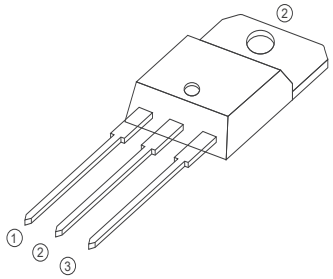
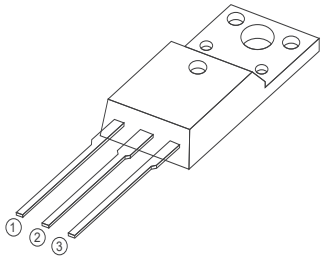
IT(RMS)		6A
VDRM/VRRM	BTA06-600	600V
	BTA06-800	800V
VTM		1.55V



TO-220B Non-Insulated

FEATURES

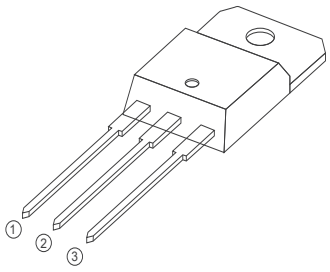
IT(RMS): 6A
VGT: 1.3 V
VDRM VRRM: 600V~800V
High blocking voltage capability
Less sensitive gate for improved noise immunity



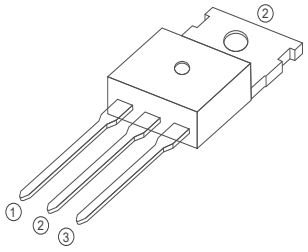
TO-220F Insulated

APPLICATIONS

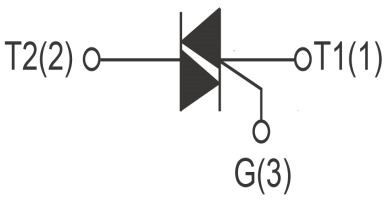
Heater Control
Motor Speed Controller
Washing machine
Vacuums
Solid state relay
General purpose motor controls
General purpose switching

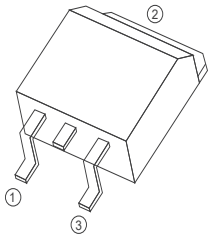


TO-220A Insulated



TO-220C





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Absolute Maximum Ratings (Tj=25°C unless otherwise specifed)

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BTA06 BTB06-600	600	V
		BTA06 BTB06-800	800	V
IT(RMS)	R.M.S On-State Current	Tc=110°C	6	A
ITSM	Surge On-State Current	tp=16.7ms/tp=10ms	65/67	A
I²t	I²t for fusing	Tp=10ms	23	A²s
PG(AV)	Average Gate Power Dissipation	Tj=125°C	1	W
IGM	Peak Gate Current	tp=20us Tj=125°C	4	A
Tj	Operating Junction Temperature		~40~125	°C
TSTG	Storage Temperature		~40~150	°C

Electrical Characteristics (Tj=25°C unless otherwise specifed)

Symbol	Parameter		Test Conditions	Value						Unit
				TW	SW	CW	BW	C	B	
IDRM	Repetitive Peak Off-State Current		Tj=25°C	≤5						uA
			Tj=125°C	≤1						mA
IRRM	Repetitive Peak Reverse Current		Tj=25°C	≤5						uA
			Tj=125°C	≤1						mA
VTM	Forward "on" voltage		IT=10A tp=380us	1.55						V
VGT	Gate trigger voltage		VD=12V ,RL=30Ω	≤1.3						V
di/dt	Critical-rate of rise of commutation current.	I,II,III	IG=2XIGT,tr≤ 100ns,F=100Hz	≥50						A /us
		IV		≥10						A /us
IGT	Gate trigger current	I,II,III	VD=12V RL=30Ω	≤5	≤10	≤25	≤50	≤25	≤50	mA
		IV		/	/	/	/	≤50	≤100	mA
IH	Holding current		IT=0.2A	≤10	≤15	≤35	≤60	≤25	≤50	mA
VGD	Gate non-trigger voltage	ALL	VD=VDRM TJ=125°C RL =3.3KΩ	≥0.2						V
dv/dt	Critical-rate of rise of commutation voltage		TJ=125°C VD=2/3VDRM Gate	≥20	≥ 50	≥400	≥1000	≥200	≥400	V/us

FIG1

Maximum power dissipation versus RMS on-state current

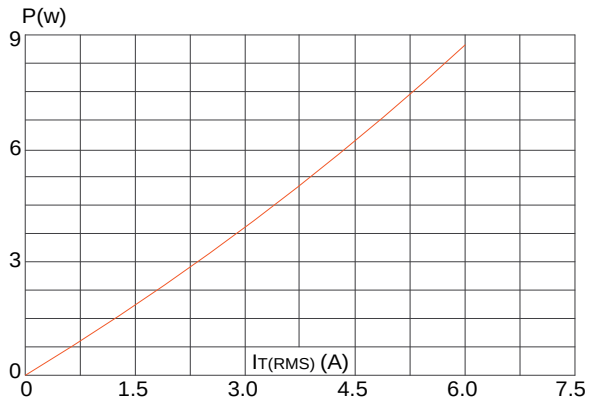


FIG2

RMS on-state current versus case temperature

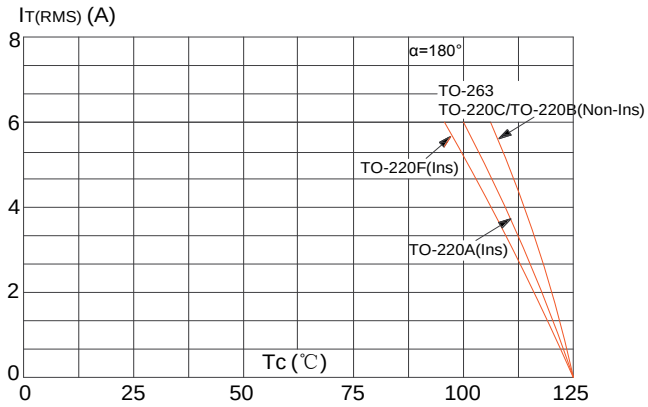


FIG3

Surge peak on-state current versus number of cycles

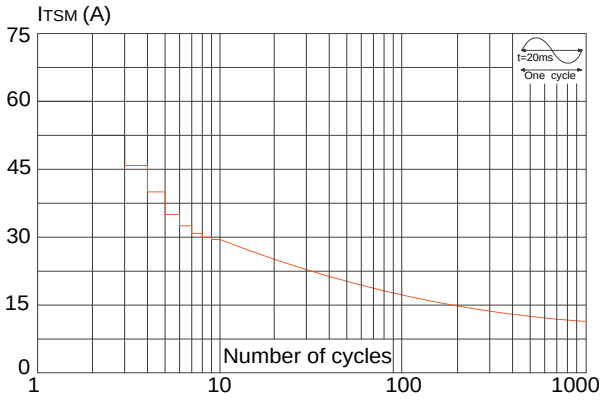


FIG4

On-state characteristics (maximum values)

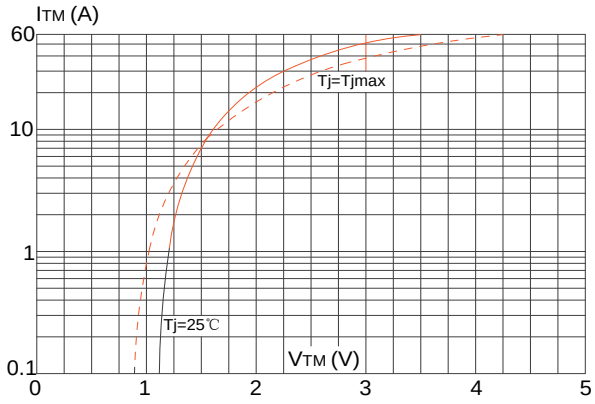


FIG5

Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I^2t (dI/dt < 100A/μs)

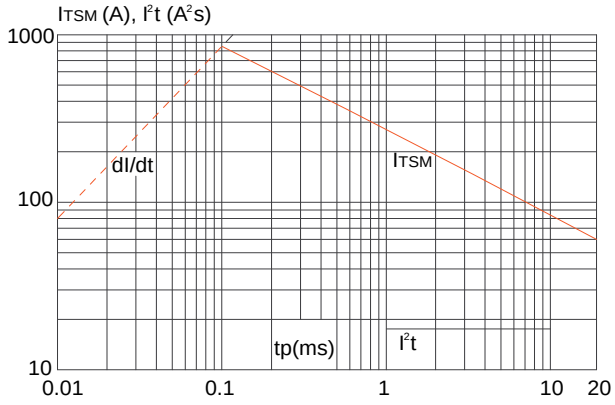
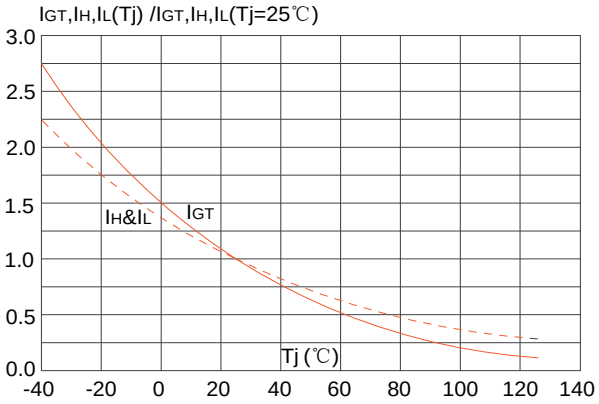
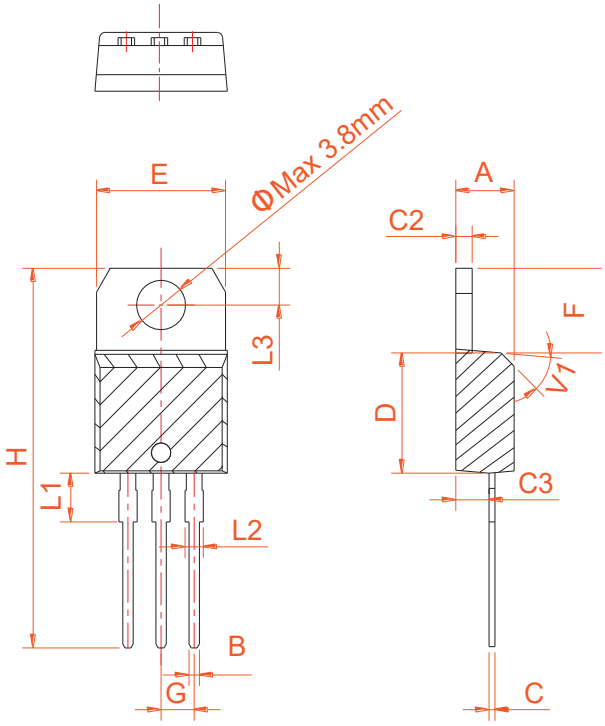


FIG6

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



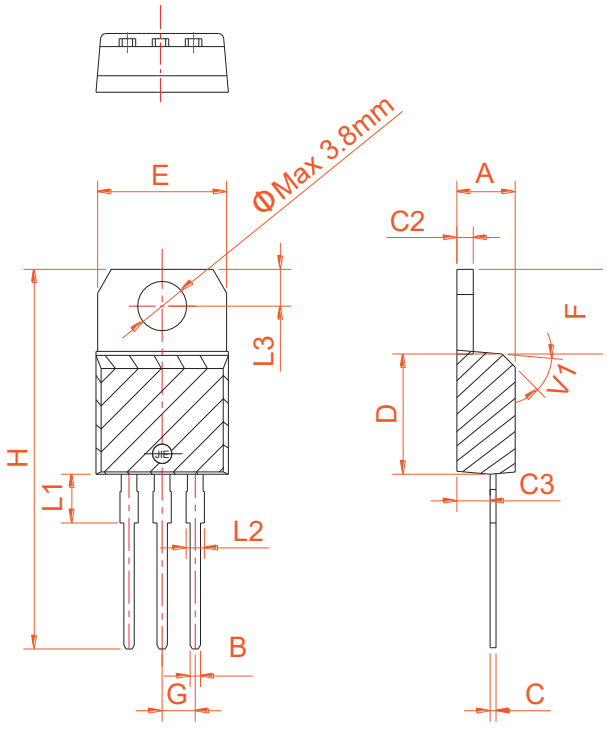
PACKAGE MECHANICAL DATA



TO-220A Ins

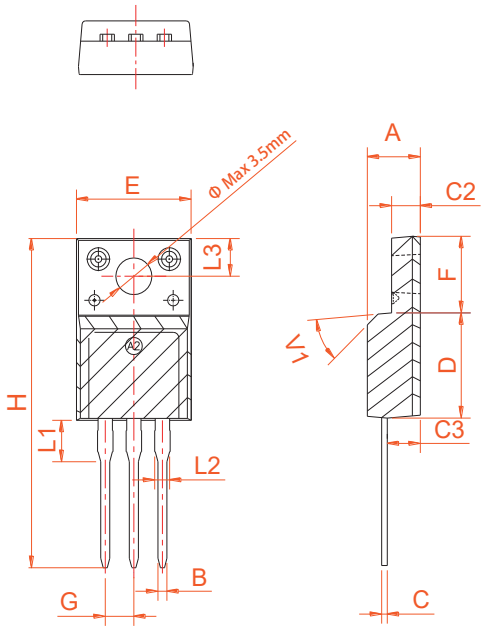
Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.61		0.88	0.024		0.035
C	0.46		0.70	0.018		0.028
C2	1.21		1.32	0.048		0.052
C3	2.40		2.72	0.094		0.107
D	8.60		9.70	0.339		0.382
E	9.80		10.4	0.386		0.409
F	6.55		6.95	0.258		0.274
G		2.54			0.1	
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		4.60	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°	



TO-220B Non-Ins

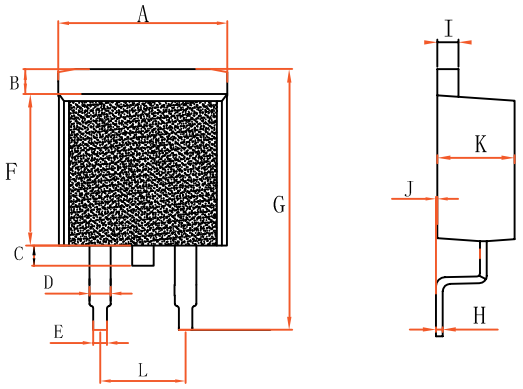
PACKAGE MECHANICAL DATA



TO-220F Ins

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50		4.90	0.177		0.193
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.47		0.65	0.019		0.026
C2	2.45		2.75	0.096		0.108
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.80		10.4	0.386		0.410
F	6.40		6.80	0.252		0.268
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°	

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	9.7		10.4	0.381		0.409
B	1.31		1.62	0.051		0.063
C	0.65		1.22	0.025		0.048
D	1.15		1.36	0.045		0.053
E	0.62		0.95	0.024		0.037
F	8.75		9.32	0.344		0.366
G	14.75		15.8	0.58		0.622
H	0.32		0.48	0.012		0.018
I	1.18		1.36	0.046		0.053
J	0		0.15	0		0.005
K	4.38		4.86	0.172		0.191
L	4.85		5.23	0.19		0.205



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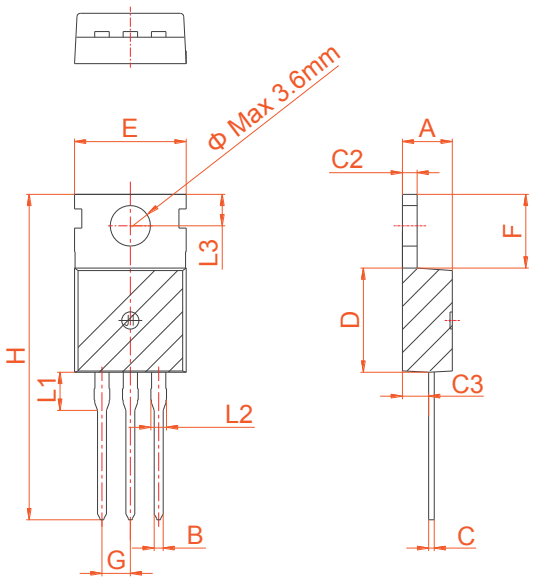

TO-220C

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	0.70		0.90	0.028		0.035
C	0.45		0.60	0.018		0.024
C2	1.23		1.32	0.048		0.052
C3	2.20		2.60	0.087		0.102
D	8.90		9.90	0.350		0.390
E	9.90		10.3	0.390		0.406
F	6.30		6.90	0.248		0.272
G		2.54			0.1	
H	28.0		29.8	1.102		1.173
L1		3.39			0.133	
L2	1.14		1.70	0.045		0.067
L3	2.65		2.95	0.104		0.116
Φ		3.6			0.142	