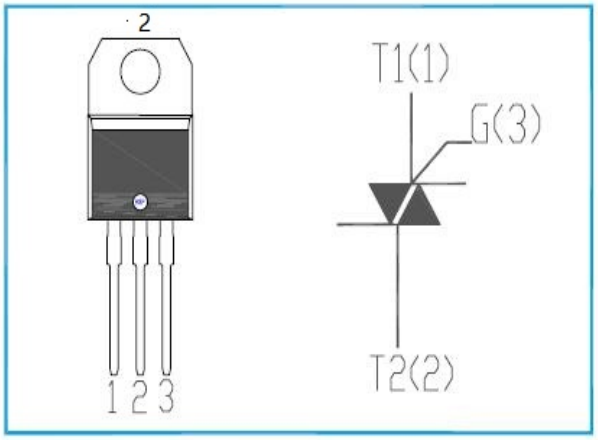
BT139-800E

TRIACS

RoHS COMPLIANT

Features:

* NPNPN Bi-direction Triac
* Back multilayer metal electrode
* High temperature reliability
* Glass Passivated junction chips



Application:

Power tool ,moto speed controller,Vacuum cleaner, heating temperature controller,Solid state relay and phase control circuits.

Maximum Ratings and Electrical Characteristics

Symbol	Absolute maximum ratings parameters		Value	Unit
$I_{T(RMS)}$	RMS on-state current	Tc=90℃	16	A
I_{TSM}	Non repetitive surge peak on-state current	F=50HZ t=20ms	160	A
I^2t	I^2t value for fusing	tp=10ms	144	A^2S
di/dt	Critical rate of rise of on-state current	Tj=125℃	50	A/us
V_{DRM}/V_{RRM}	Non repetitive surge peak off-state voltage	Tj=25℃	800	V
I_{GM}	Peak gate current	Tj=125℃	4	A
$P_{G(AV)}$	Average gate power dissipation	Tj=125℃	1	W
Tstg	Storage junction temperature range		-40℃~ +150℃	℃
Tj	Operating junction temperature range		-40℃+ 125℃	℃

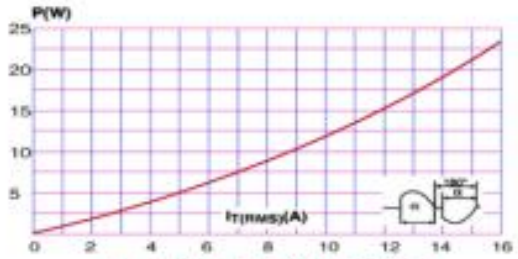
Electrical Characteristics(4 quadrant) (Tj=25℃, unless otherwise specified)

Symbol	Test Condition	Quadrant		Value		Unit
I_{GT}	V_D=12V R_L=100Ω	Ⅰ Ⅱ Ⅲ Ⅳ	MAX	Ⅰ Ⅱ Ⅲ	Ⅳ	mA
				10	25	
V_{GT}			MAX	1.5		V
V_{GD}	Tj=125℃		MIN	0.2		V
I_H	I_T=0.5A		MAX	60		mA
I_L	I_G=1.2I_{GT}		MAX	60		mA
				100		
dv/dt	V_D=2/3V_{DRM} Tj=125℃		MIN	500		V/us
(dv/dt)c	Tj=125℃		MIN	10		V/us

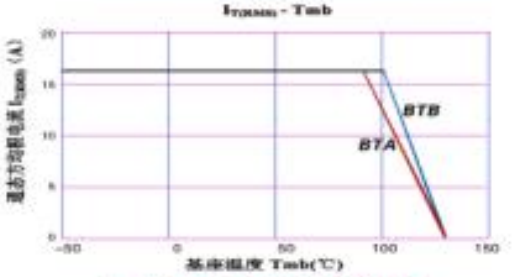
Static Characteristics

Symbol	Test Condition			Value	Unit
V_{TM}	I_{TM}=32A	Tj=25℃	MAX	1.5	V
V_{T0}	Threshold voltage	Tj=125℃	MAX	0.87	V
Rd	Dynamic resistance	Tj=125℃	MAX	14.6	mΩ
I_{DRM} I_{RRM}	V_{DRM} = V_{DRM}	Tj=25℃	MAX	5	uA
		Tj=125℃		1	mA
$R_{th(j-c)}$	Junction to case (AC)	2.1			℃/W

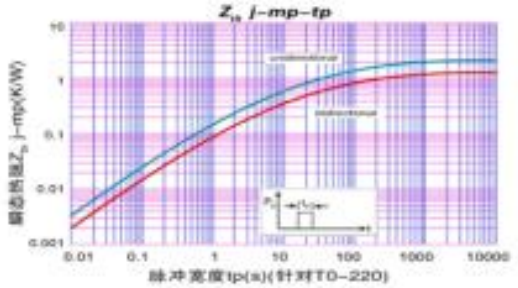
● Typical Characteristics



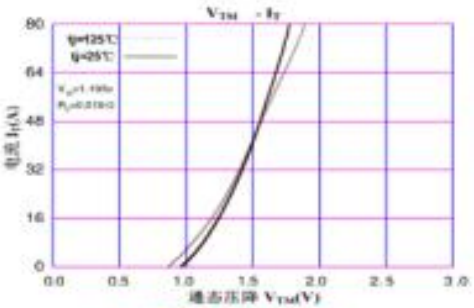
1、功耗与电流曲线（180℃）



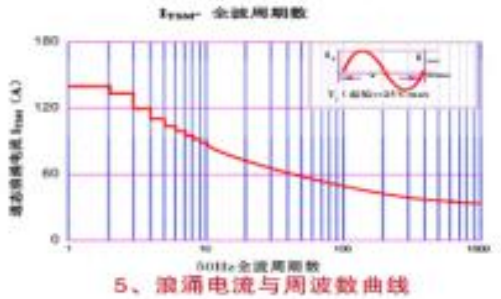
2、壳温与通态方均根电流曲线



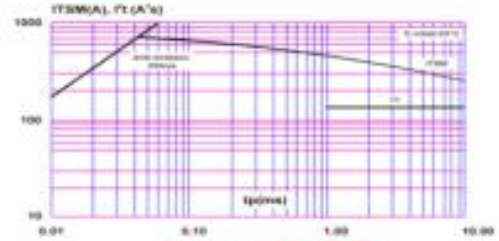
3、瞬态热阻曲线



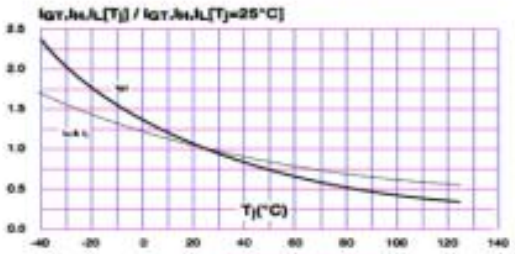
4、通态伏安特性曲线



5、浪涌电流与周波数曲线



6、I_{TSM}-t,I^2t-t曲线



7、门极触发特性曲线

- **TO-220 Dimensions**