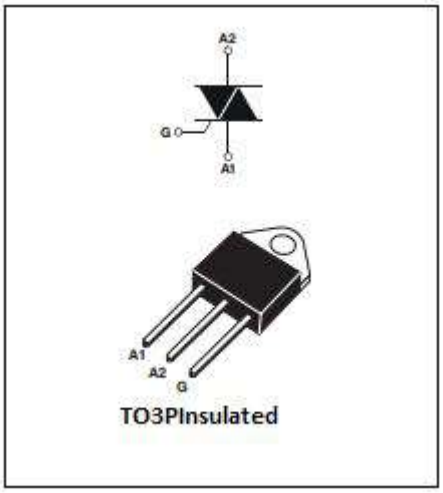
BTA60 Series 60A TRIACs

Rev：1.0

DESCRIPTION:

The BTA60 triac series is suitable to fit all models of control Found in applications such as motor control ,industrial and domestic lighting ,heating and static switching , motor speed controllers,…Thanks to their clip assembly technique, theyprovide a superior performance in surge currenthandling capabilities
By using an internal ceramic pad, the BTA series provides voltage insulated tab (rated at2500VRMS) complying with UL standards



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	60	A
V_{DRM} V_{RRM}	1200/1600	V
V_{TM}	1.55	V

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction temperature range	Tstg	-40 ~150	℃
Operating junction temperature range	Tj	-40~125	℃
Repetitive peak off-state voltage (T =25℃)	V_{DRM}	1200/1600	V
Repetitive peak reverse voltage (T =25℃)	V_{RRM}	1200/1600	V
RMS on-state current	$I_{T(RMS)}$	60	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	500	A
I^2t value for fusing (tp=10ms)	I^2t	1250	A^2S
Critical rate of rise of on-state current ($I = 2 \times I_{GT}$)	dI/dt	50	A/μS
Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	1	W

Tel: +86-514-87782298 FAX:+86-514-87782297 E-mail: info@yzpst.com;
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ELECTRICAL CHARACTERISTICS (T=25℃unless otherwise specified)

3 Quadrants

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	V =12V R =33Ω	Ⅰ Ⅱ Ⅲ	MAX.	50	mA
V_{GT}		Ⅰ - Ⅱ -Ⅲ	MAX.	1.3	V
V_{GD}	V_D=V_{DRM} Tj=125℃ R=3.3KΩ	Ⅰ - Ⅱ -Ⅲ	MIN.	0.2	V
I_L	I_G=1.2I_{GT}	Ⅰ -Ⅲ	MAX.	80	mA
		Ⅱ		180	
I_H	I_T=100mA		MAX.	80	mA
dV/dt	V_D=2/3V_{DRM} Gate Open Tj=125℃		MIN.	1000	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	I_{TM} =80A tp=380μs	Tj =25℃	1.65	V
I_{DRM}	V_D=V_{DRM} V_R=V_{RRM}	Tj =25℃	10	μA
I_{RRM}		Tj =125℃	5	mA

Thermal Resistances

Symbol	Parameter	Value	Unit
Rth(j-a)	junction to ambient	50	℃/W
Rth(j-c)	Junction to case(AC)	0.8	

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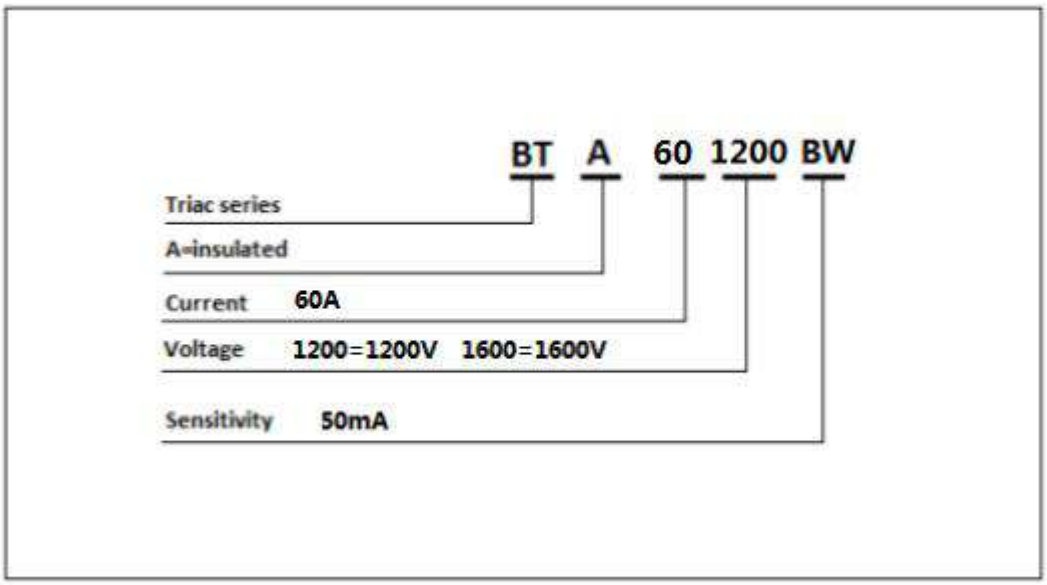
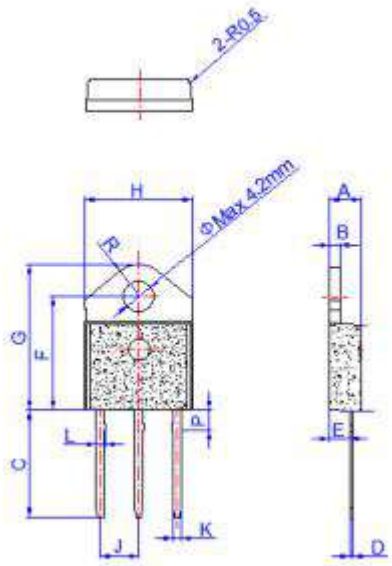
Ordering Information Scheme



TO-3P Package Mechanical Data



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.40		4.60	0.173		1.181
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	0.815		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	1.35		1.50	0.053		0.059
P	2.80		3.00	0.110		0.118
R		4.35			0.181	

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

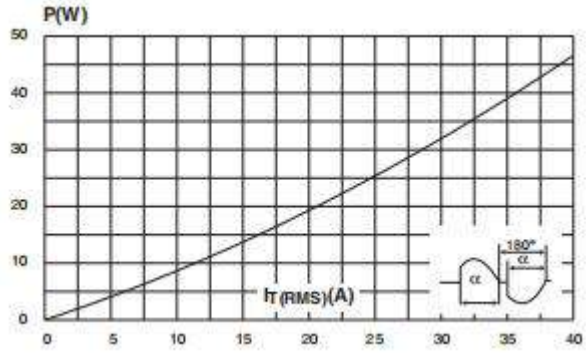


FIG.2: RMS on-state current versus case temperature

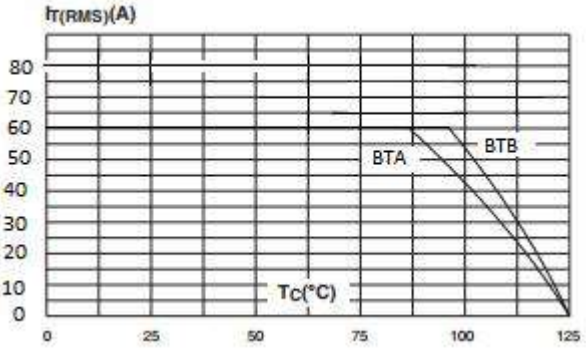


FIG.3: Surge peak on-state current versus number of cycles

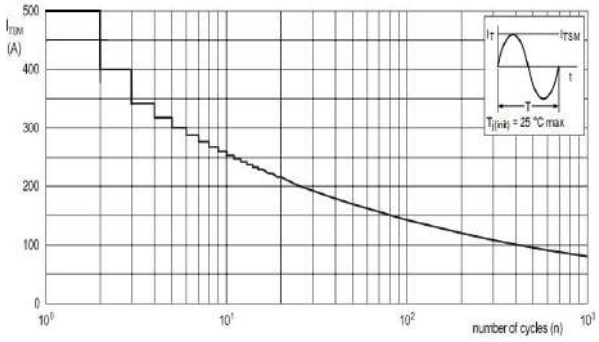


FIG.4: On-state characteristics (maximum values)

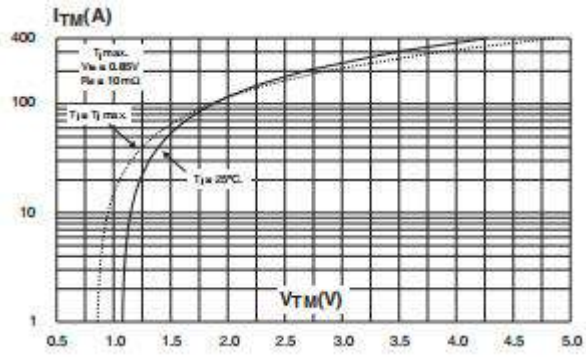


FIG.5: Non-repetitive surge peak on-state currentfor a sinusoidal pulse with width tp<20ms, and corresponding value of I^2t (dI/dt < 50A/µs)

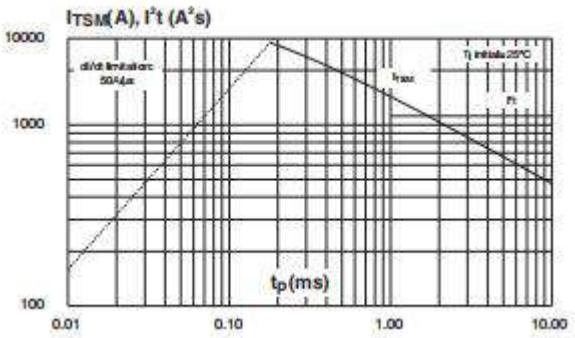
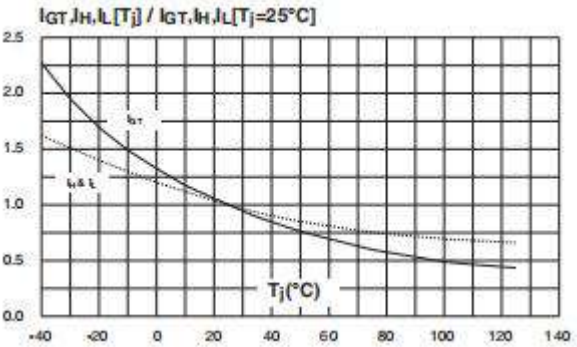


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature



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