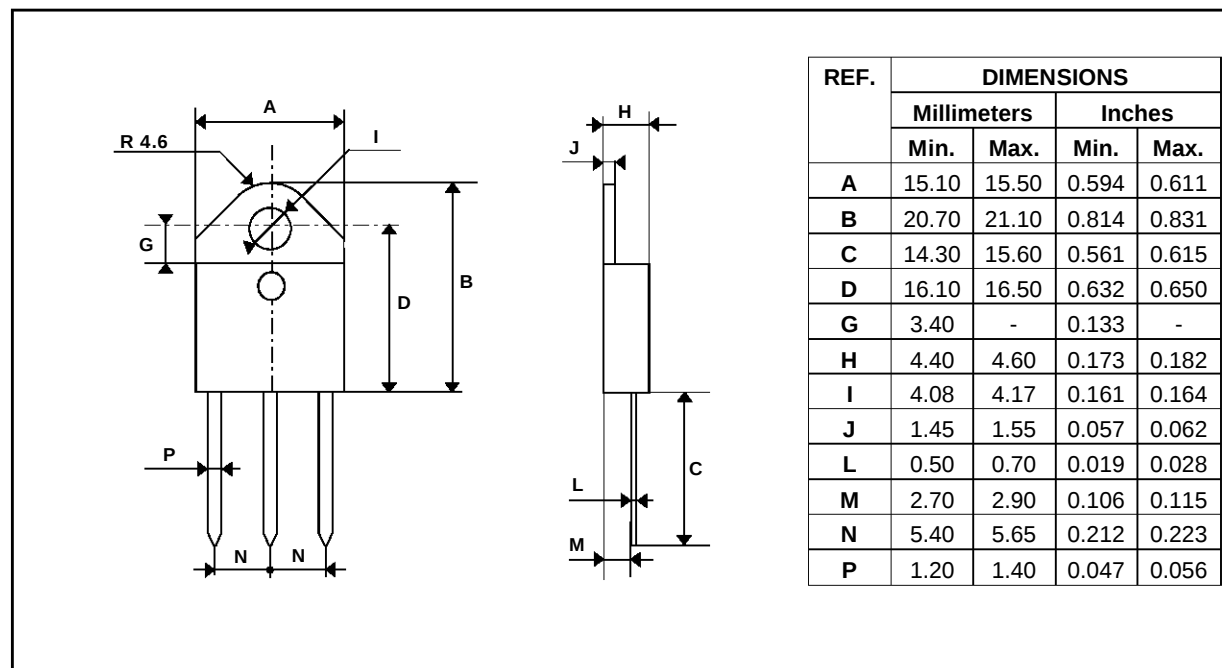


Fig.8 : On-state characteristics (maximum values).



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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