

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

FEATURES

IT(RMS): 40A

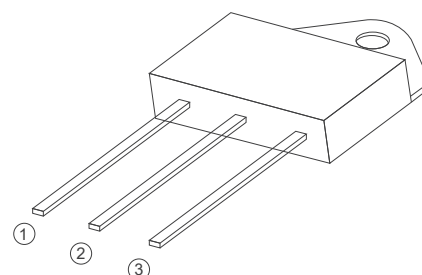
VGT: 1.5V

VDRM VRRM:600V~1600V

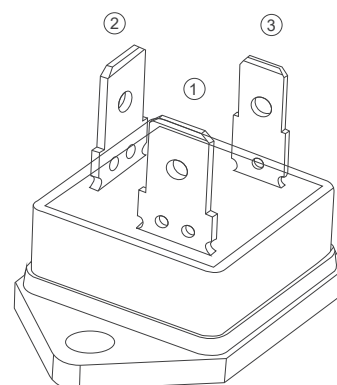
High Junction Temperature

Good Commutation Performance

High dV/dt and dI/dt



TO-3P Insulated



TG-C

APPLICATIONS

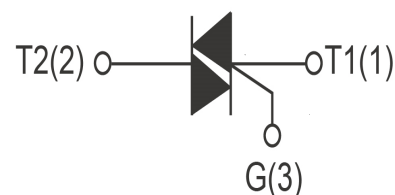
Heater Control

Motor Speed Controller

Washing machine

Vacuums

Solid state relay



Absolute Maximum Ratings (T_J=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Ratings	Unit
V _{DRM} V _{RRM}	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 T _J =25°C	V _{DRM} +100	V
V _{RSM}	Non repetitive peak reverse voltage	tp=20ms T _J =25°C	V _{RRM} +100	V
I _T (RMS)	R.M.S On-State Current	T _c = 80°C	40	A
I _{TSM}	Surge On-State Current	tp=16.7ms/tp=10ms	400/420	
I ² t	I ² t for fusing	Tp=10ms	880	A ² s
PG(AV)	Average Gate Power Dissipation	T _J =150°C	1	W
IGM	Peak Gate Current	T _J = 150°C	4	A
T _J	Operating Junction Temperature		~40~150	°C
TSTG	Storage Temperature		~40~150	

Electrical Characteristics (T_J=25°C unless otherwise specified)

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

FIG1

Maximum power dissipation versus RMS on-state current

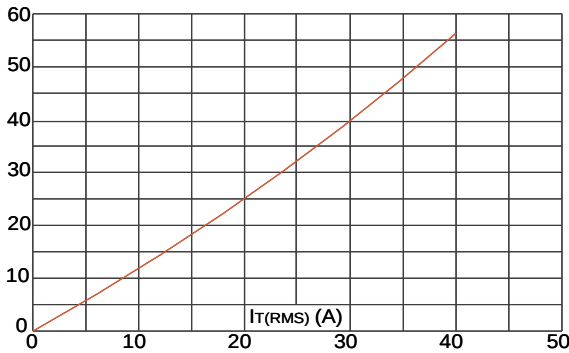


FIG2

RMS on-state current versus case temperature

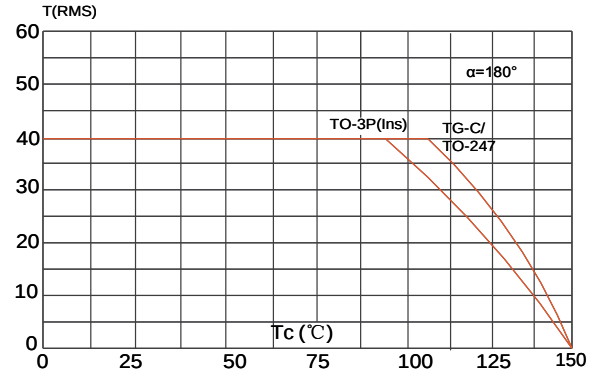


FIG3

Surge peak on-state current versus number of cycles

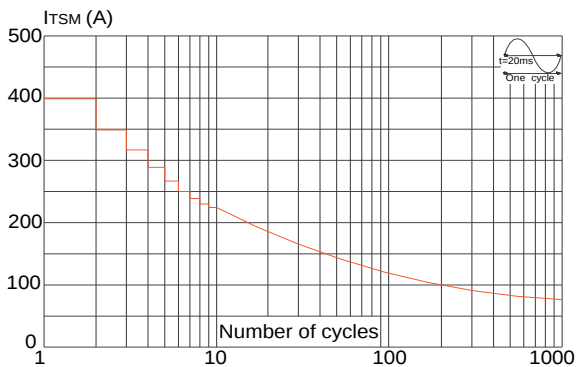


FIG4

On-state characteristics (maximum values)

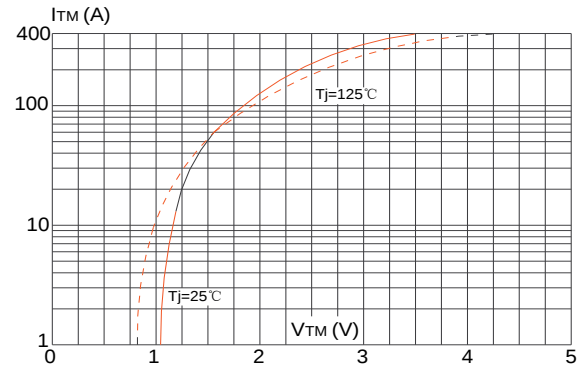


FIG5

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

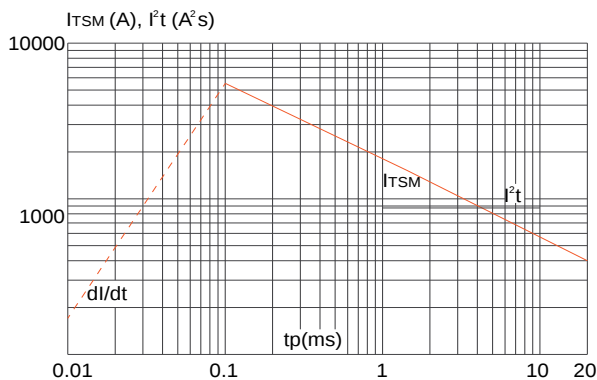
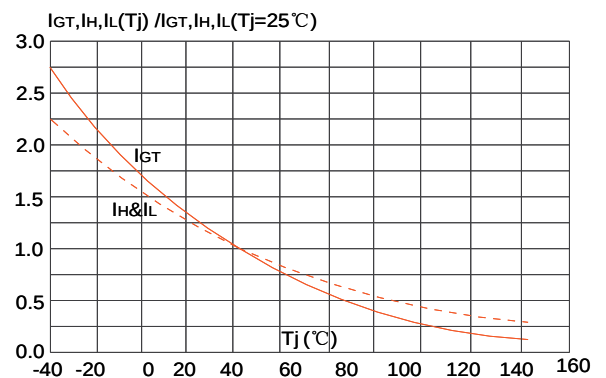
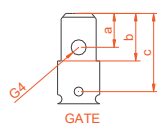
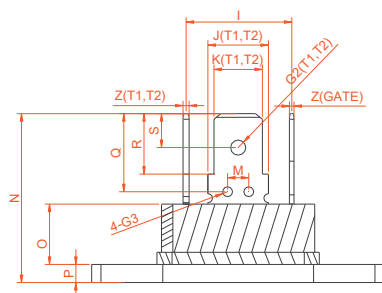
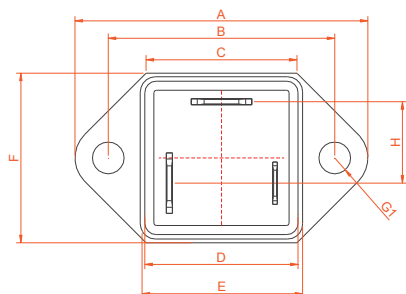


FIG6

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



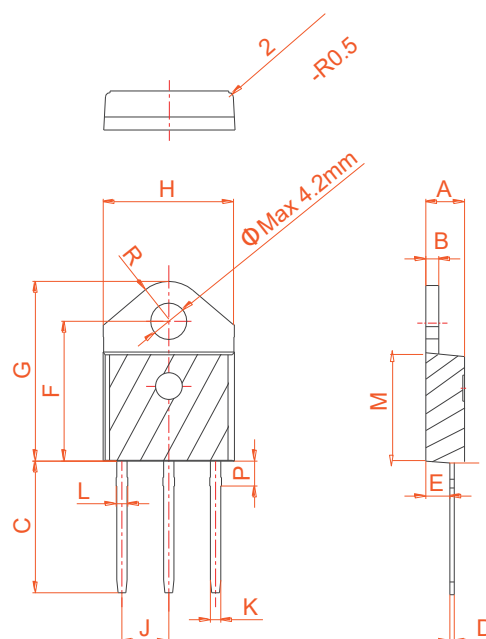
PACKAGE MECHANICAL DATA



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