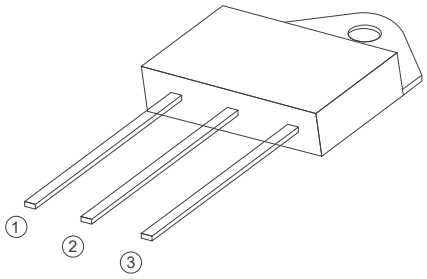
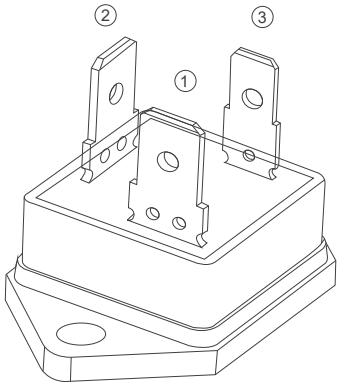
IT(RMS)		40A
VDRM/VRRM	BAT41-600	600V
	BAT41-800	800V
	BAT41-1200	1200V
	BAT41-1600	1600V
VTM		1.55V



TO-3P Insulated



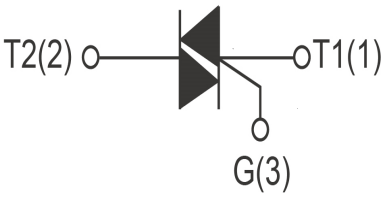
TG-C

FEATURES

IT(RMS): 40A
VGT: 1.5V
VDRM VRRM:600V~1600V
High Junction Temperature
Good Commutation Performance
High dV/dt and dI/dt

APPLICATIONS

Heater Control
Motor Speed Controller
Washing machine
Vacuums
Solid state relay



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

Symbol	Parameter	Conditions	Ratings	Unit
VDRM VRRM	Repetitive Peak Off-State Voltage	BTA41-600	600	V
		BTA41-800	800	
		BTA41-1200	1200	
		BTA41-1600	1600	
V_{DSM}	Non repetitive surge peak Off state voltage	tp=20ms Tj=25°C	V_{DRM}+100	V
V_{RSM}	Non repetitive peak reverse voltage	tp=20ms Tj=25°C	V_{RRM}+100	V
IT(RMS)	R.M.S On-State Current	Tc= 80°C	40	A
ITSM	Surge On-State Current	tp=16.7ms/tp=10ms	400/420	
I^2t	I^2t for fusing	Tp=10ms	880	A^2s
PG(AV)	Average Gate Power Dissipation	Tj=150°C	1	W
IGM	Peak Gate Current	Tj= 150°C	4	A
Tj	Operating Junction Temperature		~40~150	°C
TSTG	Storage Temperature		~40~150	

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

Symbol	Parameter		Test Conditions	BW	B	Unit
IDRM	Repetitive Peak Off-State Current		Tj=25°C	5		uA
			Tj = 150°C	5		mA
IRRM	Repetitive Peak Reverse Current		Tj =25°C	5		uA
			Tj =150°C	5		mA
VTM	Forward "on" voltage		IT=60A, tp=380us	1.55		V
VGT	Gate trigger voltage		VD=12V ,RL=30Ω	≤1.5		V
di/dt	VD=2/3VDRM Gate Open, Tj= 150°C I,II,III,IV		F=100Hz, IG=2xIGT, tr≤100ns	50		A/us
IGT	Gate trigger current	I,II,III	VD=12V, RL=30Ω	≤50	≤50	mA
		IV		/	≤100	
IH	Holding current		IT=0.2A	≤60	≤80	
VGD	Gate non-trigger voltage		VD=VDRM, TJ=150°C,RL=3.3KΩ	0.2		V
dv/dt	Critical-rate of rise of commutation voltage		TJ=150°C VD=2/3VDRM, Gate open circuit	≥1500	≥1000	V/us

FIG1

Maximum power dissipation versus RMS on-state current

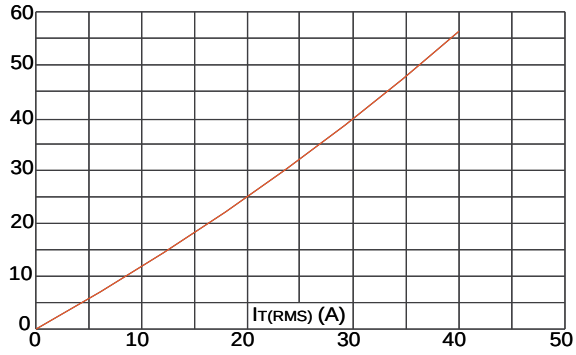


FIG2

RMS on-state current versus case temperature

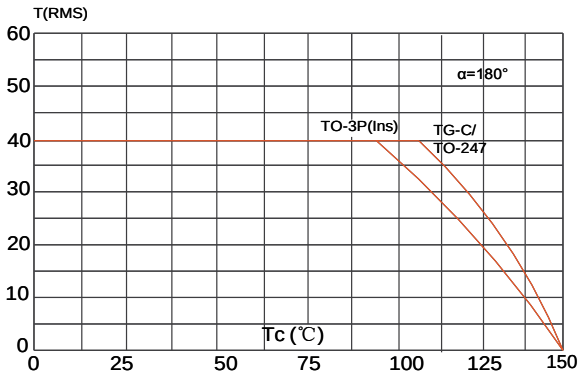


FIG3

Surge peak on-state current versus number of cycles

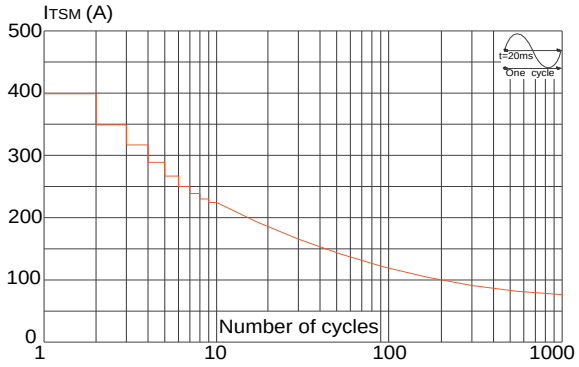


FIG4

On-state characteristics (maximum values)

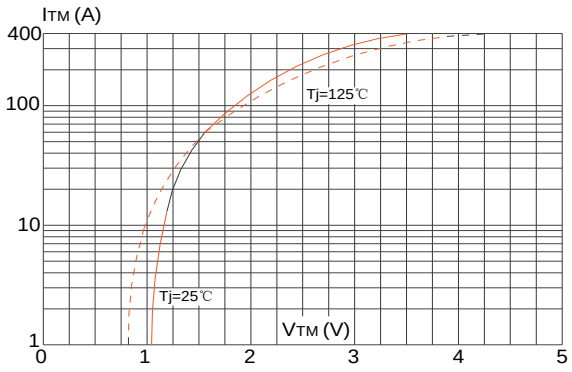


FIG5

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)

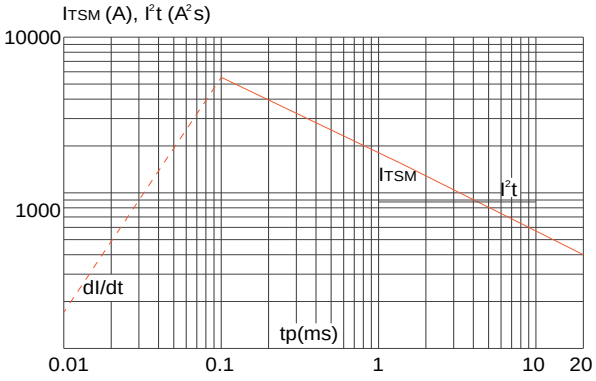
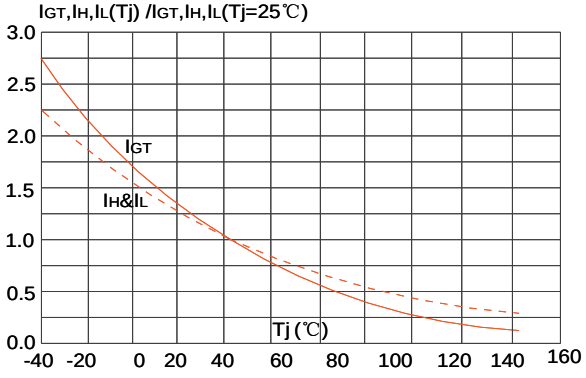
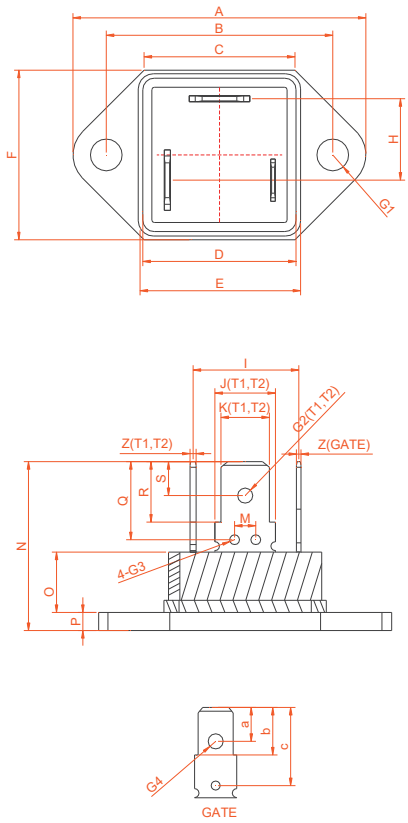


FIG6

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



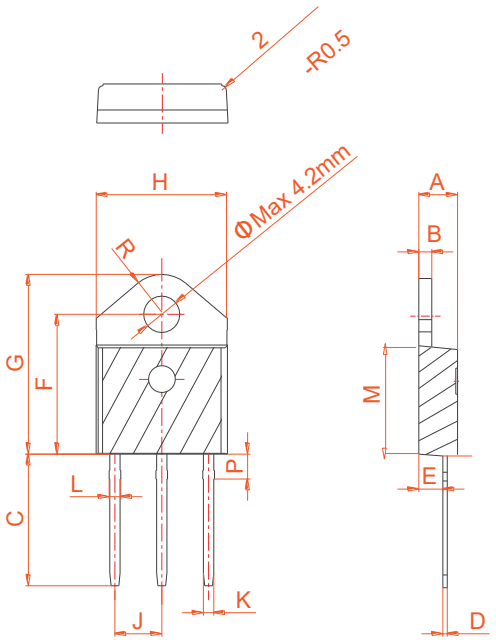
PACKAGE MECHANICAL DATA



TG-C

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			39.2			1.543
B	29.8	30.0	30.2	1.173	1.181	1.189
C			21.6			0.85
D			20.2			0.795
E			20.5			0.791
F			23			0.906
T1、T2		8.10			0.318	
T3		5.65			0.222	
T'		6.35			0.25	
t1、t2		0.8			0.031	
t3		0.6			0.023	
G		13.9			0.547	
H1		2.6			0.102	
H2		10.8			0.425	
H			22.8			0.886
h1	6.2	6.35	6.5	0.244	0.25	0.256
h2	7.8	7.95	8.1	0.307	0.313	0.319
h3	9.45	9.75	10.05	0.372	0.384	0.396
I	2.7	3.0	3.3	0.106	0.118	0.130
J		10.8			0.425	

Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		0.181
B	1.45		1.55	0.057		0.061
C	14.35		15.60	0.565		0.614
D	0.50		0.70	0.020		0.028
E	2.70		2.90	0.106		0.114
F	15.80		16.50	0.622		0.650
G	20.40		21.10	0.803		0.831
H	15.10		15.50	0.594		0.610
J	5.40		5.65	0.213		0.222
K	1.10		1.40	0.043		0.055
L	1.25		1.45	0.049		0.057
P	2.80		3.00	0.110		0.118
R		4.35			0.171	
M	12.37		12.77	0.487		0.503



TO-3P Ins