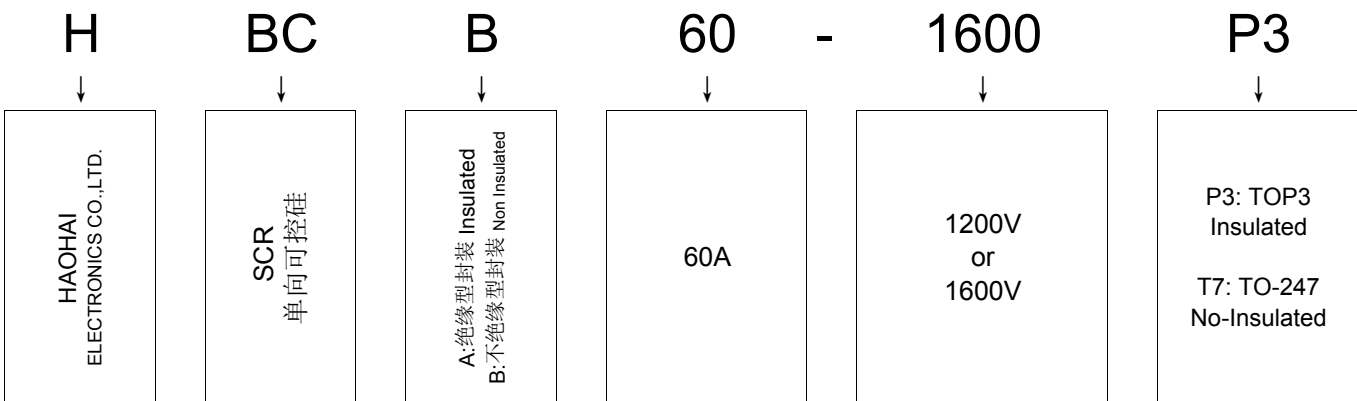


<p><b>DESCRIPTION</b> BCB60 Series of silicon controlled rectifiers, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. BCB60 provides insulation voltage rated at 2500V RMS from all three terminals to external heatsink complying with UL standards. Using TO-247 No-Insulated Package &amp; TOP3 Insulated Package</p>	<p><b>产品特征</b> <math>I_{GT}</math>一致性好, 档级覆盖面广, 换向性能好 抗干扰能力强, 良好的产品可靠性和产品品质</p> <p><b>主要用途</b> 自动化电气设备、开关电源、电力模块、无功补偿、复合开关交流/直流电源变换、工业和家庭电加热器的温度控制 电机马达调速控制以及三相交流输入的高压电路、变频电路 采用TOP3绝缘型封装、TO-247非绝缘型封装</p>
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Product Model Reference & Naming 【产品型号参考及型号命名】

TOP3 & TO-247 SCR

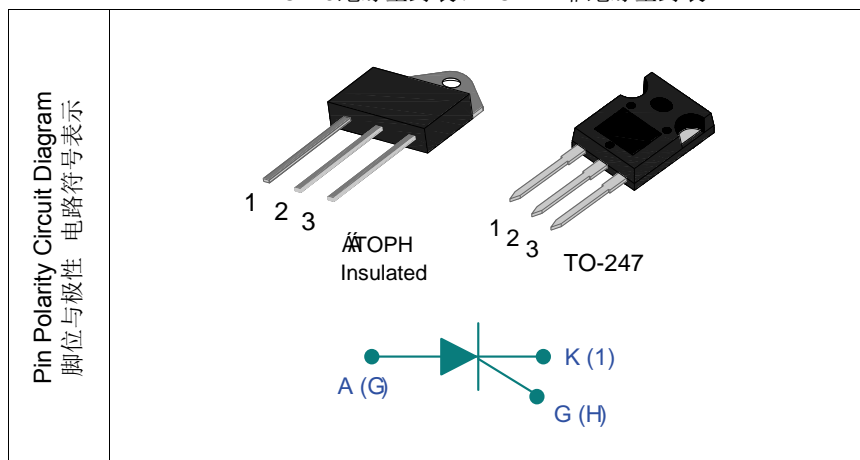
60A	产品型号列表、种类区分、型号对照电压值		触发电流 $I_{GT}$
	1200V	1600V	
TOP3 Insulated	BCB60-1200P3	BCB60-1600P3	≤70mA
TO-247 No-Insulated	BCB60-1200T7	BCB60-1600T7	



PINNING: Insulated Package

Pin 管脚排列	Symbol 对应极性	Description 极性含义
1	K	阴极
2	A	阳极
3	G	控制极
4	Tab	散热片

TO-P3绝缘型封装、TO-247非绝缘型封装



■ ABSOLUTE MAXIMUM RATINGS

SYMBOL	Signification in Symbol	Test Conditions	Value	Unit
$I_{T(RMS)}$	RMS On-state Current	TOP3 Ins ( $T_C=80^\circ C$ ) TO-247 No-Ins ( $T_C=85^\circ C$ )	60	A
$I_{TSM}$	Non Repetitive Surge Peak on-state Current	$t_p=10mS$	600	
$I_{GM}$	Peak Gate Current	$T_j=125^\circ C$	5	
$I^2t$	$I^2t$ Value for Fusing Consideration	$t_p=10mS$	1500	$A^2s$
$di/dt$	Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )		150	$A/\mu s$
$V_{DRM}$	Repetitive peak off-state Voltages	见型号对照列表 $T_j=25^\circ C$	1200~1600	V
$V_{RRM}$	Repetitive peak Reverse Voltages			
$P_{G(AV)}$	Average gate power dissipation		1	W
$P_{GM}$	Peak gate power		10	
$T_j$	Operating Junction Temperature Range		-40~+125	$^\circ C$
$T_{stg}$	Storage Junction Temperature Range		-40~+150	
$R_{th(j-c)}$	Junction to Case (DC)	TOP3 TO-247	0.62 0.60	$^\circ C/W$
$R_{th(j-a)}$	Junction to Ambient	TOP3 TO-247	000 000	

■ 绝缘电阻特征: ISOLATION LIMITING VALUE & CHARACTERISTIC ( $T_{hs}=25^\circ C$  unless otherwise specified)

■ STATIC CHARACTERISTICS

SYMBOL	Parameter & Test Conditions	Value			Unit
		Min.	Typ.	Max.	
$I_{GT}$	$V_D=12V, R_L=03\Omega$	20	--	70	mA
$I_H$	$I_T=1A$	--	--	200	
$I_L$	$I_G=1.2 I_{GT}$	--	--	250	
$dV/dt$	$V_D=2/3V_{DRM}$ Gate open, $T_j=125^\circ C$	1000	--	--	$V/\mu s$
$V_{GT}$	$V_D=12V, R_L=30\Omega$	--	--	1.5	V
$V_{GD}$	$V_D=V_{DRM}, T_j=125^\circ C, R_L=3.3K\Omega$	0.25	--	--	
$V_{TM}$	$I_{TM}=80A$ $t_p=380\mu s$ $T_C=25^\circ C$	--	--	1.8	
$I_{DRM}$	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_C=25^\circ C$	--	10	$\mu A$
$I_{RRM}$		$T_C=125^\circ C$	--	8	mA

Electrical characteristics & Typical characteristics

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

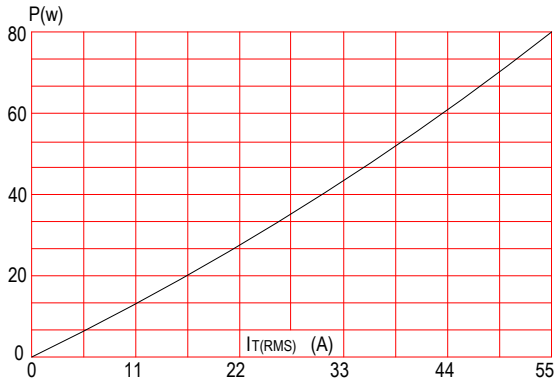


FIG.2: RMS on-state current versus case temperature

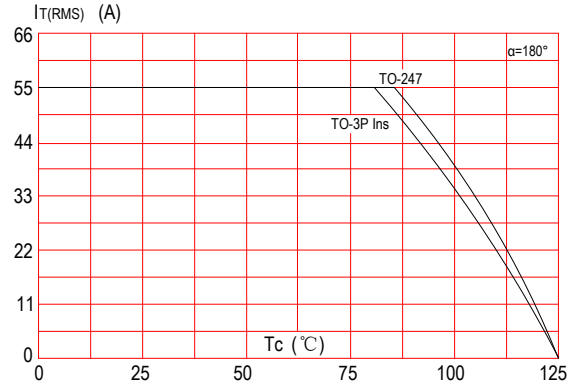


FIG.3: Surge peak on-state current versus number of cycles

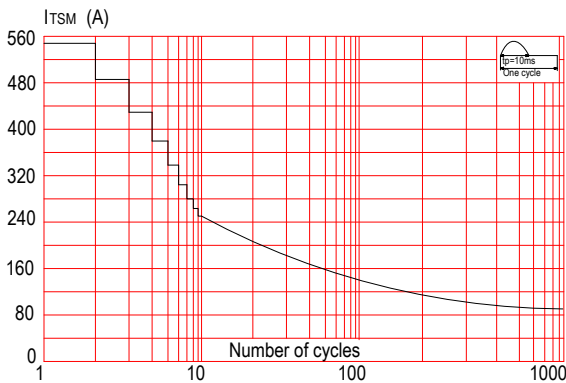


FIG.4: On-state characteristics (maximum values)

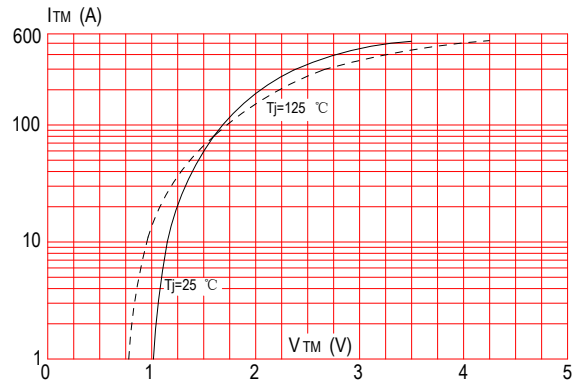


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$ , and corresponding value of  $I^2t$  ( $di/dt < 150\text{A}/\mu\text{S}$ )

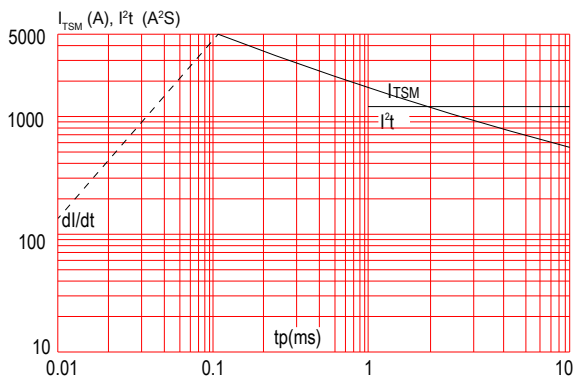
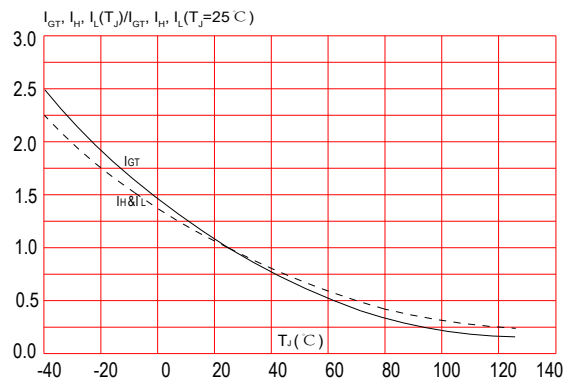
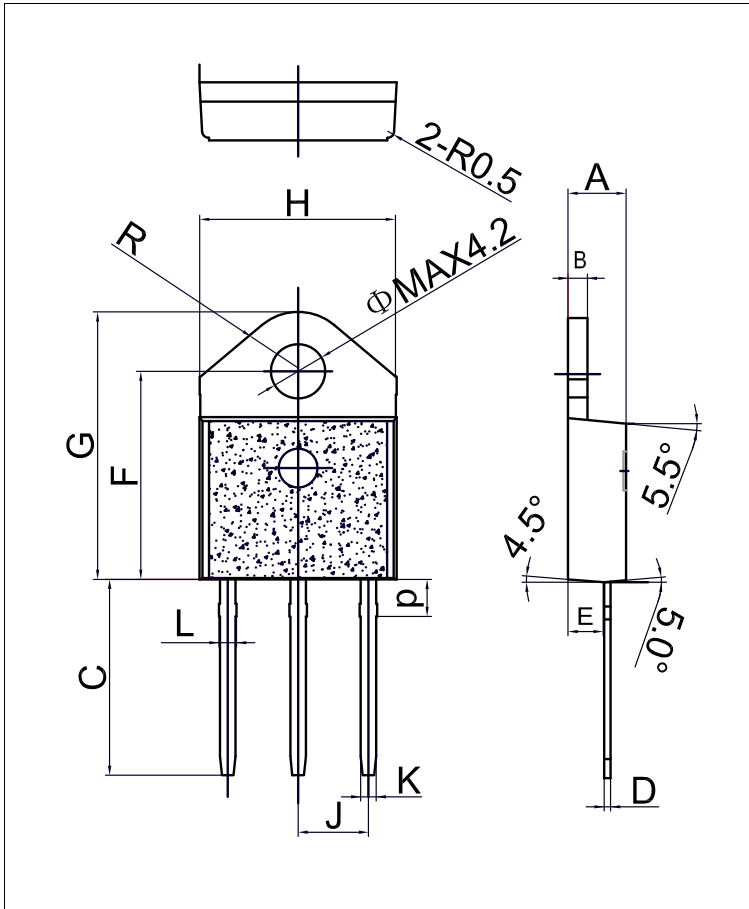


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



TOP3 PACKAGE MECHANICAL DATA (mm & inch)

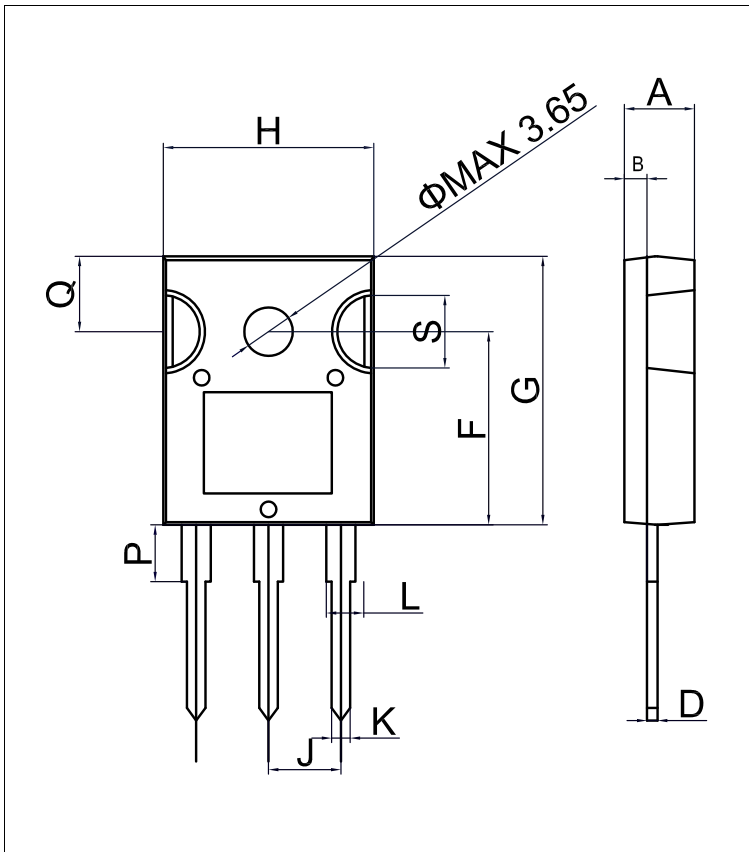


TOP3 封装尺寸数据 (毫米与英寸对照)

REF.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.40	4.60	0.173	0.181
B	1.45	1.55	0.057	0.061
C	14.35	15.6	0.565	0.614
D	0.50	0.70	0.020	0.028
E	2.70	2.90	0.106	0.114
F	15.8	16.5	0.622	0.650
G	20.4	21.1	0.803	0.831
H	15.1	15.5	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 TYP.		0.171 TYP.	

	<p>打印标识</p> <p>H: 浩海电子 XXXXXXXXXX: 器件型号 KKG: 注册商标 YY: 出厂年份 WW: 出厂自然周 (01~53)</p> <p>Marking H: HAOHAI ELECTRONICS XXXXXXXXXX: Part Number KKG: Registered trademark YY: Factory Year WW: Factory natural Week (01~53)</p>	<p>包装规格</p> <p>条管装、纸盒装 每管30只 每盒450只 每箱3600只</p> <p>Packaging Specifications Plastic tube 30Pcs/Tub 450cs/BOX 3600Pcs/Cartons</p>
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TO-247 PACKAGE MECHANICAL DATA (mm & inch)



TO-247封装尺寸数据 (毫米与英寸对照)

REF.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.90	5.40	0.193	0.213
B	1.60	2.00	0.063	0.079
C	14.35	15.4	0.565	0.606
D	0.50	0.80	0.020	0.031
F	14.4	15.1	0.567	0.594
G	19.7	20.6	0.775	0.811
H	15.4	16.2	0.606	0.638
J	5.30	5.60	0.209	0.220
K	1.30	1.50	0.051	0.059
L	2.80	3.30	0.110	0.130
P	3.70	4.20	0.146	0.165
S	5.35	5.65	0.211	0.222

	<p>打印标识</p> <p>H: 浩海电子 XXXXXXXX: 器件型号 KKG: 注册商标 YY: 出厂年份 WW: 出厂自然周 (01~53)</p> <p>Marking</p> <p>H: HAOHAI ELECTRONICS XXXXXXXX: Part Number KKG: Registered trademark YY: Factory Year WW: Factory natural Week (01~53)</p>	<p>包装规格</p> <p>条管装、纸盒装 每管30只 每盒450只 每箱2700只</p> <p>Packaging Specifications</p> <p>Plastic tube 30Pcs/Tub 450cs/BOX 2700Pcs/Cartons</p>
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Manufacturers version information  
2010-09-01, KKG™ Product Data-1.0  
2013-04-25, KKG™ Product Data-1.1  
2016-12-10, KKG™ Product Data-1.2  
2018-03-08, KKG™ Product Data-1.3



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