

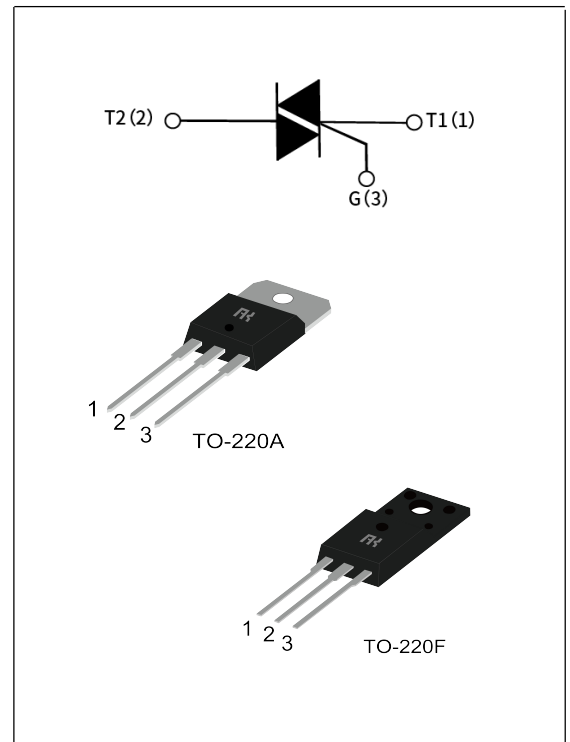
BTA04 Serial Standard TRIACS

GENERAL DESCRIPTION:

BTA04 series triacs with high ability to withstand the shock loading of large current, provide highdv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3quadrants products especially recommended for use on inductive load.

Main Features:

$I_{T(RMS)}$	V_{DRM}/V_{RRM}	V_{TM}
4 A	600V and 800 V	1.55 V



Absolute Ratings(limiting values) :

Symbol	Parameter		Value	Unit
T_{stg}	Storage junction temperature range		- 40 to + 150	°C
T_j	Operating junction temperature range		- 40 to + 125	°C
$I_{T(RMS)}$	RMS on-state current	TO-220A(Ins) (TC=80°C)	4	A
		TO-220F(Ins) (TC=80°C)		
I_{TSM}	Non repetitive surge peak on-state current (full cycle, F=50Hz)		40	A
V_{DRM}	Repetitive peak off-state voltage($T_j = 25^\circ\text{C}$)		600 and 800	V
V_{RRM}	Repetitive peak reverse voltage($T_j = 25^\circ\text{C}$)		600 and 800	V
V_{DSM}	Non repetitive surge peak Off-state voltage		$V_{DRM} + 100$	V
V_{RSM}	Non repetitive peak reverse voltage		$V_{RRM} + 100$	V
I^2t	I^2t value for fusing $t_p = 10$ ms		8	A ² s

dI/dt	Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	50	A/ μ s
I_{GM}	Peak gate current	4	A
P_{G(AV)}	Average gate power dissipation	1	W
P_{GM}	Peak gate power	5	W

Electrical Characteristics :

Symbol	Test Condition	Quadrant	Range	Value				Unit
				T	S	C	B	
I_{GT}	$V_D=12V$ $R_L=33\Omega$	I-II-III	MAX	5	10	35	50	mA
V_{GT}		I-II-III	MAX	1.5				V
V_{GD}	$V_D=V_{DRM}$ $R_L=3.3k\Omega$ $T_j=125^\circ C$	I-II-III	MIN	0.2				V
I_L	$I_G=1.2 I_{GT}$	I-III	MAX	10	20	50	70	mA
		II		15	35	60	80	
I_H	$I_r=100mA$		MAX	10	15	35	60	mA
dV/dt	$V_D=2/3 V_{DRM}$ Gate Open $T_j=125^\circ C$		MIN	20	40	400	1000	V/ μ s
(dV/dt)_c	$(dI/dt)_c=1.8A/ms$ $T_j=125^\circ C$		MIN	0.5	1	-	-	V/ μ s

Static Characteristics

Symbol	Parameter		Value(MAX)	Unit
V_{TM}	$I_{TM}=5.5A$ $tp=380\mu s$	$T_j=25^\circ C$	1.55	V
I_{DRM}	$V_D=V_{DRM}$, $V_R=V_{RRM}$	$T_j=25^\circ C$	10	μA
I_{RRM}		$T_j=125^\circ C$	0.75	mA

Thermal Resistances :

Symbol	Parameter		Value	Unit
R_{th(j-c)}	junction to base(AC)	TO-220A(Ins)	3.0	$^\circ C/W$
		TO-220F(Ins)		

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

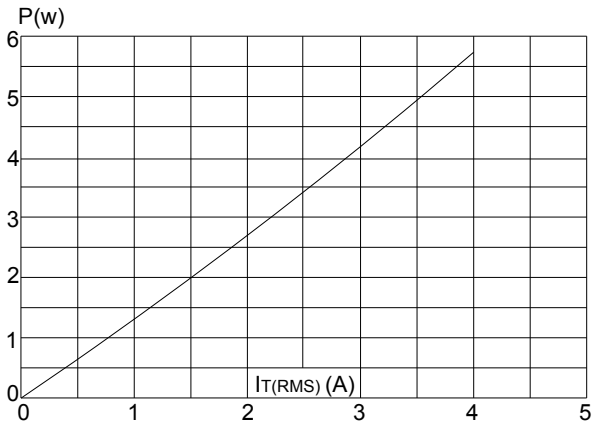


FIG.2: RMS on-state current versus case temperature

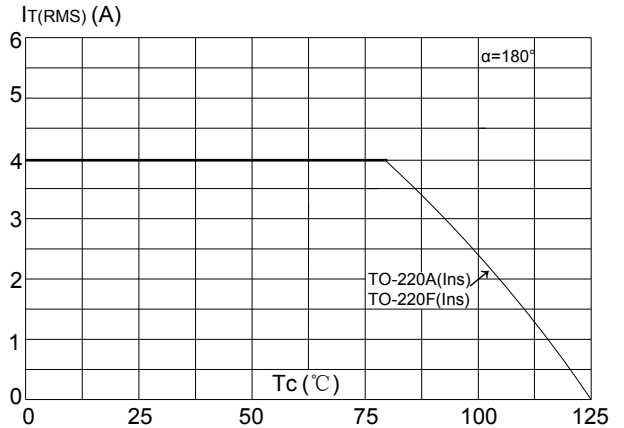


FIG.3: Surge peak on-state current versus number of cycles

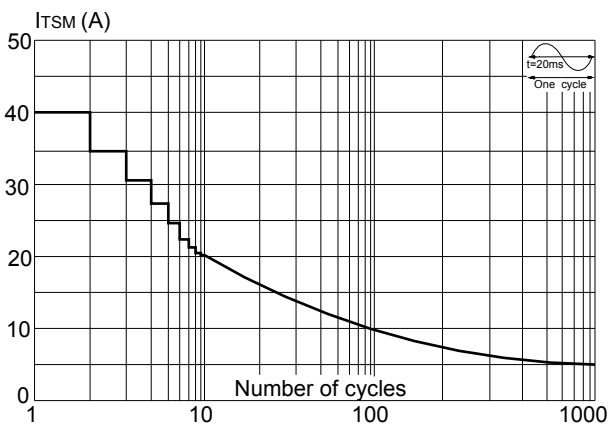


FIG.4: On-state characteristics (maximum values)

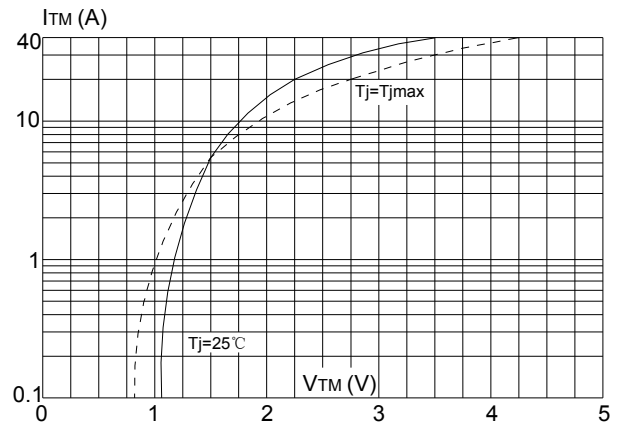


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$ and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

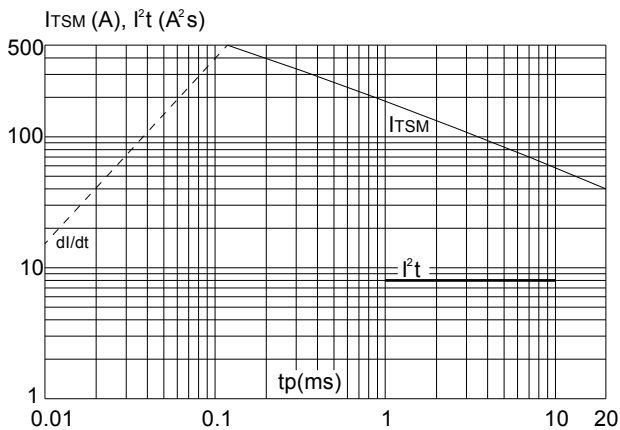
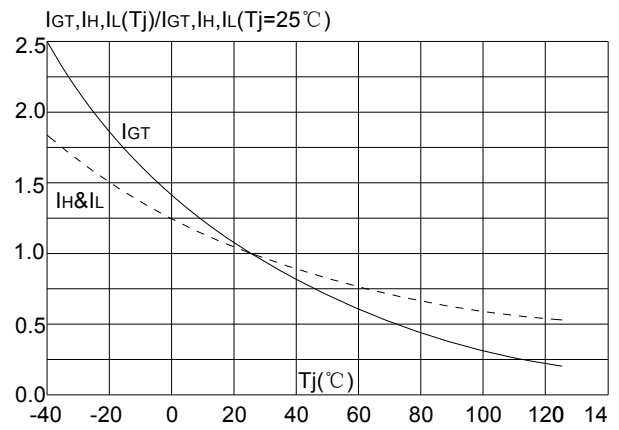
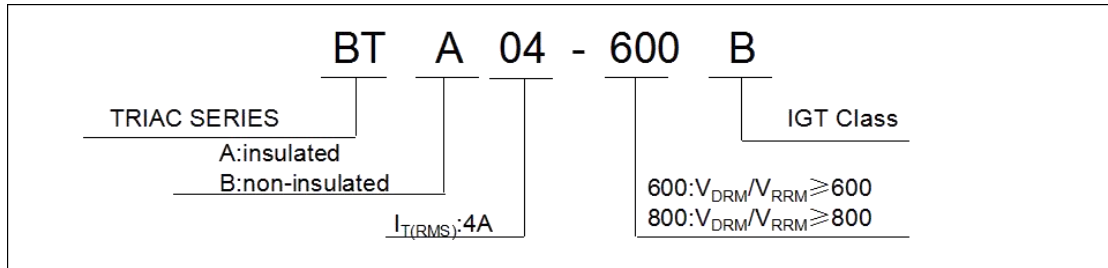


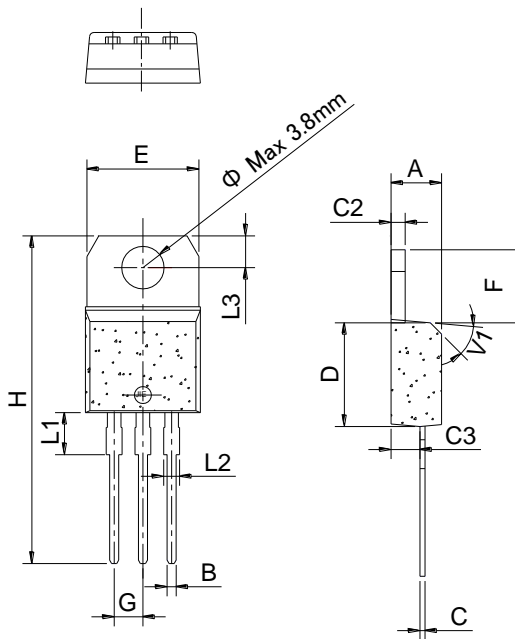
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



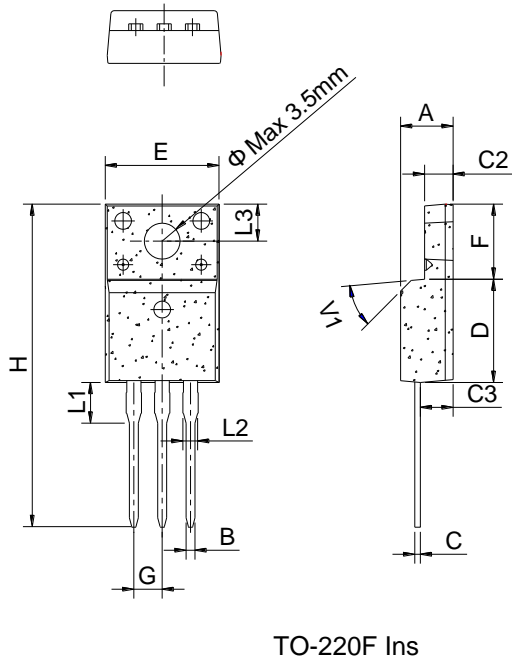
Ordering Information



Package Mechanical Data :



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.60		10.4	0.378		0.409
F	6.20		6.60	0.244		0.260
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.75			0.148	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
V1		45°			45°	



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.48		0.75	0.019		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.3	0.382		0.406
F	6.40		7.00	0.252		0.276
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.63			0.143	
L2	1.14		1.70	0.045		0.067
L3		3.30			0.130	
V1		45°			45°	