



BT139/BTA16/BTB16 Series

16A Triacs

四象限
4quadrants

主要描述 GENERAL DESCRIPTION

BT139/BTA16/BTB16 双向可控硅采用穿通隔离台面结构，复合玻璃钝化PN结表面保护工艺技术， dv/dt 高，可靠性高，适用于调温调速调光，电机控制，变频电路等其它开关控制电路。

BT139/BTA16/BTB16 Triacs is fabricated using separation diffusion processes, the junction termination areas are passivated with glass. Thanks to highly dv/dt and reliability, the Triacs series is suitable for domestic lighting, heating, motor speed controllers, frequency conversion and other switch controllers.

主要特性 MAIN FEATURES

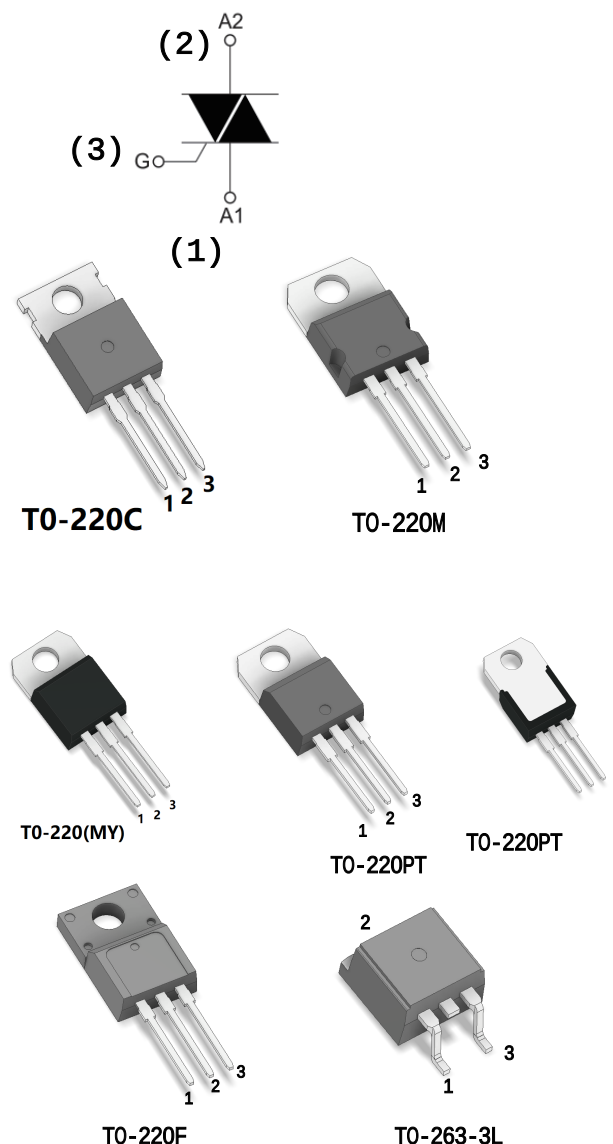
参数 Parameter	数值 Value	单位 Unit
V_{DRM}/V_{RRM}	600/800	V
$I_{T(RMS)}$	16	A
$I_{GT(III)}$	<50	mA

应用领域 APPLICATIONS

主要应用于调光、控温、马达控制。
domestic lighting, heating and motor speed controllers.

封装形式 PACKAGE

T0-220C, T0-220M, T0-220MY, T0-220PT, T0-263-3L





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极限参数(除非另有规定, $T_j=25^\circ\text{C}$) ABSOLUTE RATINGS

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

符号 Symbol	参数 Parameter			数值 Value	单位 Unit
$I_{T(RMS)}$	RMS 通态电流 RMS on-state current(full sine wave)			$T_c \leq 102^\circ\text{C}$	A
I_{TSM}	通态峰值浪涌电流 Non repetitive peak on-state current(full cycle)	$f=50\text{Hz}$	$t=20\text{ms}$	160	A
$I_2 t$	$I_2 t$ 耗散值 $I_2 t$ value for fusing			$t=10\text{ms}$	A_2s
di/dt	通态电流上升率 Critical rate of rise of on-state current($I_G=2 \times I_{GT}$, $t_r \leq 100\text{ns}$)	$f=120\text{Hz}$	$T_j=125^\circ\text{C}$	50	A/us
I_{GM}	门极峰值电流 Peak gate current	$t_p=20\mu\text{s}$	$T_j=125^\circ\text{C}$	4	A
$P_{G(AV)}$	平均门极耗散功率 Average gate power dissipation			$T_j=125^\circ\text{C}$	w
T_{stg}	贮存结温范围 Storage junction temperature range			-40- +150	$^\circ\text{C}$
T_j	工作结温范围 Operating junction temperature range			-40- +150	$^\circ\text{C}$

电参数(除非另有规定, $T_j=25^\circ\text{C}$) ELECTRICAL CHARACTERISTICS

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

参数 Parameter	符号 Symbol	象限 Quadrant	规范值 Value		单位 Unit	测试条件 Test Conditions
			C	B		
触发电流 Gate trigger current	I_{GT}	I ~ III	≤ 25	≤ 50	mA	$V_D=12\text{V}, I_T=0.1\text{A}$
		IV	≤ 50	≤ 70		
触发电压 Gate trigger voltage	V_{GT}	I ~ IV	≤ 1.4		V	$V_D=12\text{V}, I_T=0.1\text{A}$
维持电流 Holding current	I_H	I ~ IV	≤ 40	≤ 60	mA	$V_D=12\text{V}, I_T=0.1\text{A}$
擎住电流 Latching current	I_L		≤ 80	≤ 100	mA	$V_D=12\text{V}, I_T=0.1\text{A}$
电压上升率 Rise of off- state voltage	dv/dt		≥ 200	≥ 500	V/ μs	$V_D=2/3V_{DRM}$
通态压降 Peak on-state voltage	V_{TM}		≤ 1.50		V	$I_T=23\text{A}$
断态漏电流 Peak repetitive forward blocking current	I_{DRM}, I_{RM}		≤ 5		μA	$V_{RRM}=V_{DRM}, T_j=25^\circ\text{C}$
			≤ 0.5		mA	$V_{RRM}=V_{DRM}, T_j=125^\circ\text{C}$



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热阻特性 THERMAL RESISTANCES

符号 Symbol	参数 Parameter		数值 Value	单位 Unit
Rth(j-c)	Junction to case(AC) 芯片对管壳热阻	T0-220C/MY/M/T0-263-3	1.3	℃/W
		T0-220PT	2.1	
		T0-22F	2.2	

图1 最大耗散功率与RMS通态电流关系
Fig.1.Maximum Power Dissipation Versus

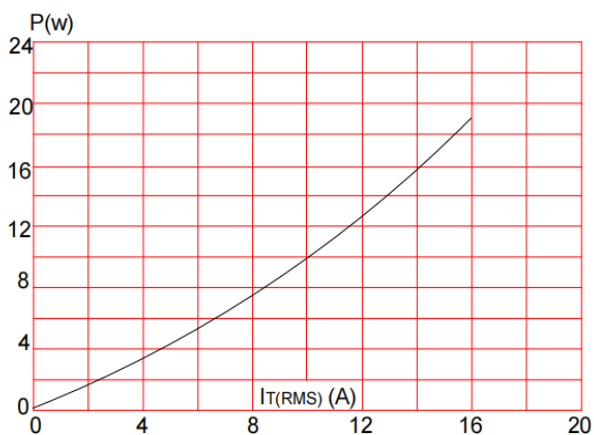


图2 IGT、IH、IL相对值（相对于25℃）与结温关系
Fig.2.Relative Variation Of Gate Trigger Current
Holding Current And Latching Current Versus Junction
Temperature(Typical Value)

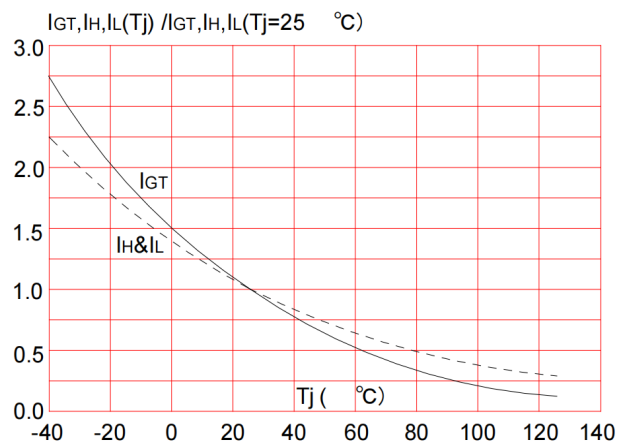


图3 通态特性
Fig.3.On-State Characteristics

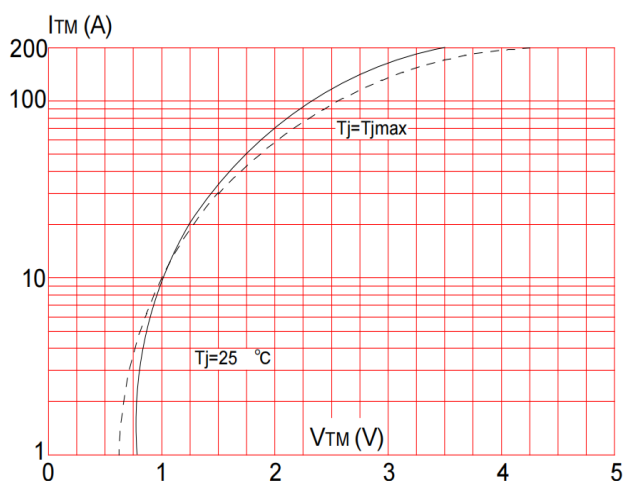
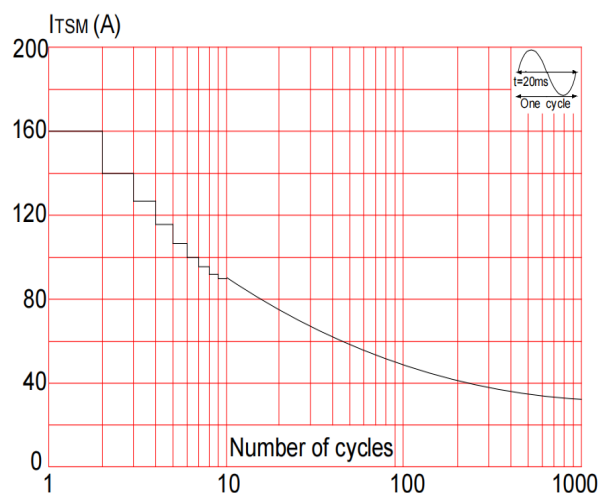


图4 通态浪涌峰值电流与周期数关系
Fig.4.Surge Peak On-state Current Versus Number
of cycle at 50Hz



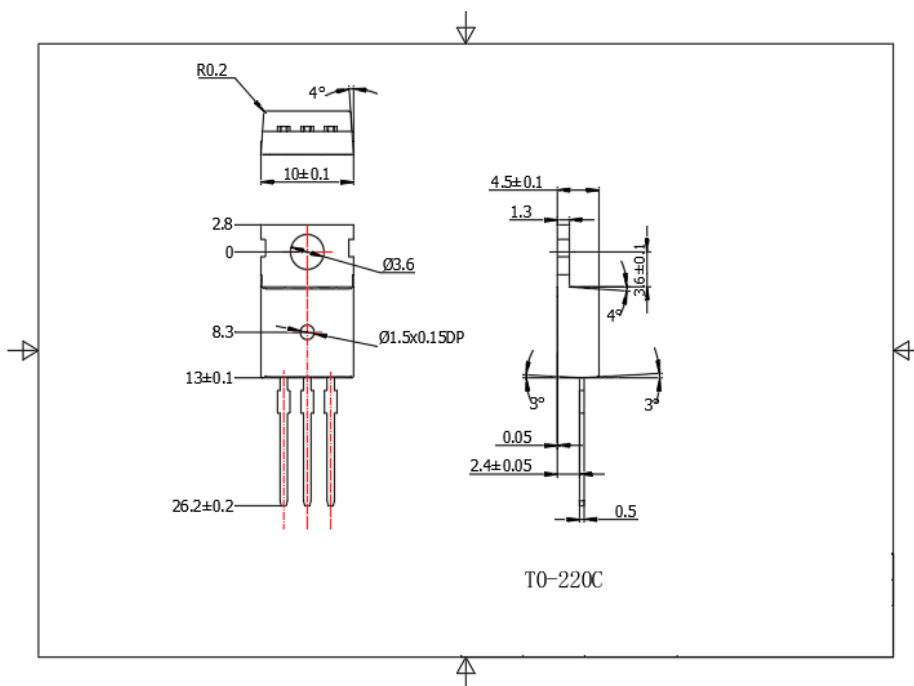


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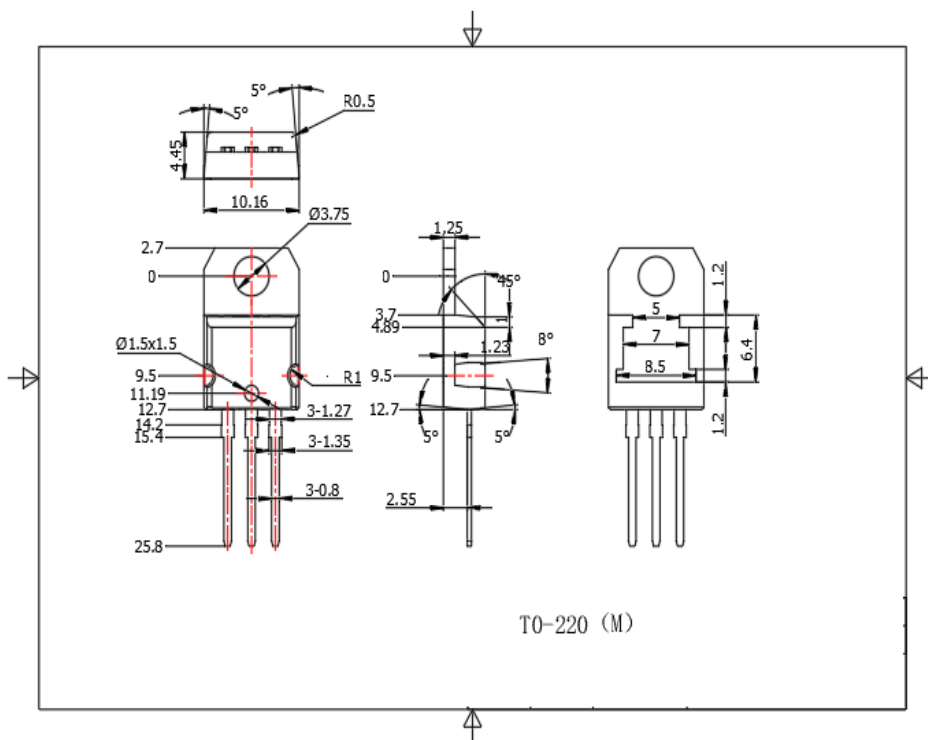
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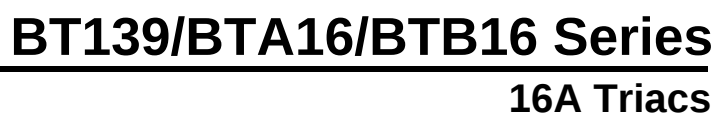
封装尺寸 PACKAGE MECHANICAL DATA

T0-220C



T0-220M





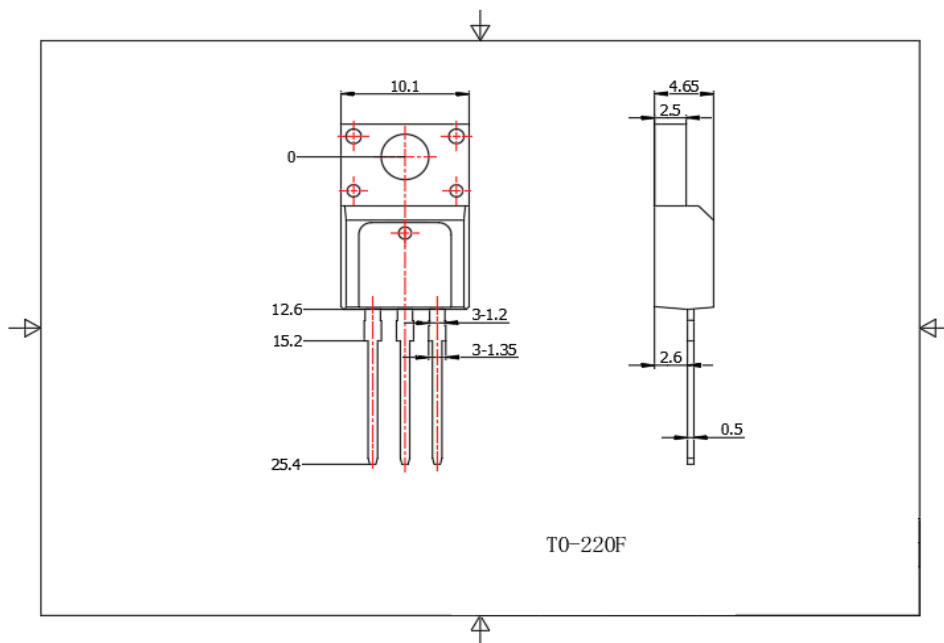


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封装尺寸 PACKAGE MECHANICAL DATA

T0-220F



T0-263-3L

