

■ 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.

■ 产品特点

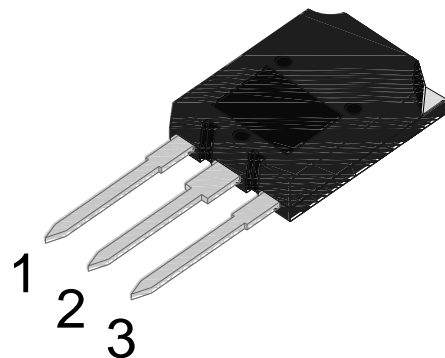
PNPN四层结构硅芯片；三象限、三端双向可控硅开关；
采用双台面玻璃钝化工艺；
多层金属化电极提高瞬间浪涌电流承受力；
较高阻断电压；较强抗电流冲击能力。

■ 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 【参考特性】

Part Number	$I_{T(RMS)}$	V_{DRM} / V_{RRM}	I_{GT}	V_{TM}	Package	Packing
BTB60-600BW	60 A	600 V	$\leq 50mA$	$\geq 1.55V$	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} 值可按客户要求定制					

■ 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		
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	Parameter & Test Conditions		Value	Unit
$I_{T(RMS)}$	RMS on-state current (full sine wave)	$T_C=75^\circ\text{C}$	60	A
I_{TSM}	Non repetitive surge peak on-state current (half sine cycle, $T_j=25^\circ\text{C}$)	$f=50\text{Hz}, t=10\text{ms}$	600	
		$f=60\text{Hz}, t=8.3\text{ms}$	640	
I_{GM}	Peak gate current	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	8	
i^2t	i^2t value for fusing ($t_p=10\text{ms}$)	$t_p=10\text{ms}$	1800	A^2s
di/dt	Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, t_r \leq 100\text{ns}, f=120\text{Hz}, T_j=125^\circ\text{C}$)		100	$\text{A}/\mu\text{s}$
P_{GM}	Peak gate power	$t_p=20\mu\text{s}, T_j=125^\circ\text{C}$	10	W
$P_{G(AV)}$	Average gate power dissipation	$T_j=125^\circ\text{C}$	2.0	
V_{DRM}	Repetitive peak off-state voltages ($T_j=25^\circ\text{C}$)	参考型号对照列表	600~1800	V
V_{RRM}	Repetitive peak off-state voltages ($T_j=25^\circ\text{C}$)	参考型号对照列表	600~1800	
V_{DSM}	Non repetitive surge peak Off-state voltage		$V_{DRM}+100$	
V_{RSM}	Non repetitive peak reverse voltage		$V_{RRM}+100$	
T_j	Operating junction temperature range		-40 ~ +125	$^\circ\text{C}$
T_{stg}	Storage Temperature Range		-40 ~ +150	

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

SYMBOL	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12V_{DC}, R_L=33\Omega$	I - II - III	MAX	50	mA
I_H	$I_T=100\text{mA}$	I - II - III	MAX	60	
I_L	$I_G=1.2 I_{GT}$	I - III	MAX	80	
		II		100	
V_{GT}	$V_D=12V_{DC}, R_L=33\Omega$	I - II - III	MAX	1.3	V
V_{GD}	$V_D=V_{DRM}, T_j=125^\circ\text{C}, R_L=3.3K\Omega$	I - II - III	MIN	0.2	
dV/dt	$V_D=2/3V_{DRM}, \text{Gate Open}, T_j=125^\circ\text{C}$		MIN	1000	$\text{V}/\mu\text{s}$
$(dV/dt)_c$	Without snubber, $T_j=125^\circ\text{C}$		MIN	20	

■ STATIC CHARACTERISTICS

SYMBOL	Parameter			Value	Unit
V_{TM}	$I_{TM}=90\text{A}, t_p=380\mu\text{s}$	$T_j=25^\circ\text{C}$	MAX	1.55	V
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_j=25^\circ\text{C}$	MAX	50	μA
I_{RRM}		$T_j=125^\circ\text{C}$	MAX	8	mA

■ THERMAL RESISTANCES

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

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

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

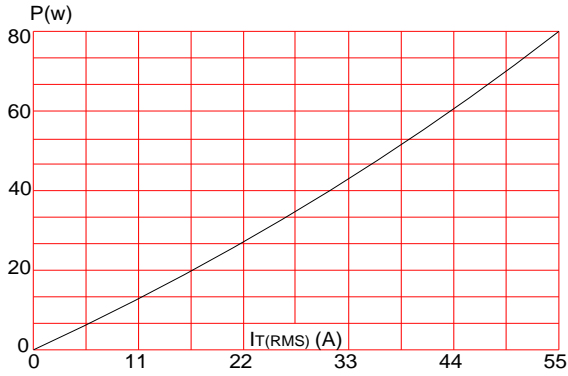


FIG.3: Surge peak on-state current versus number of cycles

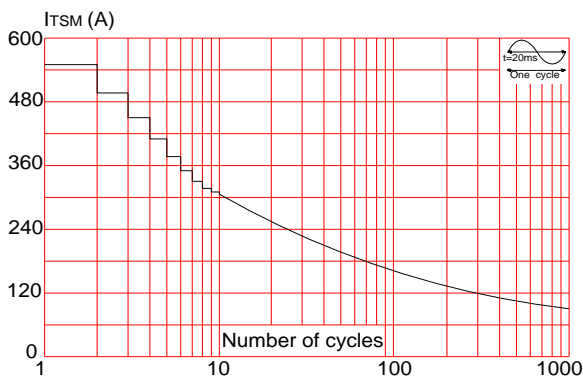


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of $I t$ ($di/dt < 100\text{A}/\mu\text{s}$)

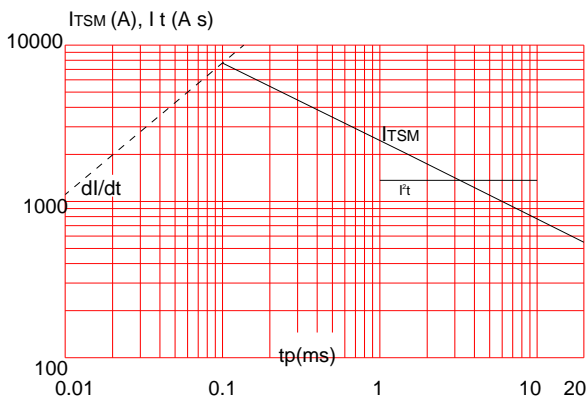


FIG.2: RMS on-state current versus case temperature

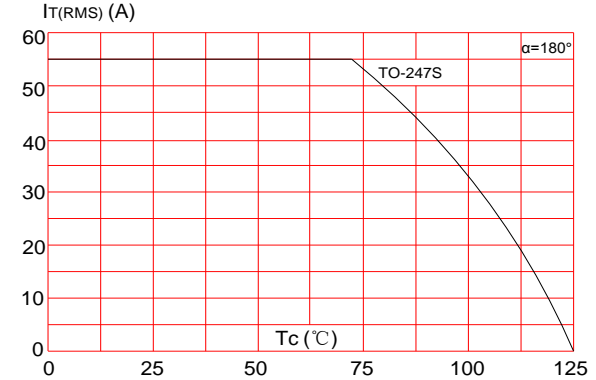


FIG.4: On-state characteristics (maximum values)

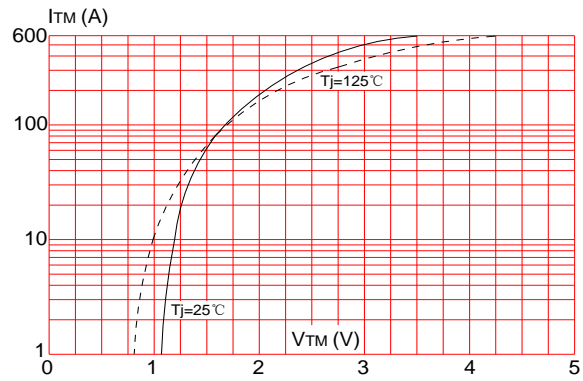
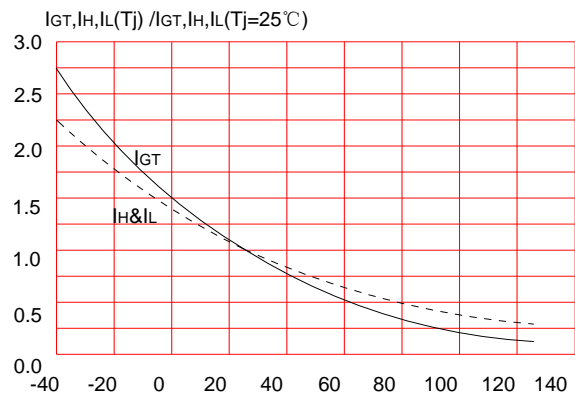
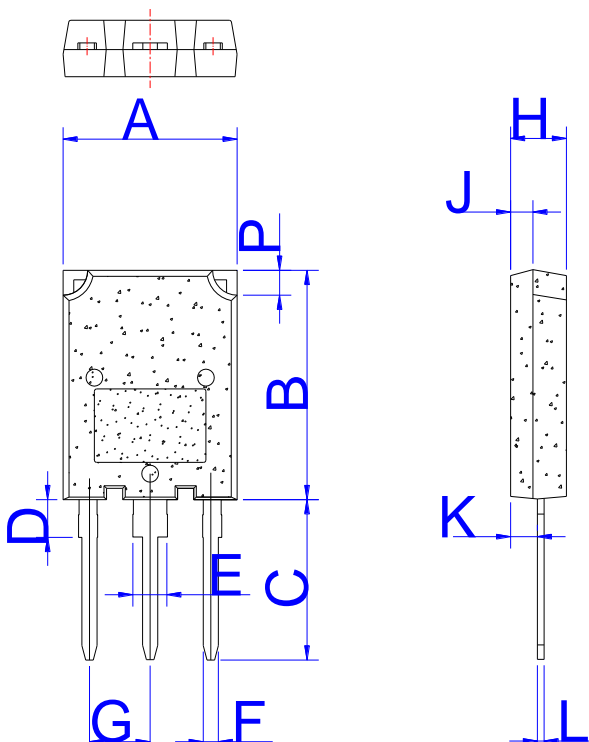


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature

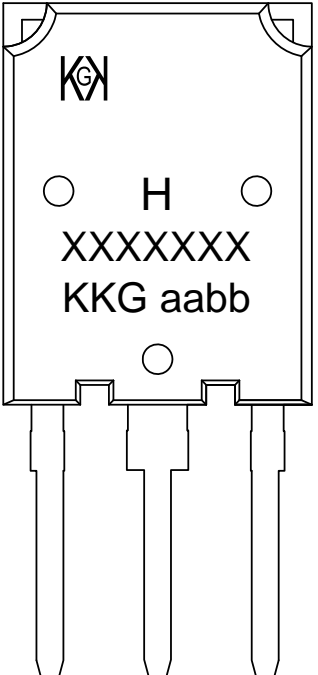


Package Information (mm & Inches)
TO-247AA (Super-247) 封装尺寸 单位: 毫米与英寸对照



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 Marking



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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