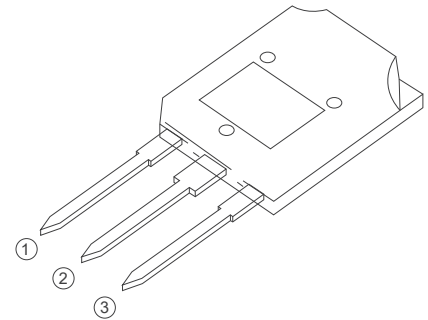
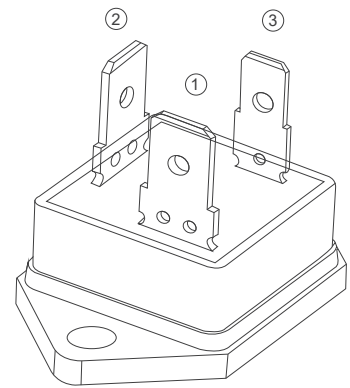


IT(RMS)		80A
VDRM/VRRM	BAT80-1200	1200V
	BAT80-1600	1600V
VTM		1.5V



TO-247S



TG-C

FEATURES

IT(RMS): 80A

VG_T: 1.3V

V_{DRM} V_{RRM}:1200V~1600V

High Junction Temperature

Good Commutation Performance

High dV/dt and dI/dt

APPLICATIONS

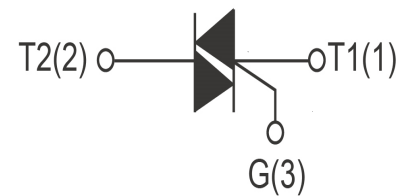
Heater Control

Motor Speed Controller

Washing machine

Vacuums

Solid state relay



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

Symbol	Parameter	Conditions	Ratings	Unit
V _{DRM} V _{RRM}	Repetitive Peak Off-State Voltage	BTA80-1200B BTA80-1600B	1200 1600	V
I _{T(RMS)}	R.M.S On-State Current	T _c =70°C	80	A
I _{TSM}	Surge On-State Current	t _p =16.7ms	800	A
I ² t	I ² t for fusing	T _p =10ms	3200	A ² s
P _{G(AV)}	Average Gate Power Dissipation	T _J =125°C	2	W
I _{GM}	Peak Gate Current	T _J =125°C	8	A
P _{GM}	Peak Gate power		10	W
T _J	Operating Junction Temperature		~40~125	°C
T _{STG}	Storage Temperature		~40~150	°C

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

Symbol	Parameter	Test Conditions	Value	Unit
I _{DRM}	Repetitive Peak Off-State Current	T _J =25°C	20	uA
		T _c =125°C	10	mA
I _{RRM}	Repetitive Peak Reverse Current	T _c =25°C	20	uA
		T _c =125°C	10	mA
V _{TM}	Forward "on" voltage	I _T =120A, t _p =380us	≤1.5	V
V _{GT}	Gate trigger voltage	V _D =12V, R _L =30Ω	≤1.3	V
di/dt	V _D =2/3V _{DRM} Gate Open, T _J =125°C I _{I,II,III,IV}	F=100Hz, I _G =2xI _{GT} , t _r ≤100ns	100	A/us
I _{GT}	Gate trigger current	I _{I,II,III} V _D =12V, R _L =30Ω	≤50	mA
I _H	Holding current	I _T =0.2A	≤90	
V _{GD}	Gate non-trigger voltage	V _D =V _{DRM} , T _J =125°C, R _L =3.3KΩ	0.2	V
dv/dt	Critical-rate of rise of commutation voltage	T _J =125°C, V _D =2/3V _{DRM} , Gate open circuit	≥1500 ≥1000	V/us
R _{th(j-c)}	Thermal resistance	Junction to case	0.35	°C/W

FIG1

Maximum power dissipation versus RMS on-state current

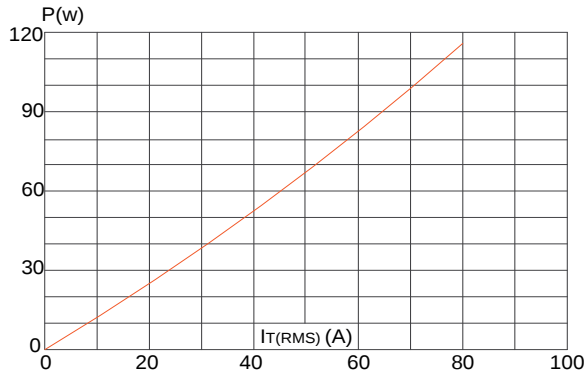


FIG2

RMS on-state current versus case temperature

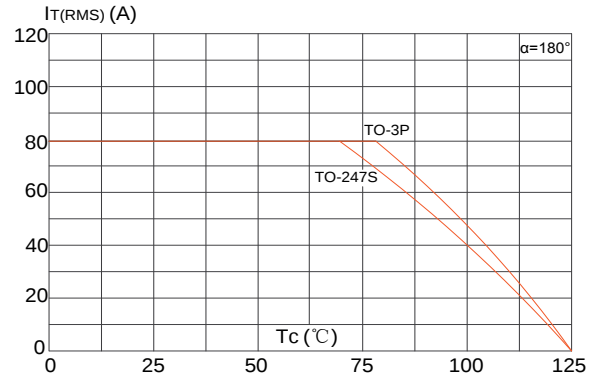


FIG3

Surge peak on-state current versus number of cycles

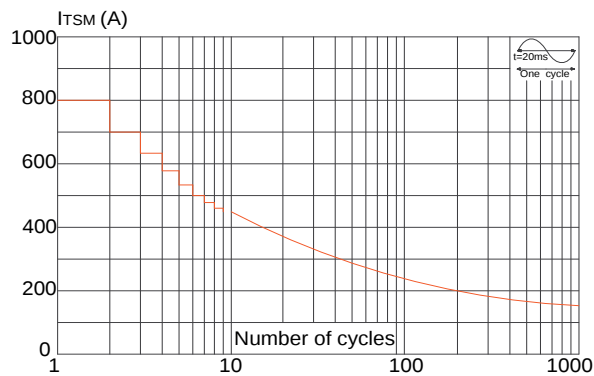


FIG4

On-state characteristics (maximum values)

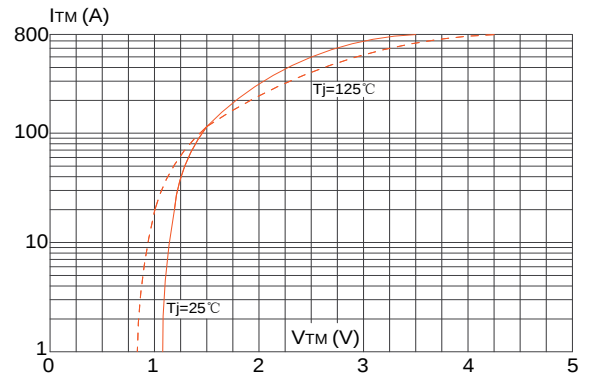


FIG5

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

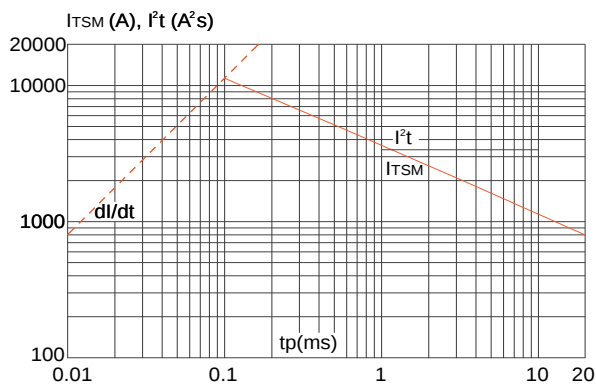
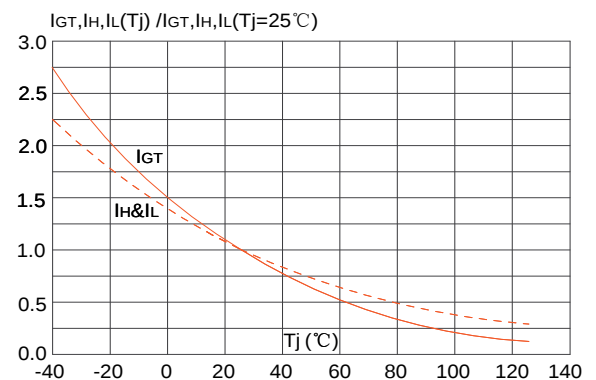
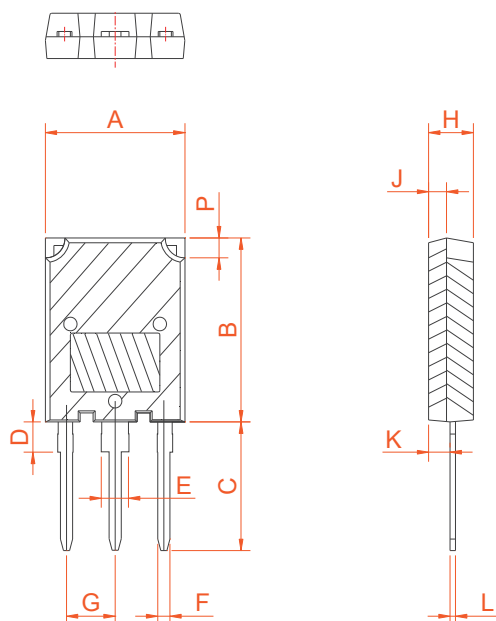


FIG6

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

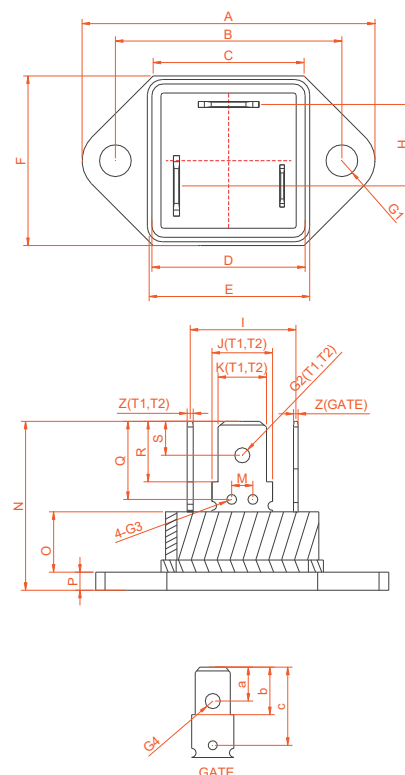


PACKAGE MECHANICAL DATA


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	15.1		16.1	0.594		0.634
B	19.8		20.8	0.78		0.819
C	13.8		14.8	0.543		0.583
D	3.00		4.00	0.118		0.157
E	2.75		3.35	0.108		0.132
F	1.30		1.50	0.051		0.059
G	5.10		5.80	0.201		0.228
H	4.50		5.50	0.177		0.217
J	1.45		2.15	0.057		0.085
K	1.90		2.80	0.075		0.110
L	0.55		0.80	0.022		0.031
P	2.00		2.40	0.079		0.094

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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	


TG-C