



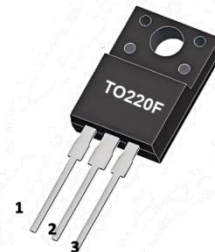
BTA04

TRIAC

■ GENERAL DESCRIPTION

*The BTA04 is a 4A triacs, it uses ours advanced technology to provide customers with high commutation performances and voltage insulated tab, etc.

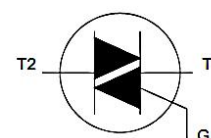
*The BTA04 is suitable for inductive loads, general purpose AC switching and an ON/OFF function in applications such as induction motor starting circuits, for phase control operation in light dimmers and static relays, etc.



■ FEATURES

*Low gate trigger current

*Low holding current



Pin1:T1 Pin2:T2 Pin3:G

■ MARKING



: HY LOGO

BTA04=Device Code

800E:VDRM/VRRM=800V

XXXX=Date Code

Solid Dot=Green molding compound

■ ABSOLUTE MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

SYMBOL	PARAMETER		TEST CONDITION	VALUE	UNIT
V _{DRM} /V _{RRM}	Repetitive Peak off-state/reverse voltage	BTA04-600	Tj = 125°C	600	V
		BTA04-800		800	
IT(RMS)	RMS On-State Current			4	A
ITSM	Non Repetitive Surge Peak On-State Current (TJ initial=25°C)		t=8.3ms	42	A
			t=10ms	40	
IGM	Peak Gate Current		t=20μs	4	A
I² t	I²t Value		t=10ms	8	A² S
di/dt	Critical Rate of Rise of On-State Current: IG=50mA, dIG/dt=0.1A/μs		Repetitive;F=50Hz	10	A/μs
			Non Repetitive	50	
PG(AV)	Average Gate Power Dissipation			1	W
PGM	Peak Positive Gate Power Dissipation			40	W
VGM	Peak Positive Gate Voltage			16	V
Tstg	Storage Junction Temperature			-40 to +150	°C
Tj	Operating junction temperature			125	°C

Note : Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.



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■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220F	R θ JA	62.5	°C/W
Junction to Case	TO-220F	R θ JC	3.31	°C/W

■ ELECTRICAL CHARACTERISTICS (T_c=25°C unless otherwise noted)

FOR STANDARD (4 QUADRANTS)

SYMBOL	CHARACTERISTICS			MIN	TYP	MAX	UNIT
I _{GT}	Gate trigger current(continuous dc)	T2+, G+	V _D =12V, R _L =100Ω			35	mA
		T2+, G-				35	
		T2-, G-				35	
V _{GT}	Gate Trigger Voltage (Continuous dc)	T2+, G+	V _D =12V, R _L =100Ω			1.5	V
		T2+, G-				1.5	
		T2-, G-				1.5	
V _{GD}	Gate threshold Voltage(T _j =125°C)	I-II-III	V _D =1/2V _{DRM} , R _L = 3.3K Ω	0.2			V
dv/dt	Critical Rate of Rise of Off-State Voltage at Commutation		V _D =0.67V _{DRM} ;gate open T _j =125°C	40			V/μs
I _H	Holding Current		I _T =0.5A			60	mA
I _L	latching current		I _T =0.5A			60	mA
			I _G =1.2I _{GT}			100	
dv/dt	Critical Rate of Rise of off-state Voltage		V _D =2/3V _{DRM} ; T _j =125°C	500			V/us

■ STATIC CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS		MIN	TYP	MAX	UNIT
Peak On-State Voltage	V _{TM}	I _{TM} =12A, t _p =380μs	T _J =25°C			1.5	V
Threshold Voltage	V _{TO}		T _J =125°C			0.92	V
Dynamic Resistance	R _D		T _J =125°C			36.6	mΩ
Repetitive Peak Off-State Current	I _{DRM}	V _{DRM} =V _{RRM}	T _J =25°C			5	μA
	I _{RRM}		T _J =125°C			0.5	mA



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■ TYPICAL CHARACTERISTICS

FIG1

Maximum power dissipation versus RMS on-state current

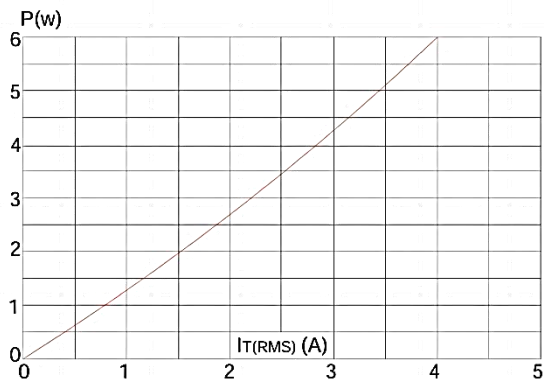


FIG2

RMS on-state current versus case temperature

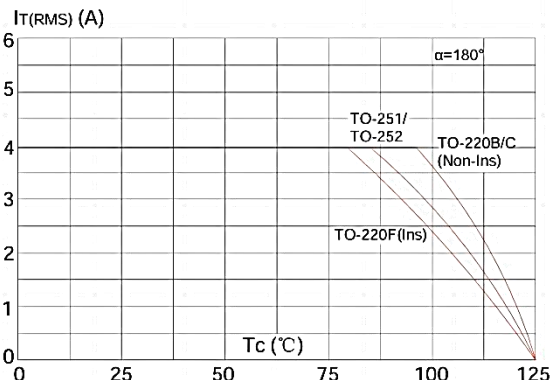


FIG3

Surge peak on-state current versus number of cycles

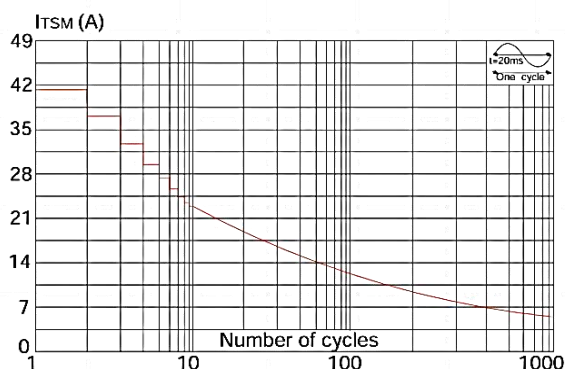


FIG4

On-state characteristics (maximum values)

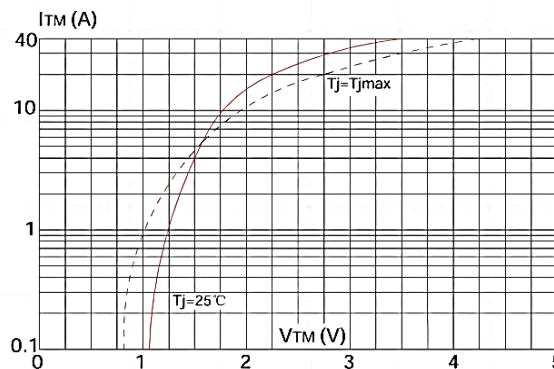


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t ($di/dt < 100A/\mu s$)

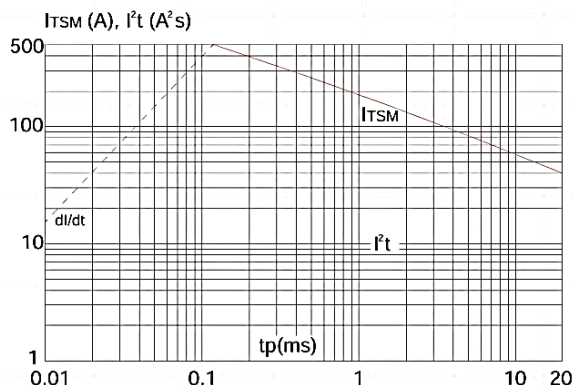
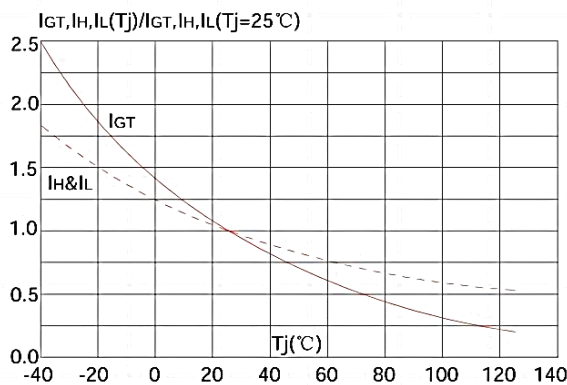


FIG6

FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

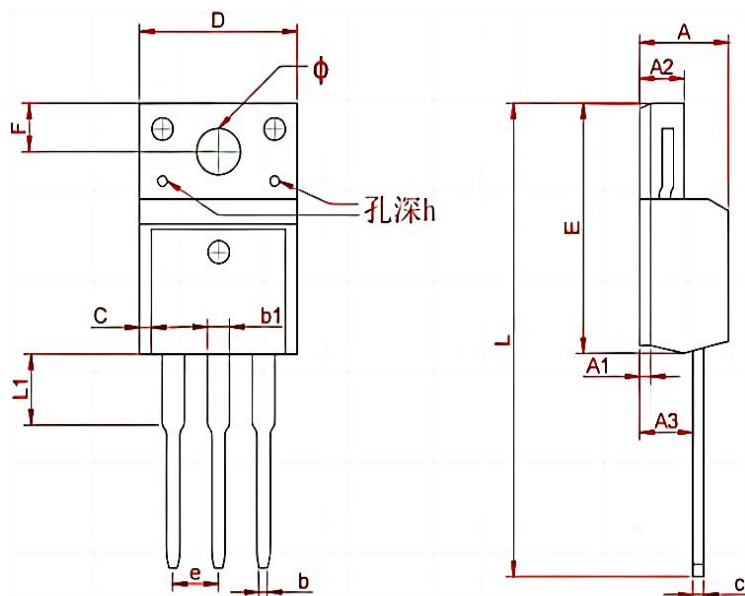




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TO - 220F PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max	Min	Max
A	4.300	4.750	0.169	0.185
A1	1.830 REF		0.072 REF	
A2	2.300	2.850	0.090	0.112
A3	2.500	2.900	0.098	0.114
b	0.400	0.420	0.016	0.016
b1	1.220	1.280	0.048	0.050
C	0.690	0.720	0.027	0.028
c	0.490	0.510	0.019	0.020
D	9.960	10.200	0.392	0.400
E	15.000	15.950	0.588	0.625
e	2.574 TYP		0.101TYP	
F	3.470 REF		0.136 REF	
y	3.200 REF		0.125 REF	
h	0.000	0.300	0.000	0.012
L	28.780	28.900	1.128	1.133
L1	2.990	3.100	0.117	0.122

TO - 220F PACKING INFORMATION



50PCS



20 Tube



Outer Box

5 Inner
Box



Inner Box

Package version	Tube dimensions LxW×H (mm)	Per Tube (pcs)	Tube per box	Inner box dimensions LxW×H (mm)	PCS/ Inner box	Outer box dimensions L×W×H(mm)	PCS/ Outer box
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