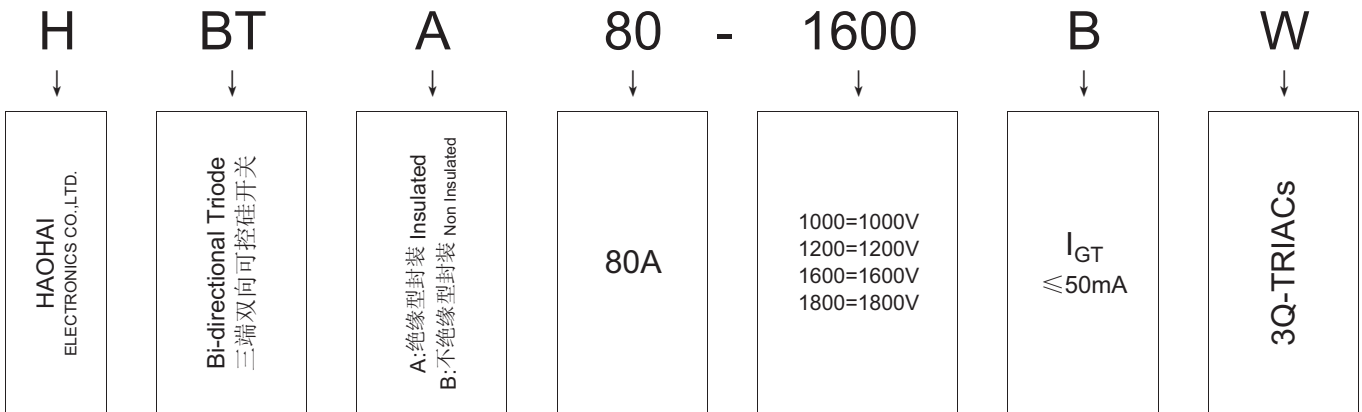


<p><b>DESCRIPTION</b> BTA80-BW Series Triac provides good commutation capability, which is suitable for general purpose AC switching and voltage regulation, and can be used in static relays, heating regulation, induction motor starting circuits. From all three pins to external heatsink, BTA80-BW Series Triac provides an insulation voltage of 2500 VRMS. Using TO-275 Insulated Package</p>	<p><b>产品特征</b> 全循环交流导通；高于1600V阻断电压 IGT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 <b>主要用途</b> 自动化电气设备；开关电源；无功补偿；复合开关 交流电开关；交流/直流电源变换；电力模块 工业和家庭电加热器的温度控制；大功率路灯 电机马达调速控制电路 以及三相交流输入的高压电路、变频电路 采用 TO-275 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】 3-Quadrants TRIACs (Insulated Package)

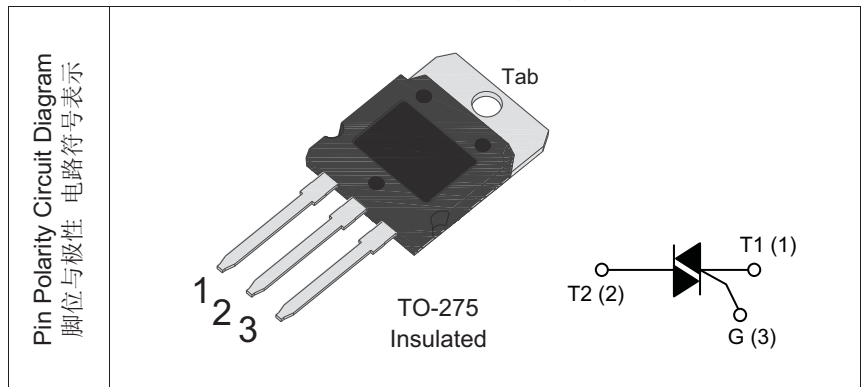
80A	产品型号列表、种类区分、型号对照电压值				I <sub>GT</sub> I - II - III ≤50mA
	1000V	1200V	1600V	1800V	
TO-275	BTA80-1000BW	BTA80-1200BW	BTA80-1600BW	BTA80-1800BW	≤50mA
说明	常规品种	高压品种	高压品种	未量产	



PINNING: Insulated Package

Pin 管脚排列	Symbol 对应极性	Description 极性含义
1	T1	第一阳极
2	T2	第二阳极
3	G	门-控制极
4	Tab	散热片

TO-275 绝缘型封装



■ ABSOLUTE MAXIMUM RATINGS

SYMBOL	Signification in Symbol		Test Conditions	Value	Unit
$I_{T(RMS)}$	RMS On-state Current	TO-275 (Ins)	$T_C=70^\circ\text{C}$	80	A
$I_{TSM}$	Non Repetitive Surge Peak on-state Current		$t_p=20\text{mS}$	800	
$I_{GM}$	Peak Gate Current		$T_J=125^\circ\text{C}$	8	
$I^2t$	$I^2t$ Value for Fusing Consideration		$t_p=10\text{mS}$	3200	$\text{A}^2\text{s}$
$di/dt$	Critical rate of rise of on-state current ( $I_G=2\times I_{GT}$ )		I - II - III	100	$\text{A}/\mu\text{s}$
$V_{DRM}$	Repetitive peak off-state Voltages	见型号对照列表	$T_J=25^\circ\text{C}$	1000~1800	V
$V_{RRM}$	Repetitive peak Reverse Voltages		$T_J=25^\circ\text{C}$		
$V_{DSM}$	Non Repetitive Surge peak off-state Voltages		$t_p=10\text{mS}, T_J=25^\circ\text{C}$	$V_{DRM}+100$	
$V_{RSM}$	Non Repetitive peak Reverse Voltages		$t_p=10\text{mS}, T_J=25^\circ\text{C}$	$V_{RRM}+100$	
$P_{G(AV)}$	Average gate power dissipation		$T_J=25^\circ\text{C}$	2	W
$P_{GM}$	Peak gate power		$t_p=20\mu\text{s}, T_J=25^\circ\text{C}$	10	
$T_J$	Operating Junction Temperature Range			-40 ~ +125	$^\circ\text{C}$
$T_{stg}$	Storage Junction Temperature Range			-40 ~ +150	
$R_{th(j-c)}$	Junction to Case (AC)	TO-275 (Ins)		0.5	$^\circ\text{C}/\text{W}$

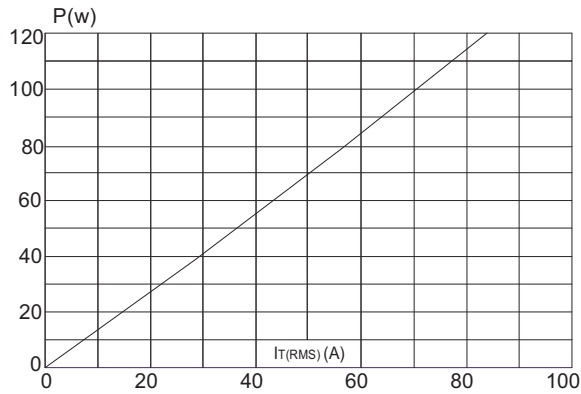
■ 绝缘电阻特征: ISOLATION LIMITING VALUE & CHARACTERISTIC ( $T_{hs}=25^\circ\text{C}$  unless otherwise specified)

■ STATIC CHARACTERISTICS

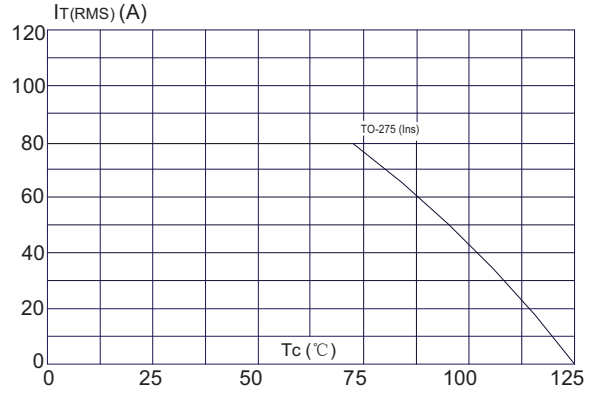
SYMBOL	Parameter & Test Conditions	Quadrant		BTA80-BW	Unit
$I_{GT}$	$V_D=12\text{V}, R_L=33\Omega$	I - II - III	Max.	50	mA
$I_H$	$I_T=100\text{mA}$	ALL	Max.	80	
$I_L$	$I_G=1.2 I_{GT}$	I - II - III	Max.	120	
$dV/dt$	$V_D=2/3V_{DRM}$ Gate open	$T_J=125^\circ\text{C}$	Min.	1500	$\text{V}/\mu\text{s}$
$V_{GT}$	$V_D=12\text{V}, R_L=33\Omega$	I - II - III	Max.	1.3	V
$V_{GD}$	$V_D=V_{DRM}, R_L=3.3\text{K}\Omega, T_J=125^\circ\text{C}$	I - II - III	Min.	0.2	
$V_{TM}$	$I_{TM}=120\text{A}, t_p=380\mu\text{s}$	$T_J=25^\circ\text{C}$	Max.	1.6	
$I_{DRM}$	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_J=25^\circ\text{C}$	Max.	20	$\mu\text{A}$
$I_{RRM}$		$T_J=125^\circ\text{C}$	Max.	10	mA

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

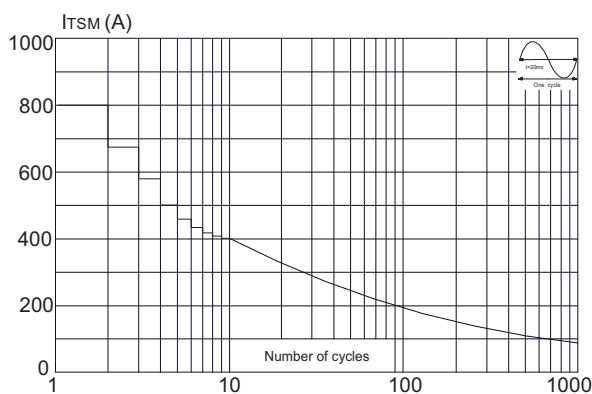
**FIG.1:** Maximum power dissipation versus RMS on-state current



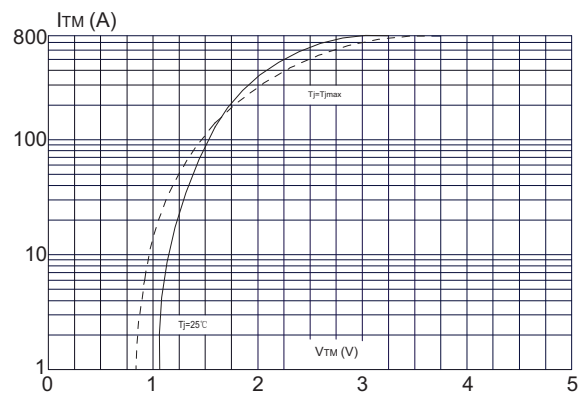
**FIG.2:** RMS on-state current versus case temperature



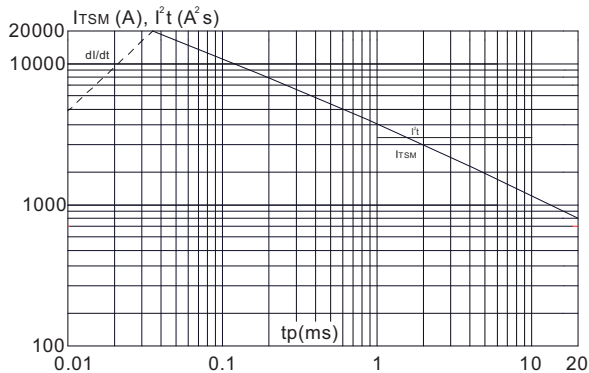
**FIG.3:** Surge peak on-state current versus number of cycles



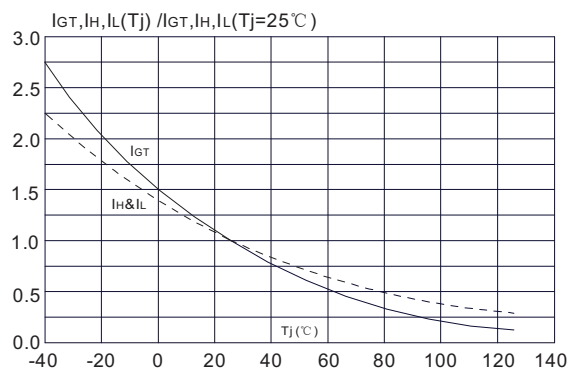
**FIG.4:** On-state characteristics (maximum values)



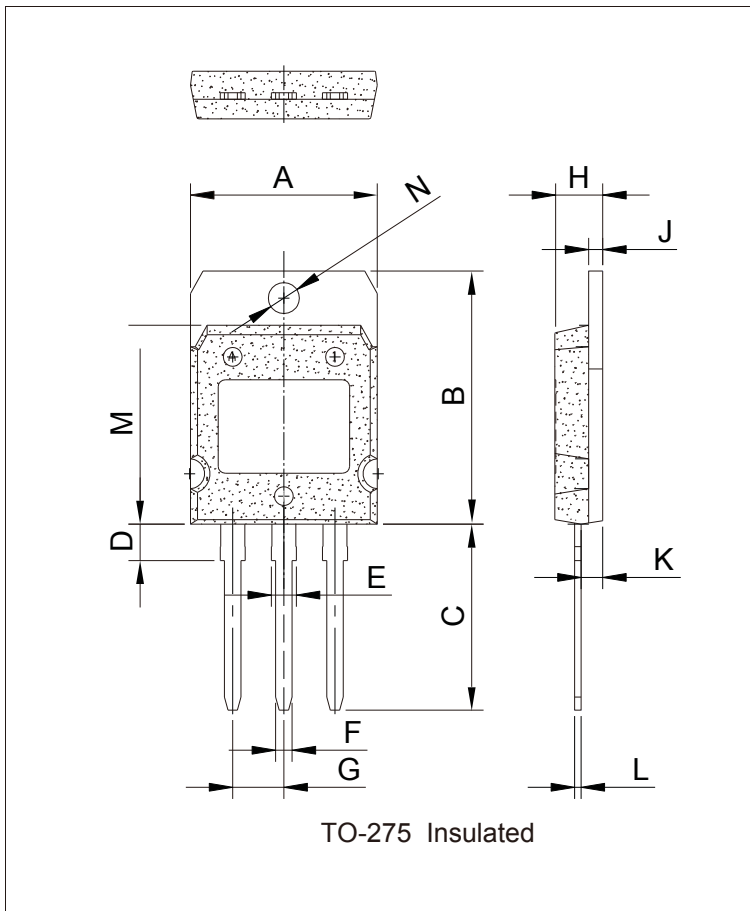
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20ms$ , and corresponding value of  $I^2 t$  ( $di/dt < 100A/\mu S$ )



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

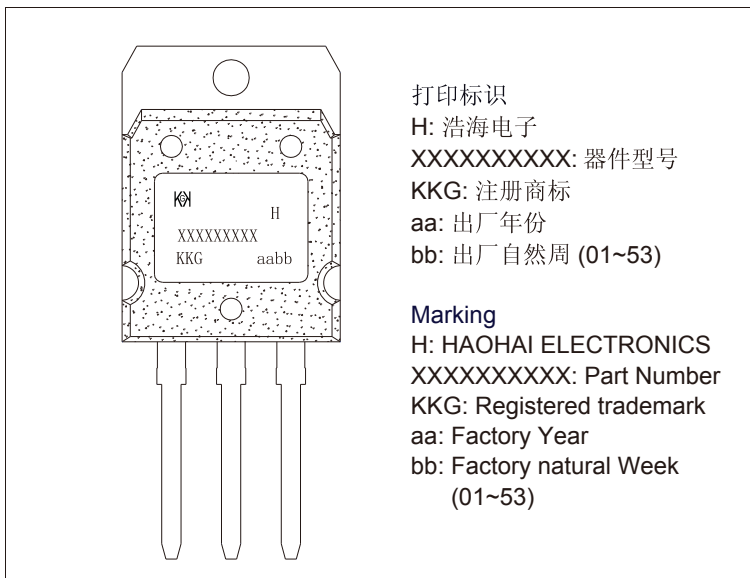


TO-275 PACKAGE MECHANICAL DATA (mm & inch)



TO-275 封装尺寸数据 (毫米与英寸对照)

REF.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	19.7	20.1	0.776	0.791
B	26.9	27.3	1.059	1.075
C	19.4	20.4	0.764	0.803
D	3.80	4.00	0.150	0.157
E	2.56	2.76	0.101	0.109
F	1.66	1.86	0.065	0.073
G	5.45 Typ.		0.215 Typ.	
H	5.05	5.50	0.199	0.217
J	1.45	1.55	0.057	0.061
K	2.20	2.40	0.087	0.094
L	0.60	0.80	0.024	0.031
M	21.2	21.4	0.835	0.843
ΦN	3.20	3.40	0.126	0.134



包装规格

条管装、纸盒装  
每管25只  
每盒375只  
每箱2250只

Packaging Specifications  
Plastic tube  
25Pcs/Tub  
375cs/BOX  
2250Pcs/Cartons

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



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## 深圳市浩海电子有限公司

SHENZHEN HAOHAI ELECTRONICS CO., LTD.

2 floor(whole floor), BAOXIN Building. 0 Lane on the 8th. Yufeng Garden.  
82 District. BAOAN District, Shenzhen City, Guangdong Province, China.

公司电话 TEL: +86-755-29955080、29955081、29955082、29955083  
总机八线 29955090、29955091、29955092、29955093

FAX: +86-755-27801767

E-mail: kkg@kkg.com.cn

产品主页: <http://www.szhhe.com>

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