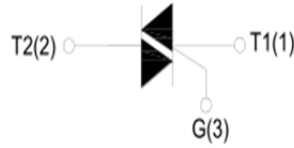


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Features

- ▣ IT(RMS): 80A
- ▣ VDRM VRRM:
600V/800V
1200V/1600V



BTB80. PDF

T0-247S

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value
IT(RMS)	RMS on-state current	80A
VDRM	Repetitive peak off-state voltage	600V/800V/1200V/1600V
VRRM	Repetitive peak reverse voltage	600V/800V/1200V/1600V
Tj	Operating junction temperature range	~40°C~125°C
Tstg	Storage junction temperature range	~40°C~150°C
VDSM	Non repetitive surge peak Off-state voltage	VDRM+100V
VRSM	Non repetitive peak reverse voltage	VRRM+100V
ITSM	Non repetitive surge peak on-state current (full cycle, F=50Hz)	800A
I ² t	I ² t value for fusing (tp=10ms)	3200A ² S
dI/dt	Critical rate of rise of on-state current (I _G = 2×I _{GT})	100A/μs
IGM	Peak gate current	8A
PG(AV)	Average gate power dissipation	2W
PGM	Peak gate power	10W

ELECTRICAL CHARACTERISTICS (Tj =25°C unless otherwise specified)

Symbol	Test Condition	Quadrant	Value
			BTB80
IGT	VD=12V RL=33Ω	I - II - III	<50mA
VGT		ALL	<1.3V
VGD	VD=VDRM Tj=125°C RL=3.3KΩ	ALL	>0.2V
IL	IG=1.2IGT	I - III	<80mA
		II	<120mA
IH	IT=100mA		<60mA
dV/dt	VD=2/3VDRM Gate Open Tj=125°C		>1000V/μs
(dV/dt) _c	Without snubber Tj=125°C		>20V/μs
VTM	ITM=120A tp=380μs (Tj =25°C)		<1.55V
IDRM	VD=VDRMVR=VR	Tj =25°C	<50μA
IRRM	RM	Tj =125°C	<10mA
Rth(j-c)	junction to case (AC)	T0-247S	0.45°C/W

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FIG. 1 Maximum power dissipation versus RMS on-state current

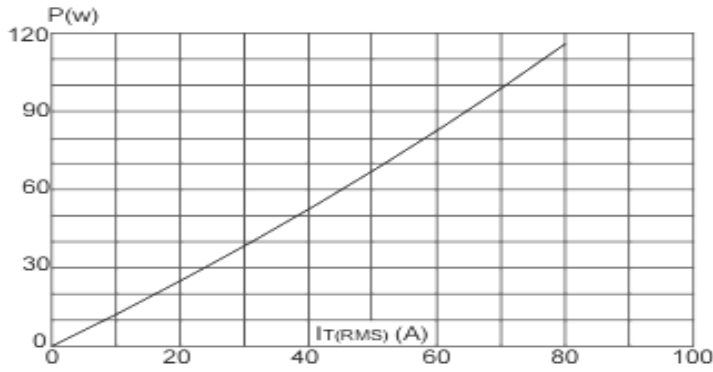


FIG. 2: RMS on-state current versus case temperature

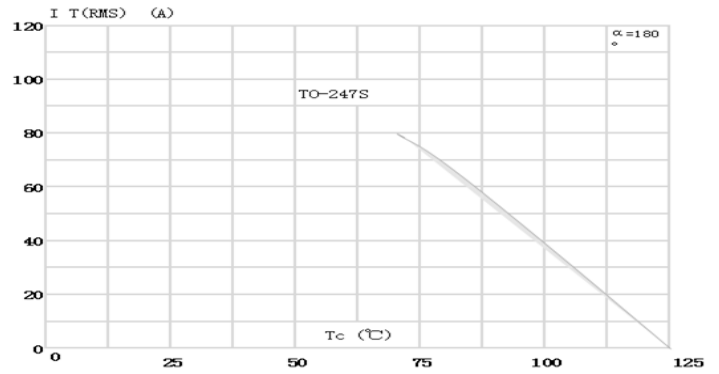


FIG. 3: Surge peak on-state current versus number of cycles

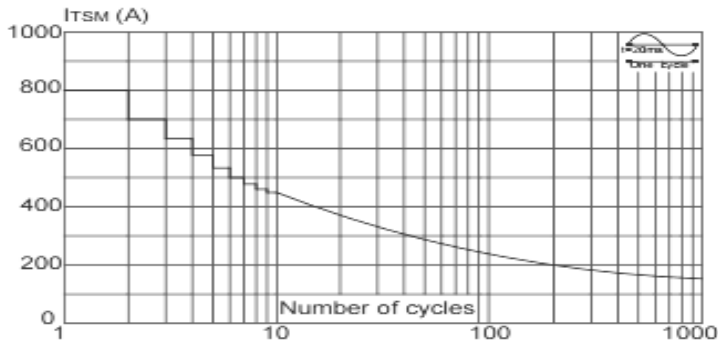


FIG. 4: On-state characteristics (maximum values)

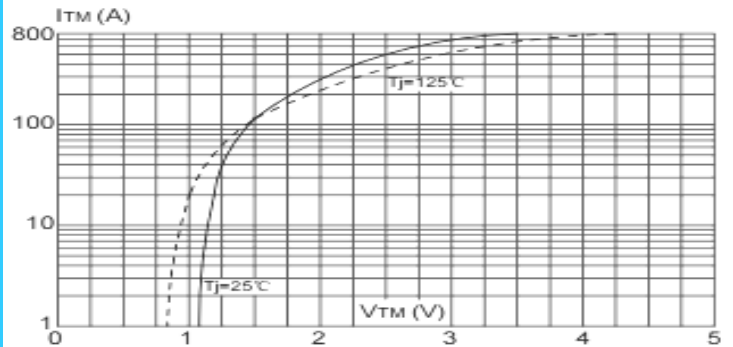


FIG. 5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20ms$, and corresponding value of I^2t ($dI/dt < 100A/\mu s$)

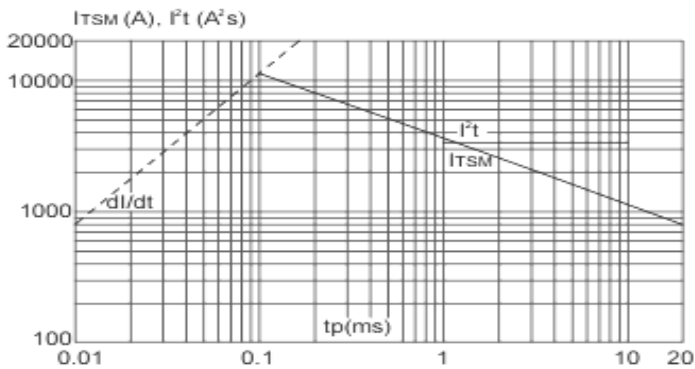
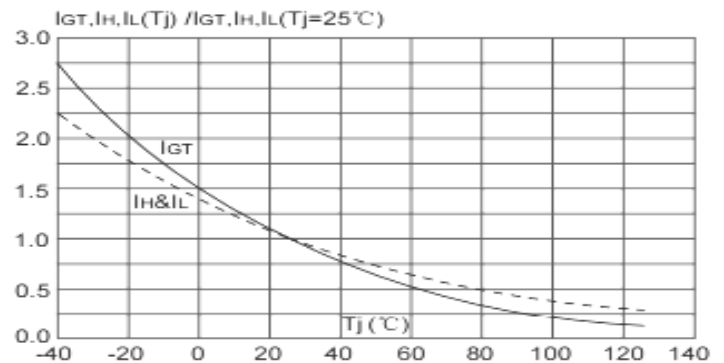


FIG. 6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



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

