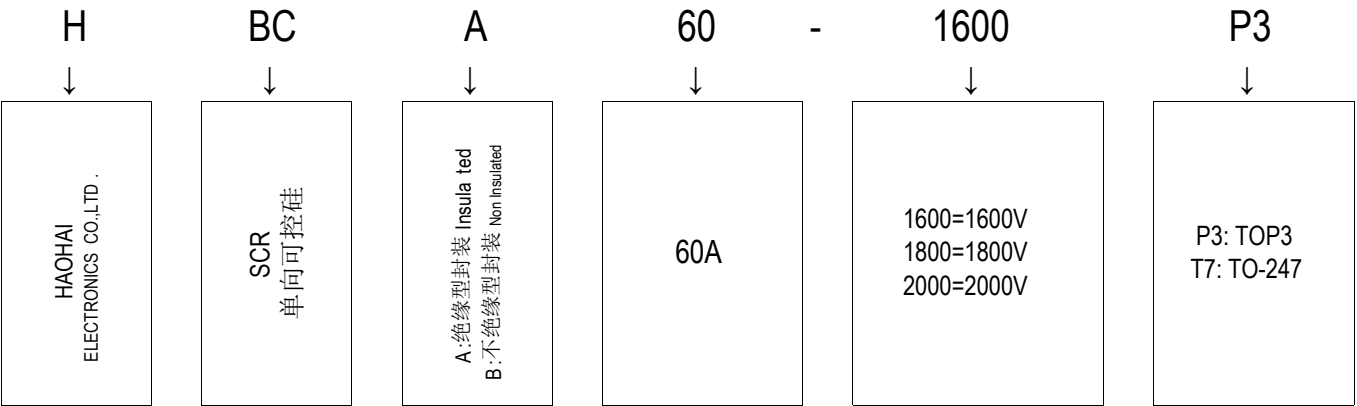


<p>DESCRIPTION</p> <p>with high ability to withstand the shock loading of large current BCA60 (TOP3) SCRs provide high dv/dt rate with strong resistance to electromagnetic interference. They are especially recommended for use on solid state relay, motorcycle, power charger, T-tools etc. From all three terminals to external heatsink, BCA60 (TO-247) provides a rated insulation voltage of 2500 VRMS, complying with UL standards (File ref: E252906)</p>	<p>产品特点</p> <p>承受大电流负载；抗电磁干扰能力强 较高的阻断电压；较强的相移能力</p> <p>主要用途</p> <p>电力电气工业控制领域 可控硅模块、固态继电器 自动化温控设备；开关电源；无功补偿 交流软开关；直流电机控制；电力模块 工业和家庭电加热器的温度控制； 固态继电器、摩托车、电源充电器 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

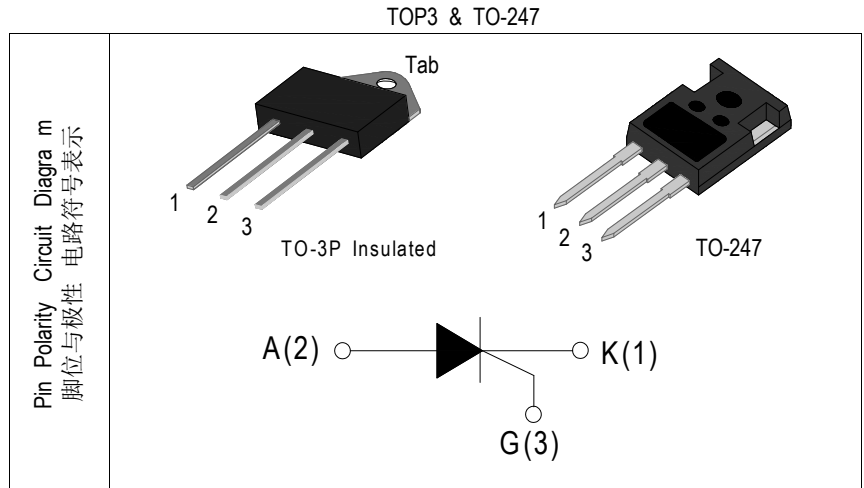
60A	产品型号列表、种类区分、型号对照电压值			触发电流 I_{GT}
	1600V	1800V	2000V	
TOP3 (Insulated)	BCA60-1600P3	BCA60-1800P3	BCA60-2000P3	≤70mA
TO-247 (No-Insulated)	BCA60-1600T7	BCA60-1800T7	BCA60-2000T7	
说明	高压品种	未量产	未量产	

以常规高压品种供货，其他规格电压品种需订制



PINNING: 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



■ ABSOLUTE MAXIMUM RATINGS

SYMBOL	Signification in Symbol	Test Conditions	Value	Unit	
$I_{T(AV)}$	Average on-state current	TOP3 (Insulated)	40	A	
		TO-247 (No-Insulated)			$T_C=85^\circ\text{C}$
$I_{T(RMS)}$	RMS On-state Current	TOP3 (Insulated)	60		
		TO-247 (No-Insulated)			$T_C=85^\circ\text{C}$
I_{TSM}	Non Repetitive Surge Peak on-state Current	$t_p=10\text{mS}$	600		
I_{GM}	Peak Gate Current	$T_J=125^\circ\text{C}$	5		
I^2t	I^2t Value for Fusing Consideration	$t_p=10\text{mS}$	1500		A^2s
di/dt	Critical rate of rise of on-state current ($I_G=2 \times I_{GT}$)		150		$\text{A}/\mu\text{s}$
V_{DRM}	Repetitive peak off-state Voltages	$T_J=25^\circ\text{C}$	1600		V
V_{RRM}	Repetitive peak Reverse Voltages	$T_J=25^\circ\text{C}$			
$P_{G(AV)}$	Average gate power dissipation	$T_J=125^\circ\text{C}$	1	W	
P_{GM}	Peak gate power		10		
T_j	Operating Junction Temperature Range		-40 ~ +125	°C	
T_{stg}	Storage Junction Temperature Range		-40 ~ +150		

■ ELECTRICAL CHARACTERISTICS (T_J=25°C unless otherwise specified)

SYMBOL	Parameter & Test Conditions	Value			Unit
		Min.	Typ.	Max.	
I _{GT}	V _D =12V, R _L =30Ω	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°C	1000	--	--	V/μs
V _{GT}	V _D =12V, R _L =30Ω	--	--	1.5	V
V _{GD}	V _D =V _{DRM} , T _J =125°C	0.25	--	--	

■ STATIC CHARACTERISTICS

SYMBOL	Parameter		Value (Max.)	Unit
V _{TM}	I _{TM} =80A tp=380μs	T _C =25°C	1.8	V
I _{DRM}	V _D =V _{DRM} , V _R =V _{RDM}	T _C =25°C	10	μA
I _{RDM}		T _C =125°C	8	mA

■ THERMAL RESISTANCES

SYMBOL	Parameter		Value	Unit
R _{th(j-c)}	junction to case (DC)	TOP3 (Insulated)	0.65	°C/W
		TO-247 (No-Insulated)	0.60	

Electrical characteristics & Typical characteristics

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

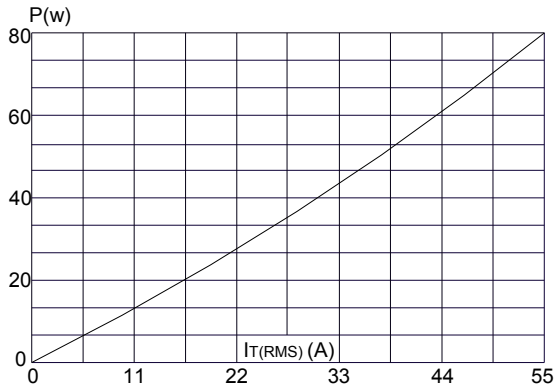


FIG.2: RMS on-state current versus case temperature

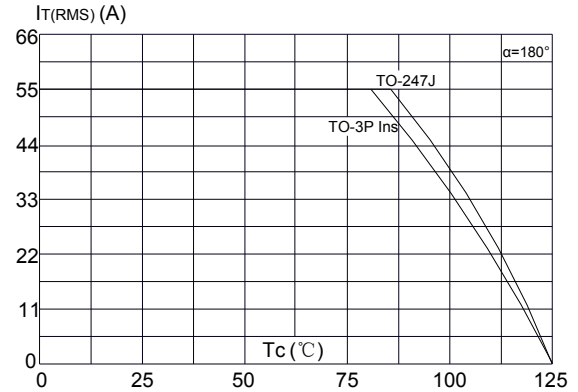


FIG.3: Surge peak on-state current versus number of cycles

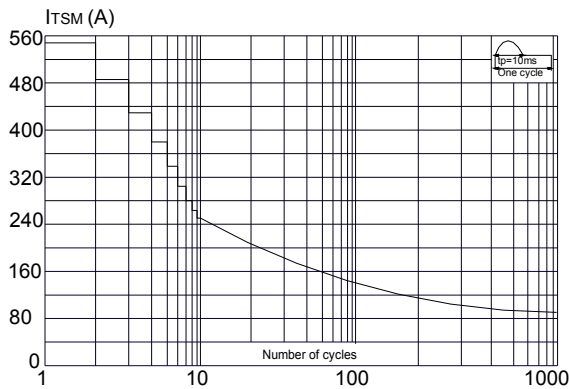


FIG.4: On-state characteristics (maximum values)

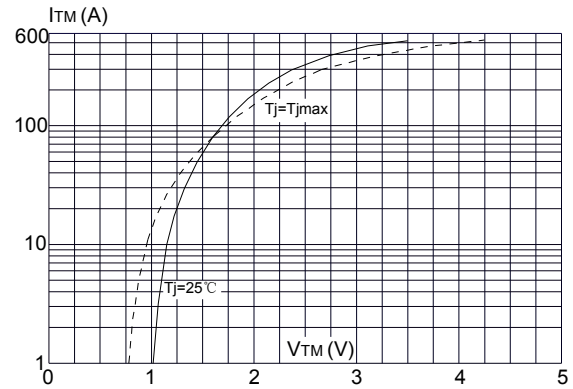


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10ms$ and corresponding value of $I^2 t (di/dt < 150A/\mu S)$

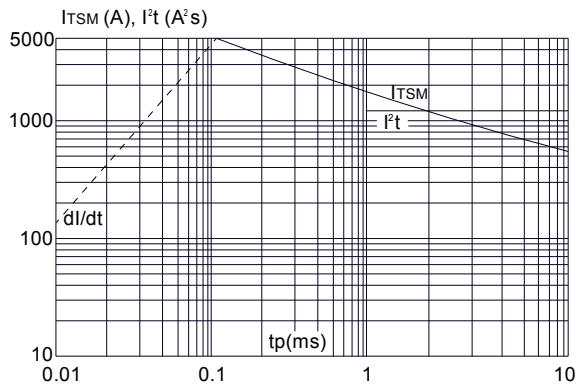
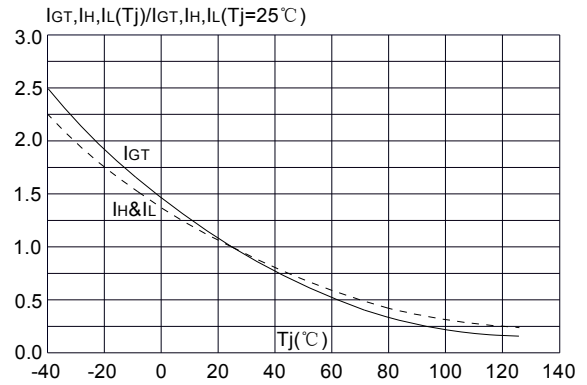
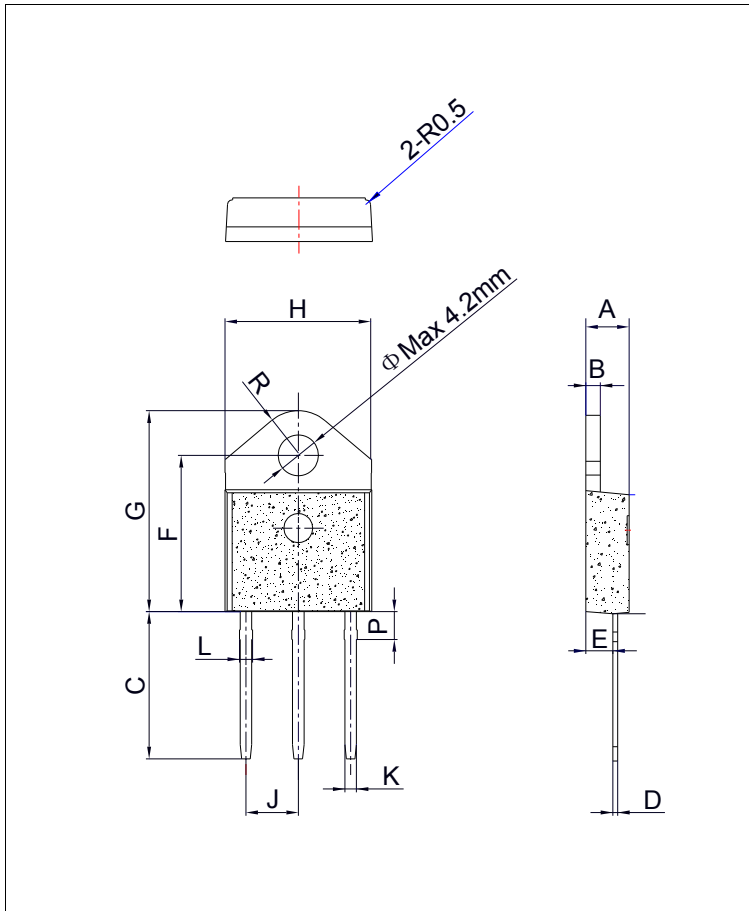


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature



TOP3 PACKAGE MECHANICAL DATA (mm & inch)

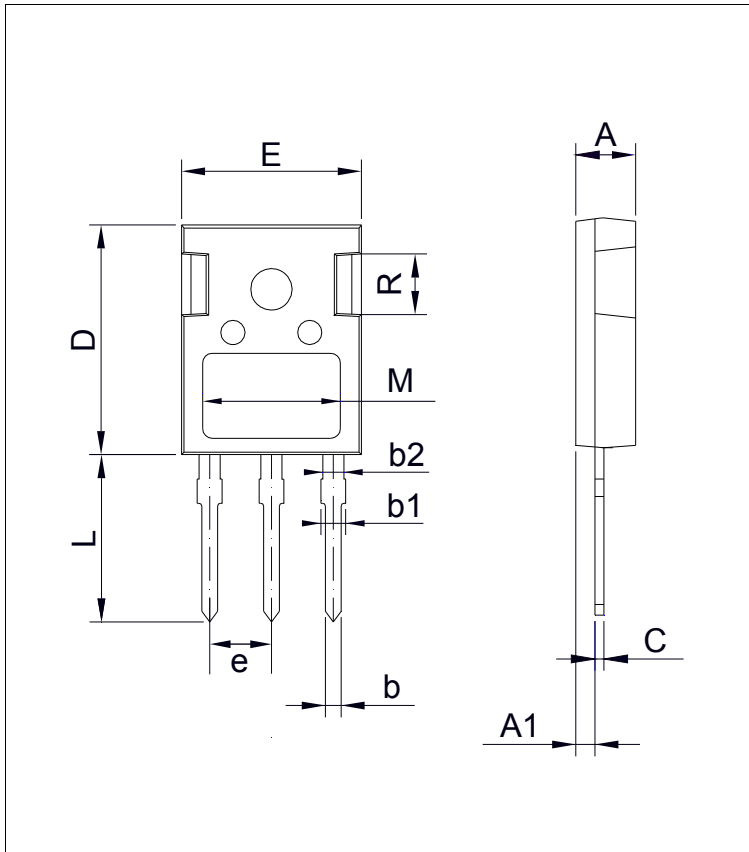


TOP3 封装尺寸数据 (毫米与英寸对照)

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	15.60	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	0.803	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	1.30	1.50	0.053	0.059
P	2.80	3.00	0.110	0.118
R	4.00 TYP.		0.171 TYP.	

	<p>打印标识</p> <p>H: 浩海电子 XXXXXXX: 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 XXXXXXX: 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	4.70	5.30	0.185	0.209
A1	2.21	2.59	0.087	0.102
b	1.02	1.40	0.040	0.055
b1	1.90	2.23	0.075	0.088
b2	1.85	2.10	0.073	0.083
C	0.41	0.79	0.016	0.031
D	20.80	21.46	0.819	0.845
E	15.50	16.10	0.610	0.634
e	5.44 TYP.		0.214 TYP.	
L	19.90	20.10	0.783	0.791
M	12.55	12.90	0.494	0.508
R	4.85		0.191	

	<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3600只</p> <p>Packaging Specifications</p> <p>Plastic tube 30Pcs/Tub 450cs/BOX 3600Pcs/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
2020-02-28 , KKG™ Product Data-1.3



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