

描述 / Descriptions

TO-220 塑封封装 双向可控硅。Triac in a TO-220 Plastic Package.

特征 / Features

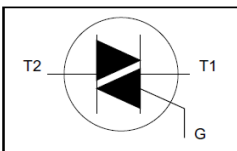
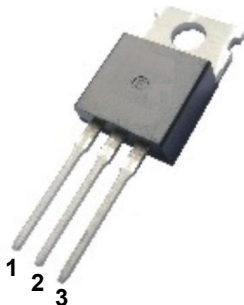
采用玻璃钝化技术，采用环氧塑脂塑料封装，四个信号区都可以满足高灵敏度需要。

glass passivated, sensitive gate triacs in a plastic envelope, where high sensitivity is required in all four quadrants.

用途 / Applications

用于一般双向开关和相位控制。

Use in general purpose bidirectional switching and phase control applications.

内部等效电路 / Equivalent Circuit**引脚排列 / Pinning**

PIN1: Main Terminal 1 PIN 2: Main Terminal 2 PIN 3: Gate

放大及印章代码 / h_{FE} Classifications & Marking

见印章说明。See Marking Instructions.

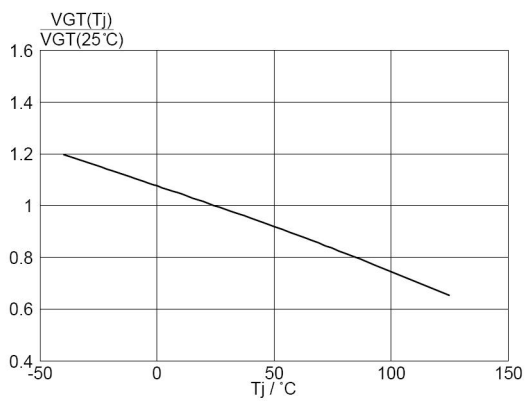
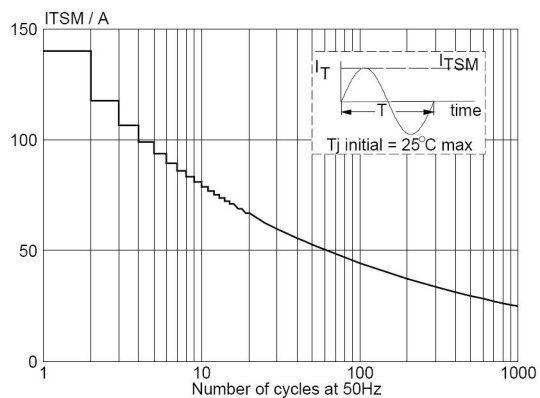
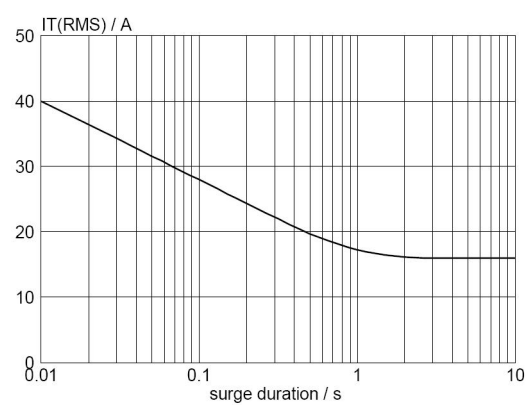
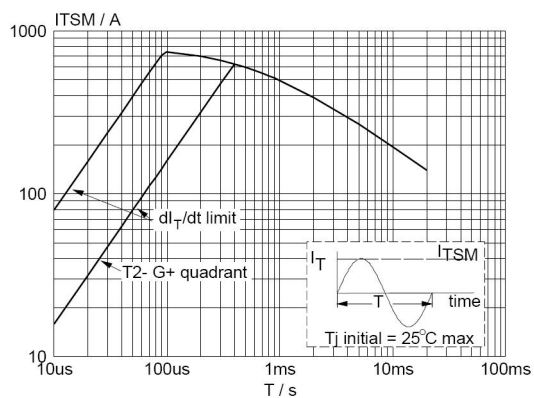
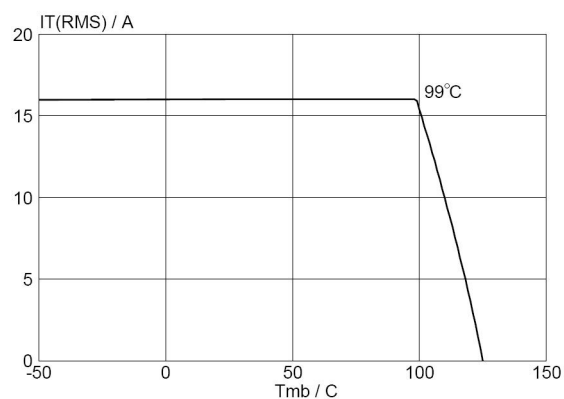
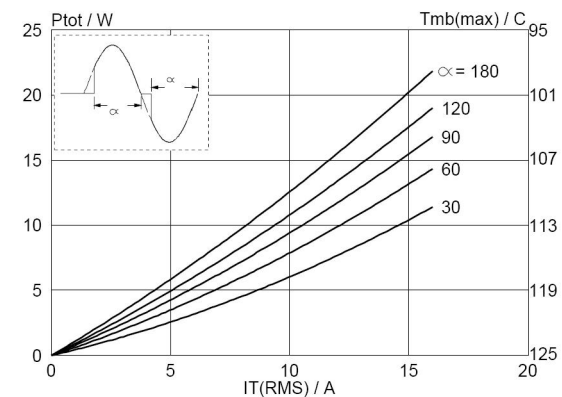
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter		符号 Symbol	数值 Rating		单位 Unit
			600E	800E	
Repetitive peak off-state voltages		V _{DRM} (T _J =25℃)	600	800	V
RMS on-state current		I _{T(RMS)}	16		A
Non-repetitive peak on-state current		I _{TSM(t=20ms)}	155		A
Non-repetitive peak on-state current		I _{TSM(t=16.7ms)}	170		A
I ² _t for fusing		I ² _{t(t=10ms)}	120		A ² S
Repetitive rate of rise of on-state current after triggering	I _{TM} =12A I _G =0.2A dI _G /dt=0.2A/μs	T2+G+	50		A/μS
		T2+G-	50		A/μS
		T2-G-	50		A/μS
		T2-G+	10		A/μS
Peak gate current		I _{GM}	2.0		A
Peak gate voltages		V _{GM}	5.0		V
Peak gate power		P _{GM}	5.0		W
Average gate power (Over any 20 ms period)		P _{G(AV)}	0.5		W
Junction Temperature		T _j	125		℃
Storage Temperature Range		T _{stg}	-40~150		℃
Thermal resistance junction to ambient		R _{th(j-a)}	60		K/W
Thermal resistance junction to mounting base		R _{th(j-b)}	1.2		K/W

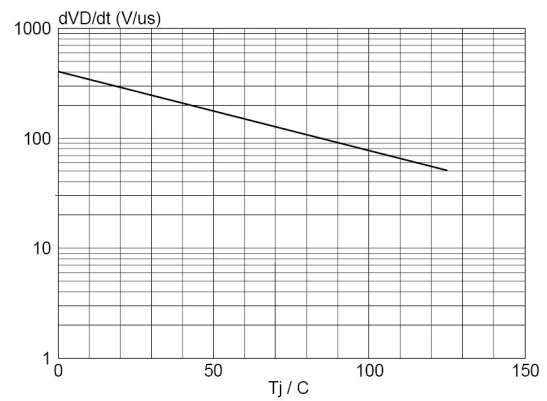
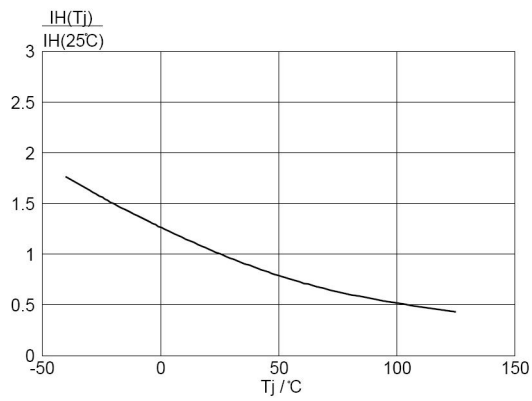
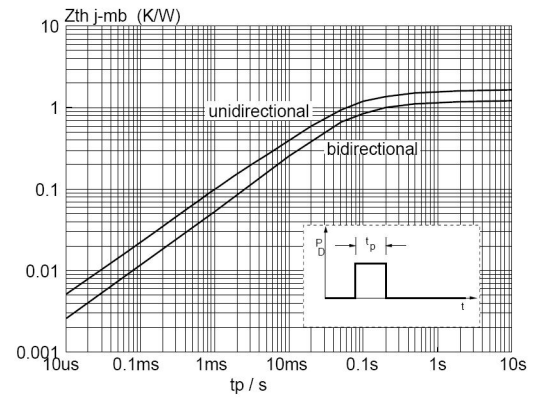
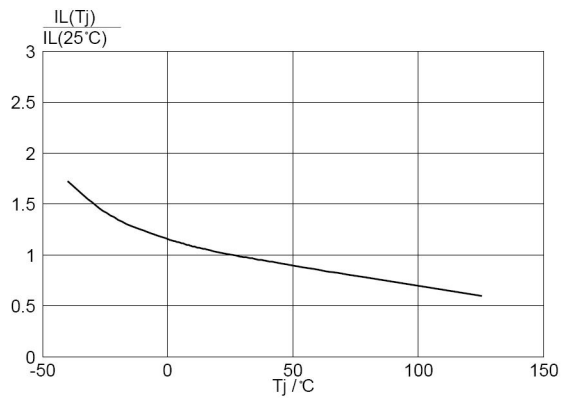
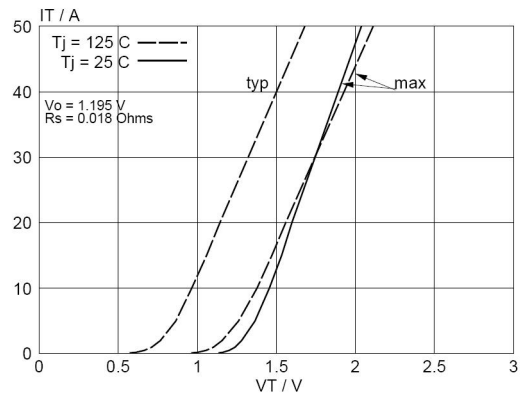
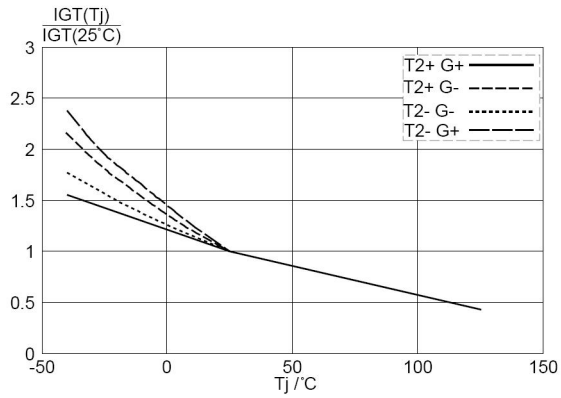
电性能参数 / Electrical Characteristics(Ta=25°C)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Gate trigger current	I_{GT}	$V_{\text{D}}=12\text{V}$ $I_{\text{T}}=0.1\text{A}$	T2+G+	2.5	10	mA
			T2+G-	4	10	
			T2-G-	5	10	
			T2-G+	11	25	
Latching current	I_{L}	$V_{\text{D}}=12\text{V}$ $I_{\text{G}}=0.1\text{A}$	T2+G+		30	mA
			T2+G-		40	
			T2-G-		30	
			T2-G+		40	
Holding current	I_{H}	$V_{\text{D}}=12\text{V}$ $I_{\text{G}}=0.1\text{A}$			45	mA
On-state voltage	V_{T}	$I_{\text{T}}=20\text{A}$		1.2	1.6	V
Gate trigger voltage	V_{GT}	$V_{\text{D}}=12\text{V}$ $I_{\text{T}}=0.1\text{A}$		0.7	1.5	V
		$V_{\text{D}}=400\text{V}$ $I_{\text{T}}=0.1\text{A}$, $T_j=125^\circ\text{C}$	0.25	0.4		
Off-state leakage current	I_{D}	$V_{\text{D}}=V_{\text{DRM(max)}}$ $T_j=125^\circ\text{C}$		0.1	0.5	mA
Critical rate of rise of off-state current	t_{gt}	$I_{\text{TM}}=20\text{A}$ $V_{\text{D}}=V_{\text{DRM(max)}}$ $I_{\text{G}}=0.1\text{A}$ $dI_{\text{G}}/dt=5\text{A}/\mu\text{s}$		2.0		μs
Repetitive peak off-state current	dV_{D}/dt	$V_{\text{DM}}=67\% V_{\text{DRM(MAX)}}$ $T_j=125^\circ\text{C}$		50		V/ μs

电参数曲线图 / Electrical Characteristic Curve



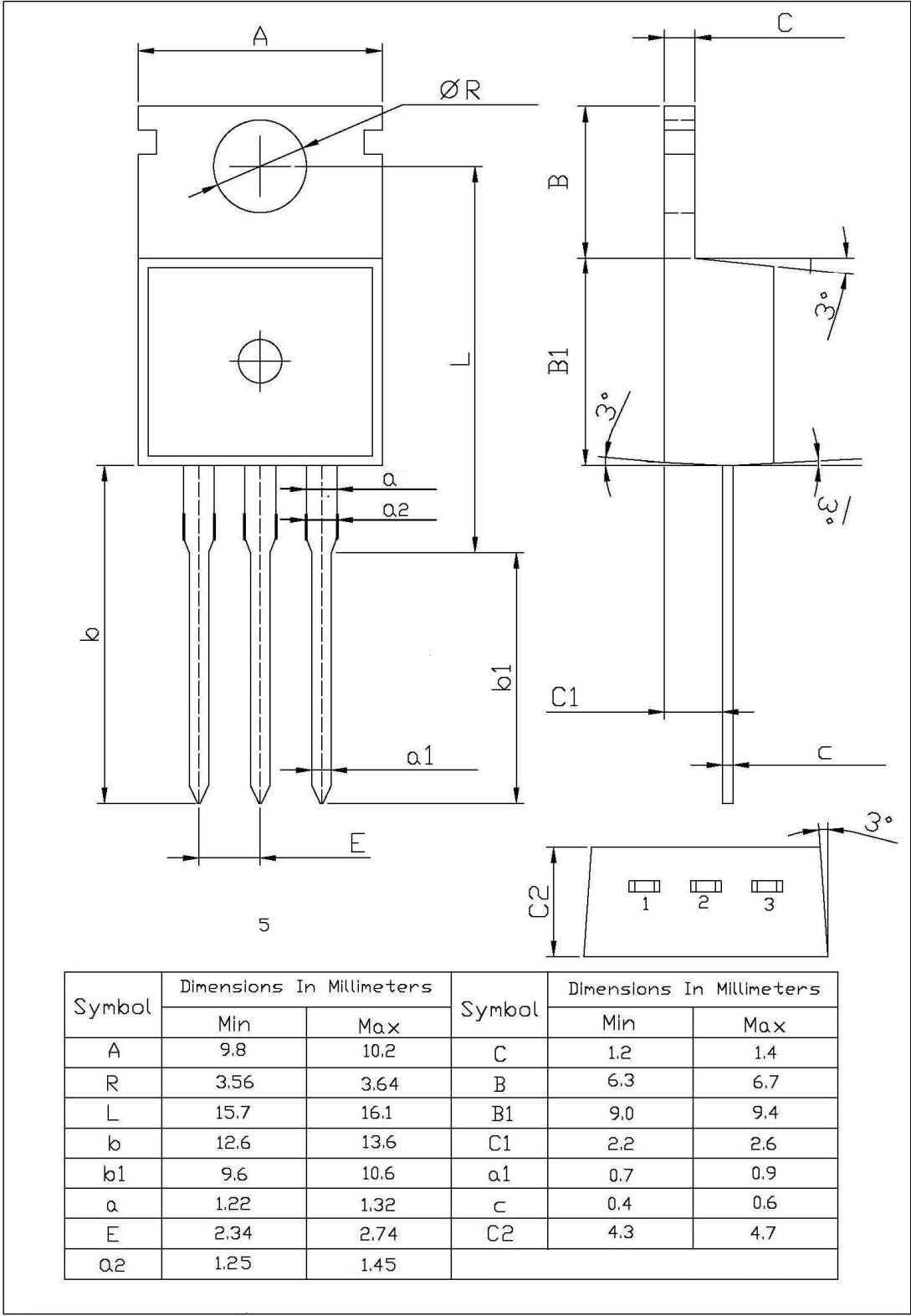
电参数曲线图 / Electrical Characteristic Curve

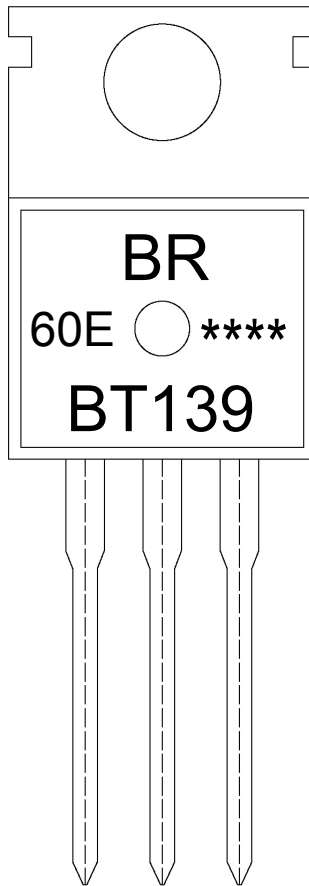


外形尺寸图 / Package Dimensions

T□-220

单位: mm



印章说明 / Marking Instructions

说明：

BR： 为公司代码

BT139： 为产品型号

60E： 为耐压分档

****： 为生产批号代码，随生产批号变化。

Note:

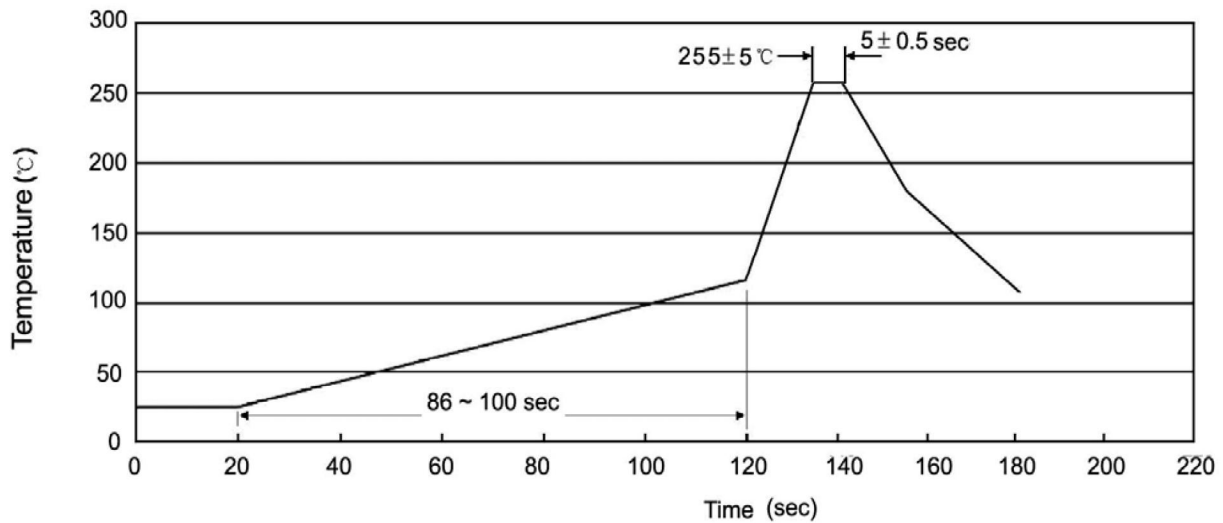
BR: Company Code

BT139: Product Type.

60E: Withstand Voltage Symbol.

****: Lot No. Code, code change with Lot No.

波峰焊温度曲线图(无铅) / Temperature Profile for Dip Soldering(Pb-Free)



说明：

1. 预热温度 25 ~ 150°C，时间 60 ~ 90sec;
2. 峰值温度 255±5°C，时间持续为 5±0.5sec;
3. 焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

1. Preheating: 25~150°C, Time: 60~90sec.
2. Peak Temp.: 255±5°C, Duration: 5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：270±5°C

时间：10±1 sec.

Temp.: 270±5°C

Time: 10±1 sec

包装规格 / Packaging SPEC.

散件包装 / BULK

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Bag 只/袋	Bags/Inner Box 袋/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Bag 袋	Inner Box 盒	Outer Box 箱
TO-220/F	200	10	2,000	5	10,000	135×190	237×172×102	560×245×195

套管包装 / TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Tube 套管	Inner Box 盒	Outer Box 箱
TO-220/F	50	20	1,000	5	5,000	532×31.4×5.5	555×164×50	575×290×180

使用说明 / Notices