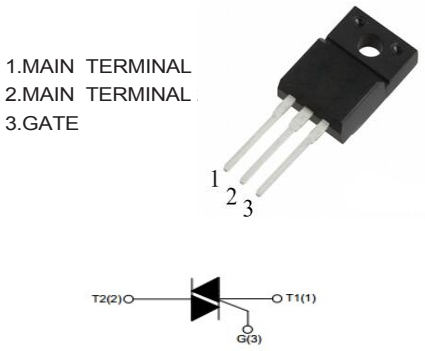
BTA06

MAIN CHARACTERISTICS

$I_{T(RMS)}$		6A
V_{DRM}/V_{RRM}	BTA06-600(T/S/C)W	600V
	BTA06-800(T/S/C)W	800V
V_{TM}		1.55V

TO-220FK



FEATURES

- NPNPN 5-layer Structure TRIACs
- Mesa Glass Passivated Technology
- Multi Layers Metal Electrodes
- High Junction Temperature
- Good Commutation Performance
- High dV/dt and dI/dt
- Insulating Voltage=2500V(RMS)

APPLICATIONS

- Heater Control
- Motor Speed Controller
- Mixer

ABSOLUTE RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Test condition		Value		Unit
V_{DRM}/ V_{RRM}	Repetitive peak off-state voltage	T_j=25℃	BTA06-600(T/S/C)W	600		V
			BTA06-800(T/S/C)W	800		V
$I_{T(RMS)}$	RMS on-state current	TO-220FK (T_C≤105℃), Fig. 1,2		6		A
I_{TSM}	Non repetitive surge peak on-state current	Full sine wave, T_j(init)=25℃, tp=20ms; Fig. 3,5		60		A
I^2t	I^2t value	tp=10ms		21		A^2s
dI_T/dt	Critical rate of rise of on-state current	I_G=2*I_{GT}, tr≤10ns, F=120Hz, T_j=125℃		Ⅰ-Ⅱ-Ⅲ	50	A/μs
I_{GM}	Peak gate current	tp=20μs, T_j=125℃		4		A
$P_{G(AV)}$	Average gate power	T_j=125℃		1		W
T_{STG}	Storage temperature			-40~+150		℃
T_j	Operating junction temperature			-40~+125		

Symbol	Parameter	Test condition		Value			Unit
				TW	SW	CW	
I_{GT}	Gate trigger current	V_D=12V, R_L=30Ω, T_j=25℃, Fig. 6	Ⅰ-Ⅱ-Ⅲ	≤5	≤10	≤35	mA
V_{GT}	Gate trigger voltage		Ⅰ-Ⅱ-Ⅲ	≤1.3			V
V_{GD}	Non-triggering gate voltage	VD=VDRM, T_j=125℃		≥0.2			V
I_H	Holding current	I_T=100mA，Fig. 6		≤10	≤15	≤35	mA
I_L	Latching current	I_G=1.2I_{GT}, Fig. 6	Ⅰ-Ⅲ	≤10	≤25	≤50	mA
			Ⅱ	≤15	≤30	≤60	mA
dV_D/dt	Critical rate of rise of off-state	V_D=67%V_{DRM}, Gate Open T_j=125℃		≥20	≥40	≥400	V/μs
V_{TM}	On-state Voltage	I_{TM}=8.5A,tp=380μs , Fig. 4		≤1.55			V
I_{DRM} / I_{RRM}	Repetitive peak off-state current	V_D=V_{DRM}/V_{RRM}, T_j=25℃		≤5	≤5	≤5	μA
		V_D=V_{DRM}/V_{RRM},T_j=125℃		≤1.0	≤1.0	≤1.0	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case (AC)	TO-220FK	2.8	℃/W
Rth (j-a)	Junction to ambient	TO-220FK	60	℃/W

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

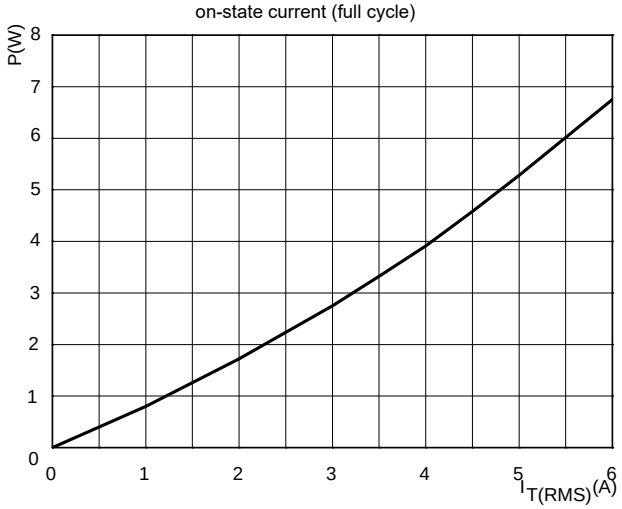


FIG.2: RMS on-state current versus case temperature (full cycle)

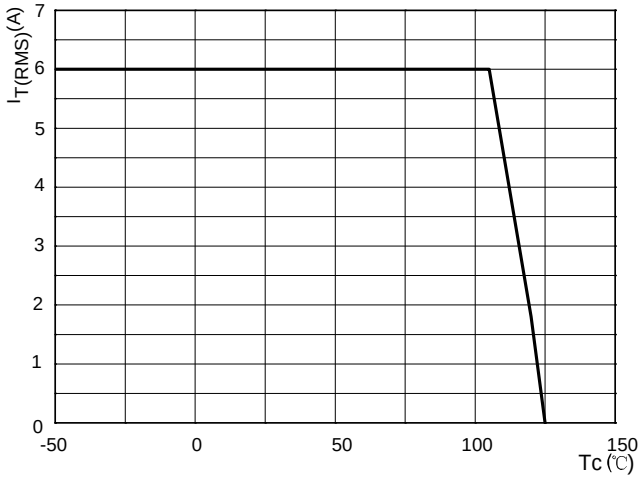


FIG.3: Surge peak on-state current versus number of cycles

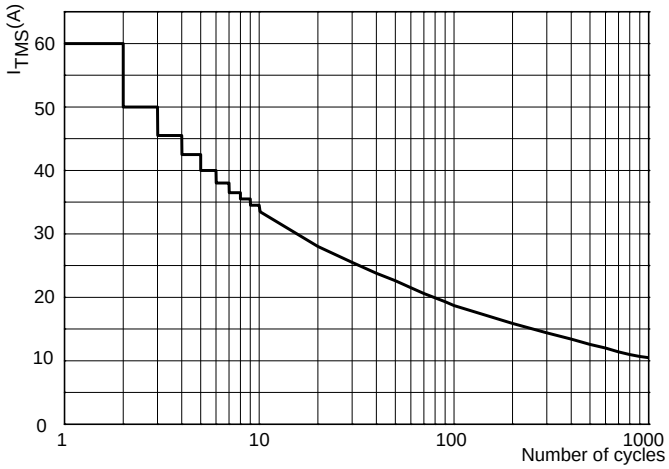


FIG.4: On-state characteristics (maximum values)

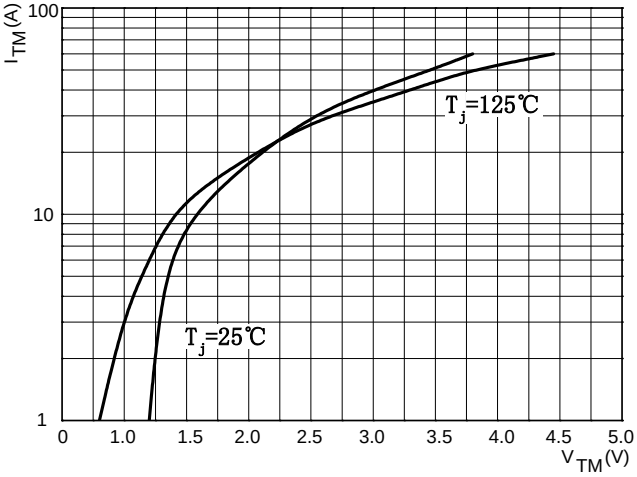


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

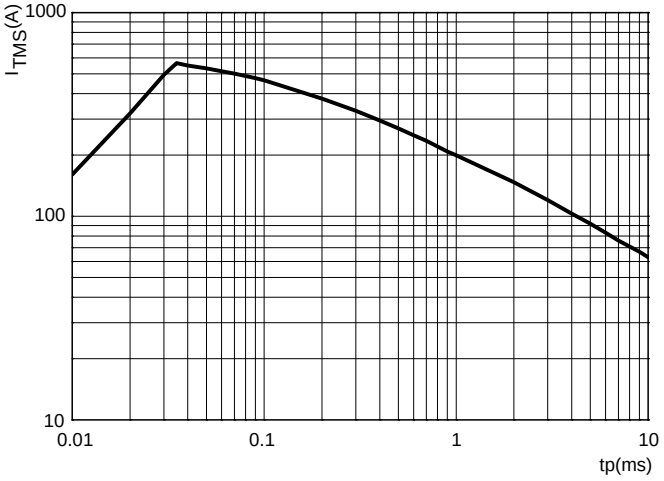
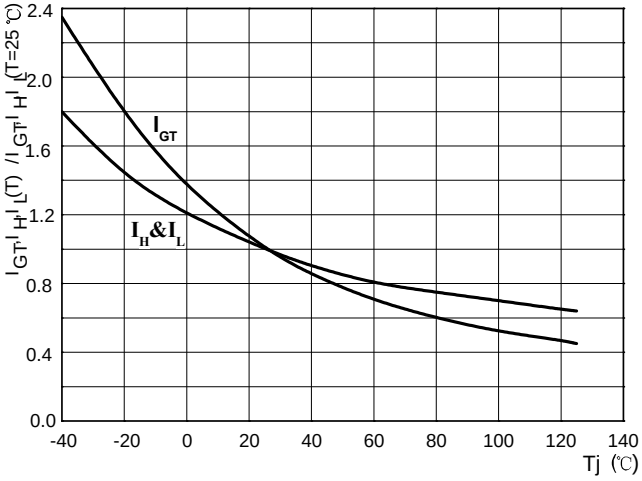
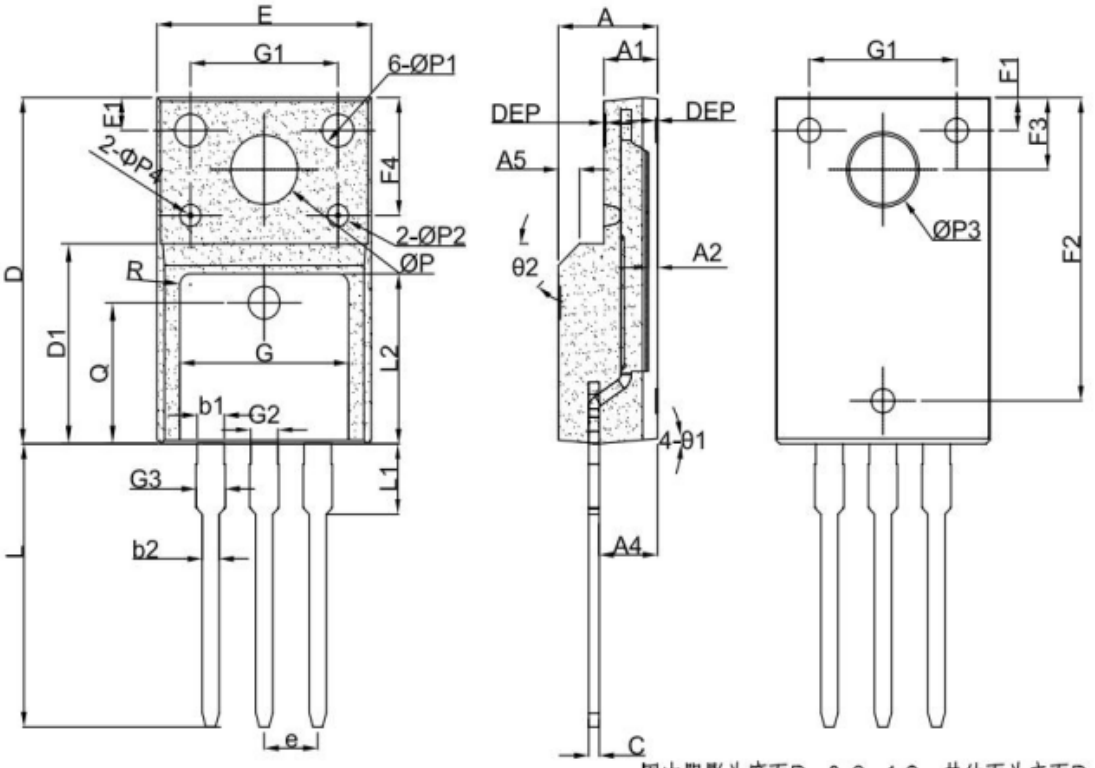
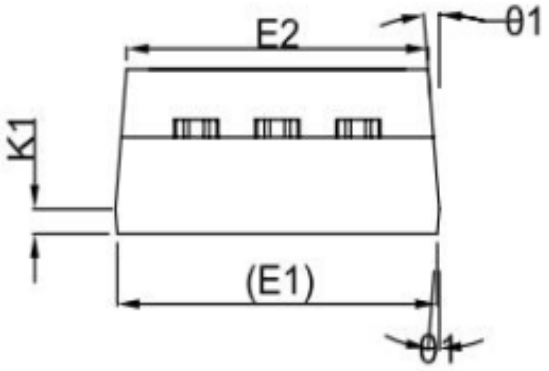


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)





图中阴影为麻面Ra0.8-1.2，其他面为亮面Ra0.2-0.4



SYMBOL	mm		
	MIN	NOM	MAX
*A	4.50	4.70	4.90
*A1	2.34	2.54	2.74
*A2	0.38	0.43	0.48
*A4	2.66	2.76	2.86
A5		1.0REF	
b1	1.15	1.20	1.25
*b2	0.75	0.80	0.85
*c	0.45	0.50	0.60
*D	15.67	15.87	16.07
*D1	9.04	9.12	9.20
*e	2.49	2.54	2.59
*E	10.00	10.16	10.32
E1	9.94	10.04	10.14
E2	9.36	9.46	9.56
F1	1.40	1.50	1.60
F2	13.80	13.90	14.00
*F3	3.20	3.30	3.40
F4	5.30	5.40	5.50
G	7.80	8.00	8.20
G1	6.90	7.00	7.10
*G3	1.15	–	1.30
K1	0.65	0.70	0.75
*L	12.78	12.98	13.18
*L1	3.13	3.23	3.33
L2	7.40	7.50	7.60
Q		6.5REF	
R		0.5REF	
*ΦP	3.08	3.18	3.28
ΦP1	1.40	1.50	1.60
ΦP2	0.95	1.00	1.05
ΦP3	3.35	3.40	3.45
ΦP4	0.15	0.20	0.25
*θ1	3°	5°	7°
θ2	–	45°	–
DEP	0.05	0.1	0.15
需*为检验尺寸			