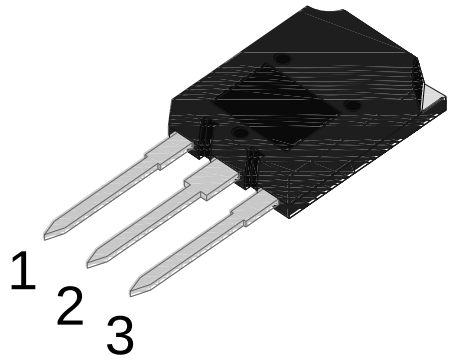
■DESCRIPTION:
BTB60 series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interface.
With high commutation performances,
3 Quadrants products especially recommended for use on inductive load.
BTB60 series are non-insulated design.

■产品特征
PNPN四层结构硅芯片；三象限、三端双向可控硅开关；
采用双台面玻璃钝化工艺；
多层金属化电极提高瞬间浪涌电流承受力；
较高阻断电压；较强抗电流冲击能力。

■应用领域
自动化电气设备；交流/直流电源变换；电加热控制；无功补偿；
复合开关；大功率捕鱼器；电机马达调速控制电路。

■可代替型号:
BCR30AM-12L、30TPS08、30TPS12、40TPS08、40TPS12、
60TPS08、60TPS12、TM2561B-L、TM2581B-L、TM3561B-L、
TM3581B-L、TM5561B-L、TM5581B-L、TMG25D80L、T25D8L、
TMG35D80L、T35D8L、TMG55D80L、T55D8L

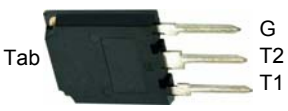


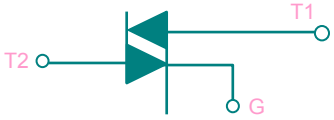
Super-247 or TO-247AA

■QUICK REFERENCE【參考特性】

Part Number	$I_{T(RMS)}$	V_{DRM} / V_{RRM}	I_{GT}	V_{TM}	Package	Packing
BTB60-600BW	60 A	600 V	≤50mA	≤1.55V	Super-247 TO-247AA	25Pcs/Tube 500Pcs/Box 3Kpcs/Box 每管25只 每盒500只 每箱3000只
BTB60-800BW		800 V				
BTB60-1000BW		1000 V				
BTB60-1200BW		1200 V				
BTB60-1400BW		1400 V				
BTB60-1600BW		1600 V				
BTB60-1800BW		1800 V				
Remarks	① 三象限、大电流、高压、特殊机种 ② 1200V、1600V 常规出货 ③ 触发电流I_{GT}值可按客戶要求定制					

■PINNING: TO-247AA (Super-247) 【TO-247直插半塑封】【BTB為非絕緣型: 中間管腳T2與散熱片Tab導通】

Pin	Symbol	Description	Description	Practicality in Pin Arrange	Pin Polarity Circuit diagram
1	T1	Main terminal 1	第一陽極		1=T1 2=T2 3=G 4=Tab
2	T2	Main terminal 2	第二陽極		
3	G	Gate	門-控制極		
4	Tab	----	散熱片		



■ABSOLUTE RATINGs (Limiting Values)【额定值参数】

SYMBOL	Paramenter & Test Conditions		Value	Unit
$I_{T(RMS)}$	RMS on-state current (full slne wave)	T_C=75℃	60	A
I_{TSM}	Non repetitive surge peak on-state current （half slne cycle, Tj=25℃）	f=50Hz, t=10ms	600	A
		f=60Hz, t=8.3ms	640	A
I_{GM}	Peak gate current	tp=20us, T_j=125℃	8	A
I^2t	I^2t value for fusing (tp=10ms)	tp=10ms	1800	A^2s
dI/dt	Critical rate of rise of on-state current （I_G=2×I_{GT}, tr≤100ns, f=120Hz, T_j=125℃）		100	A/μs
P_{GM}	Peak gate power	tp=20us, T_j=125℃	10	W
$P_{G(AV)}$	Average gate power dissipation	T_j=125℃	2.0	W
V_{DRM}	Repetitive peak off-state voltages (T_j=25℃)	參考型號對照列表	600~1800	V
V_{RRM}	Repetitive peak off-state voltages (T_j=25℃)	參考型號對照列表	600~1800	V
V_{DSM}	Non repetitive surge peak Off-state voltage		V_{DRM}+100	V
V_{RSM}	Non repetitive peak reverse voltage		V_{RRM}+100	V
T_j	Operating junction temperature range		-40 ~ +125	℃
Tstg	Storage Temperature Range		-40 ~ +150	℃

■ELECTRICAL CHARACTERISTICs（T_j=25℃ unless otherwise specified）

SYMBOL	Test Condition	Quadrant		Value	Unit
I_{GT}	V_D=12V_{DC}, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	50	mA
I_H	I_T=100mA	Ⅰ-Ⅱ-Ⅲ	MAX	60	mA
I_L	I_G=1.2 I_{GT}	Ⅰ-Ⅲ	MAX	80	mA
		Ⅱ		100	mA
V_{GT}	V_D=12V_{DC}, R_L=33Ω	Ⅰ-Ⅱ-Ⅲ	MAX	1.3	V
V_{GD}	V_D=V_{DRM}, T_j=125℃, R_L=3.3KΩ	Ⅰ-Ⅱ-Ⅲ	MIN	0.2	V
dV/dt	V_D=2/3V_{DRM}, Gate Open, T_j=125℃		MIN	1000	V/μs
(dV/dt)c	Without snubber, T_j=125℃		MIN	20	V/μs

■STATIC CHARACTERISTICS

SYMBOL	Parameter			Value	Unit
V_{TM}	I_{TM}=90A, tp=380μs	T_j=25℃	MAX	1.55	V
I_{DRM}	V_D=V_{DRM}, V_R=V_{RRM}	T_j=25℃	MAX	50	μA
I_{RRM}		T_j=125℃	MAX	8	mA

■THERMAL RESISTANCES

SYMBOL	Parameter		Value	Unit
$R_{th(j-c)}$	junction to case(AC)	Super-247 or TO-247AA	0.45	℃/W

Electrical characteristics & Typical characteristics（电气特性与典型特征）

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

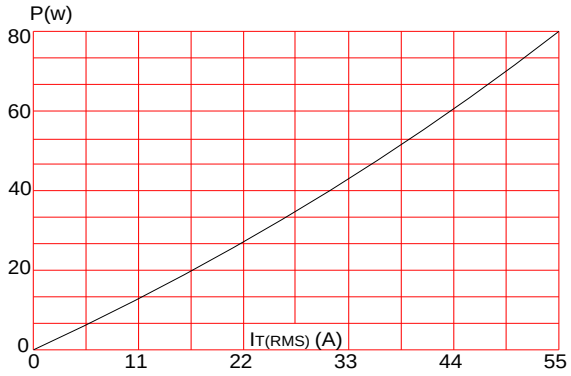


FIG.2: RMS on-state current versus case temperature

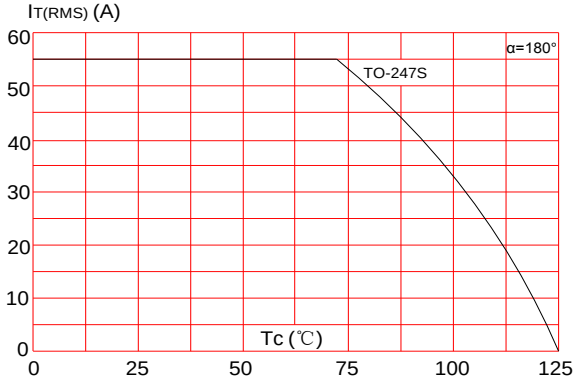


FIG.3: Surge peak on-state current versus number of cycles

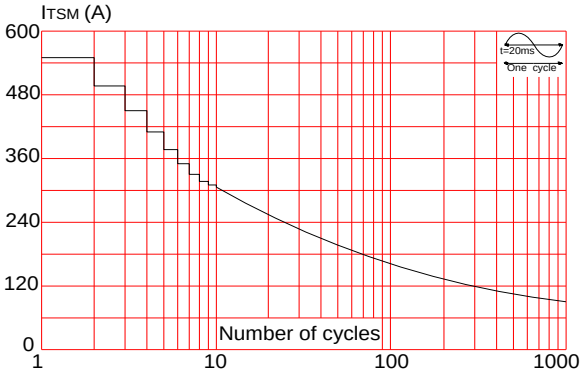


FIG.4: On-state characteristics (maximum values)

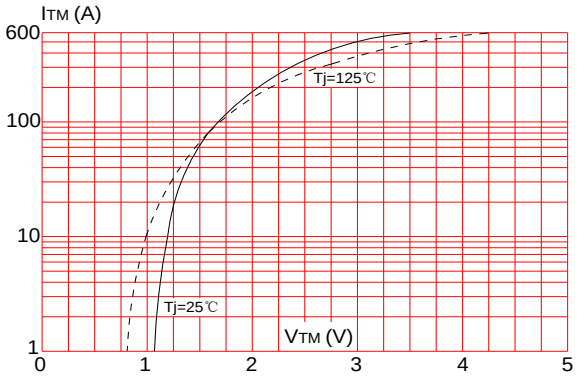


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp<20ms, and corresponging value of I t (dI/dt < 100A/μs)

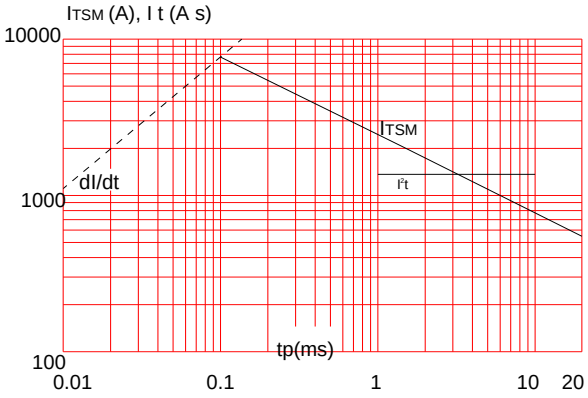
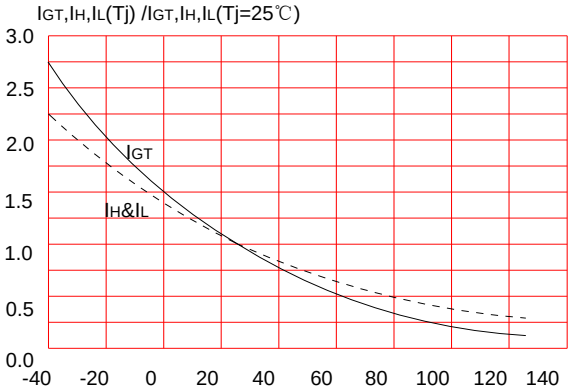
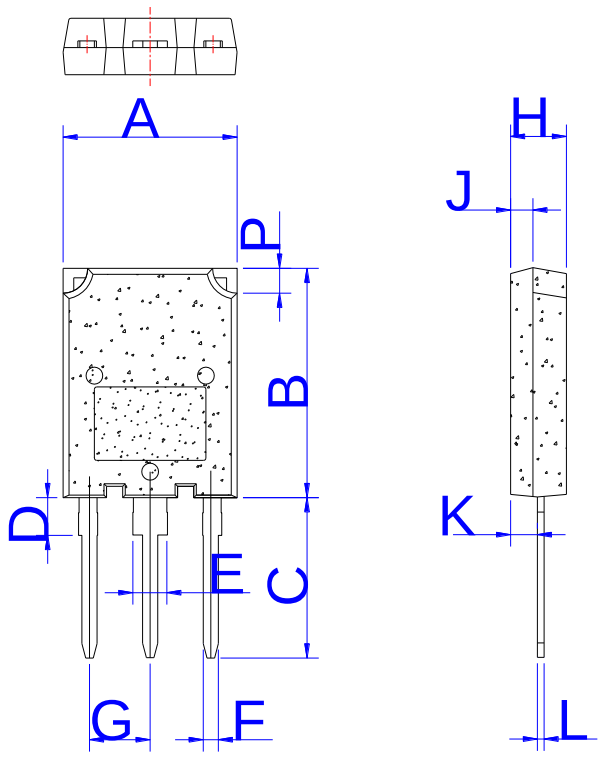


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

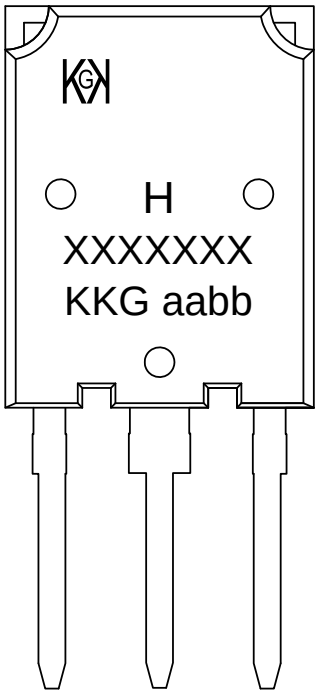


Package Information （mm & Inches）
TO-247AA （Super-247）封装尺寸 單位: 毫米與英寸對照



DIM.	MILLIMETERS		INCHES	
	MIN.	MAX.	MIN.	MAX.
A	15.1	16.1	0.594	0.634
B	19.8	20.8	0.780	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

元件打印标识：Components Mraking



H: 浩海电子
XXXXXXXXXX: 器件型号
KKG: 注册商标
aa: 出厂年份
bb: 出厂自然周 (01~53)

Marking
H: HAOHAI ELECTRONICS
XXXXXXXXXX: Part Number
KKG: Registered trademark
aa: Factory Year
bb: Factory natural Week
bb: (01~53)

Manufacturers version information
2006-06-10， KKG ™ Product Data-1.0
2011-11-05， KKG ™ Product Data-1.1
2014-06-10， KKG ™ Product Data-1.2
2016-03-10， KKG ™ Product Data-1.3

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