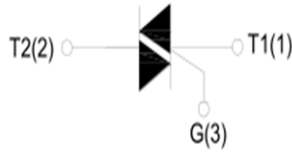


# 东莞市环昕微实业有限公司

## Features

- ▣ IT(RMS): 30A
- ▣ VDRM VRRM: 600V/800V



BTA330X-800BT. PDF

T0-220F

1 2 3

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value
$I_T$ (RMS)	RMS on-state current	16A
VDRM	Repetitive peak off-state voltage	600V/800V
VRRM	Repetitive peak reverse voltage	600V/800V
$T_j$	Operating junction temperature range	~40°C~150°C
$T_{stg}$	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)	270A
$I^2 t$	$I^2 t$ value for fusing ( $t_p=10ms$ )	340A <sup>2</sup> S
dI/dt	Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	50A/ $\mu$ s
IGM	Peak gate current	4A
PG(AV)	Average gate power dissipation	1W
PGM	Peak gate power	5W

## ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Test Condition	Quadrant	Value	
			BTA330X-800BT	
IGT	VD=12V RL=33 $\Omega$	I - II - III	<50mA	<35mA
		IV	/	
VGT		ALL	<1.3V	
VGD	VD=VDRM Tj=150°C RL=3.3K $\Omega$	ALL	>0.2V	
IL	IG=1.2IGT	I - III	<70mA	<50mA
		II	<80mA	<60mA
		I - III - IV	/	
		II	/	
IH	IT=100mA		<50mA	<40mA
dV/dt	V D =2/3V DRMRGK=1K $\Omega$ Tj=150°C		>1000V/ $\mu$ s	>500V/ $\mu$ s
VTM	ITM=35A tp=380 $\mu$ s (Tj =25°C)		<1.5V	
IDRM	VD=VDRMVR=VR	Tj =25°C	<5 $\mu$ A	
IRRM	RM	Tj =150°C	<3mA	
Rth(j-c)	junction to case (AC)	T0-220F	1.7°C/W	

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

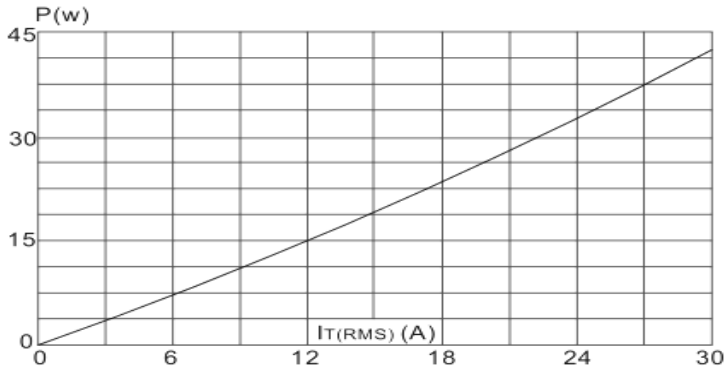


FIG. 2: RMS on-state current versus case temperature

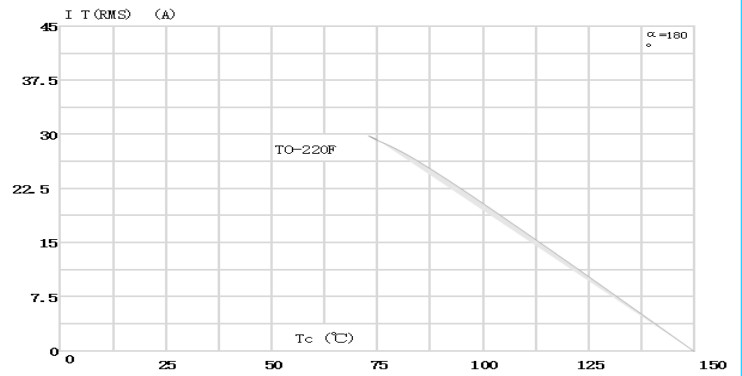


FIG. 3: Surge peak on-state current versus number of cycles

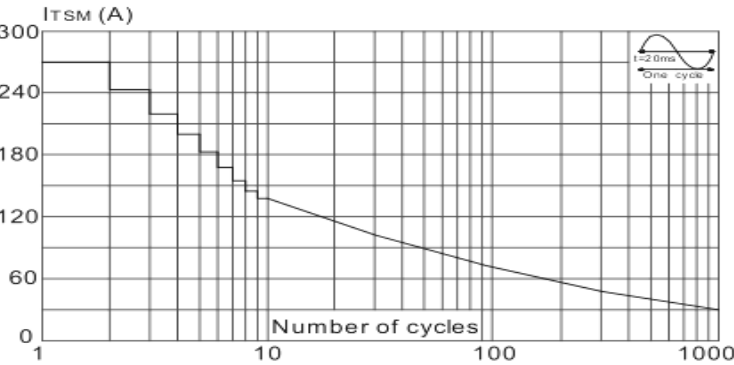


FIG. 4: On-state characteristics (maximum values)

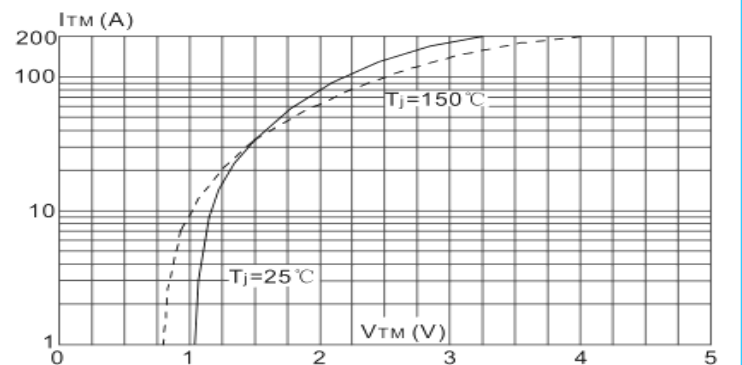


FIG. 5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2 t$  ( $dI/dt < 50\text{A}/\mu\text{s}$ )

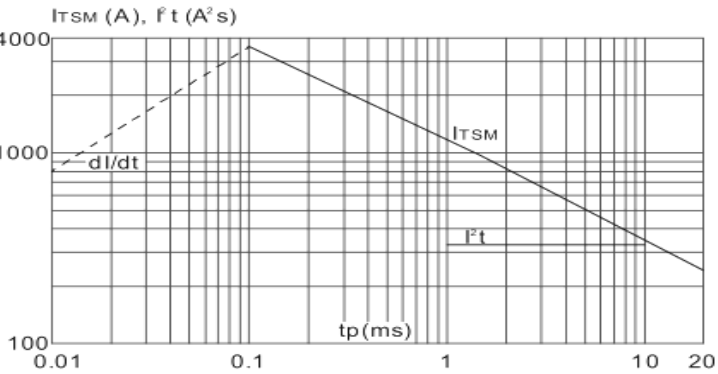
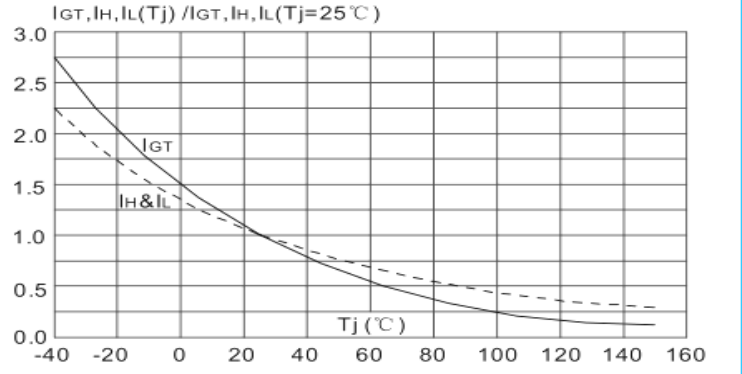
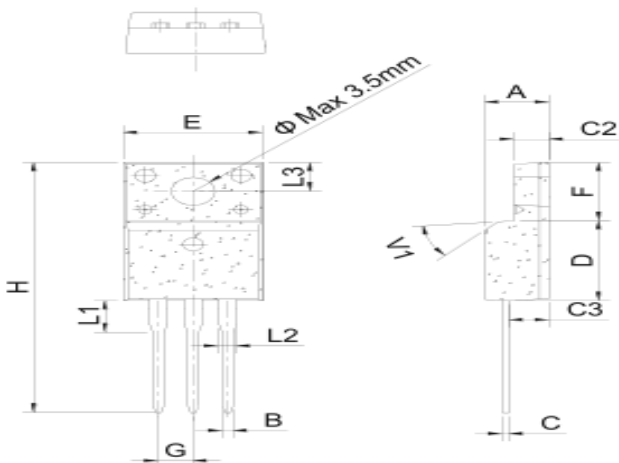


FIG. 6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.80	0.173		0.189
B	0.74	0.80	0.83	0.029	0.031	0.033
C	0.48		0.75	0.019		0.030
C2	2.40		2.70	0.094		0.106
C3	2.60		3.00	0.102		0.118
D	8.80		9.30	0.346		0.366
E	9.70		10.3	0.382		0.406
F	6.40		7.00	0.252		0.276
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°