

**4A 4Quadrants TRIACs**

**Product Summary**

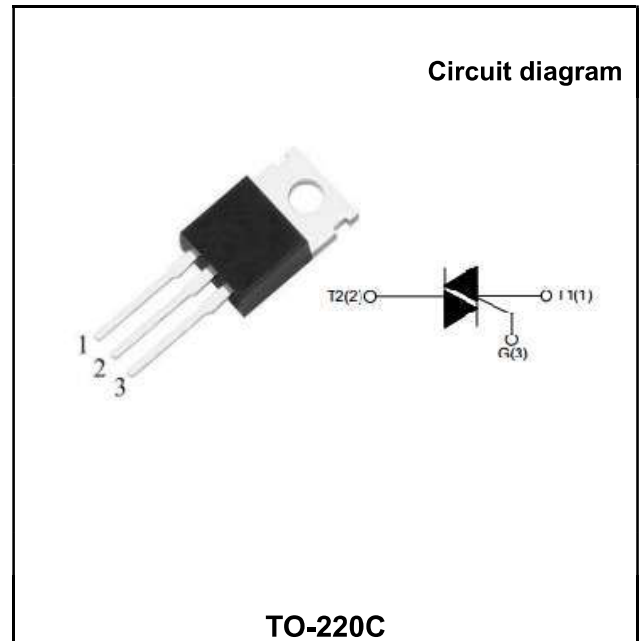
Symbol	Value	Unit
$I_{T(AV)}$	4	A
$V_{DRM} V_{RRM}$	600/800	V
$V_{TM}$	1.55	V

**Features**

With high ability to withstand the shock loading of arge current, Provide high dv/dt rate with strong resistance to electromagnetic interference

**Application**

Power charger, T-tools, massager, solid staterelay, AC Motor speed regulation and so on.



**Order Information**

Part Number	Package	Marking	packing	packing Quantity
BT136	TO-220C	BT136 XXXX	Box	1000PCS/Box

**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit	
Repetitive peak off-state voltage	$V_{DRM}$	600/800	V	
Repetitive peak reverse voltage	$V_{RRM}$	600/800	V	
RMS on-state current	$I_{T(RMS)}$	4	A	
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	25	A	
$I^2t$ value for fusing (tp=10ms)	$I^2t$	3.1	A <sup>2</sup> s	
Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	$di/dt$	I - II -III	50	A/us
		IV	10	
Peak gate current	$I_{GM}$	2	A	
Gate peak power	$I_{GM}$	5	W	
Average gate power dissipation	$P_G(AV)$	0.5	W	
Junction Temperature	$T_J$	-40~+150	°C	
Storage Temperature	$T_{STG}$	-40 ~+125	°C	

**Electrical characteristics (TA=25°C, unless otherwise noted)**

Parameter	Symbol	Test Condition	Value		Unit	
			D	E		
Gate trigger current	$I_{GT}$	$V_D=12V$ , $I_T=0.1A$ , $T_j=25^\circ C$ , Fig.6	I - II -III	≤5	≤10	mA
			IV	≤10	≤25	
Gate trigger voltage	$V_{GT}$		I - II -III-IV	≤1.3		V
Gate non-trigger voltage	$V_{GD}$	$V_D=V_{DRM}$ , $T_j=125^\circ C$	≥0.2		V	
Holding current	$I_H$	$V_D=12V$ , $I_{GT}=0.1A$ , $T_j=25^\circ C$ , Fig.6	I - II -III-IV	≤10	≤15	mA
Latching current	$I_L$		I -III-IV	≤10	≤15	mA
			II	≤15	≤20	mA
Critical-rate of rise of commutation voltage	$dV_D/dt$	$V_D=2/3V_{DRM}$ , $T_j=125^\circ C$	≥10	≥20	V/us	

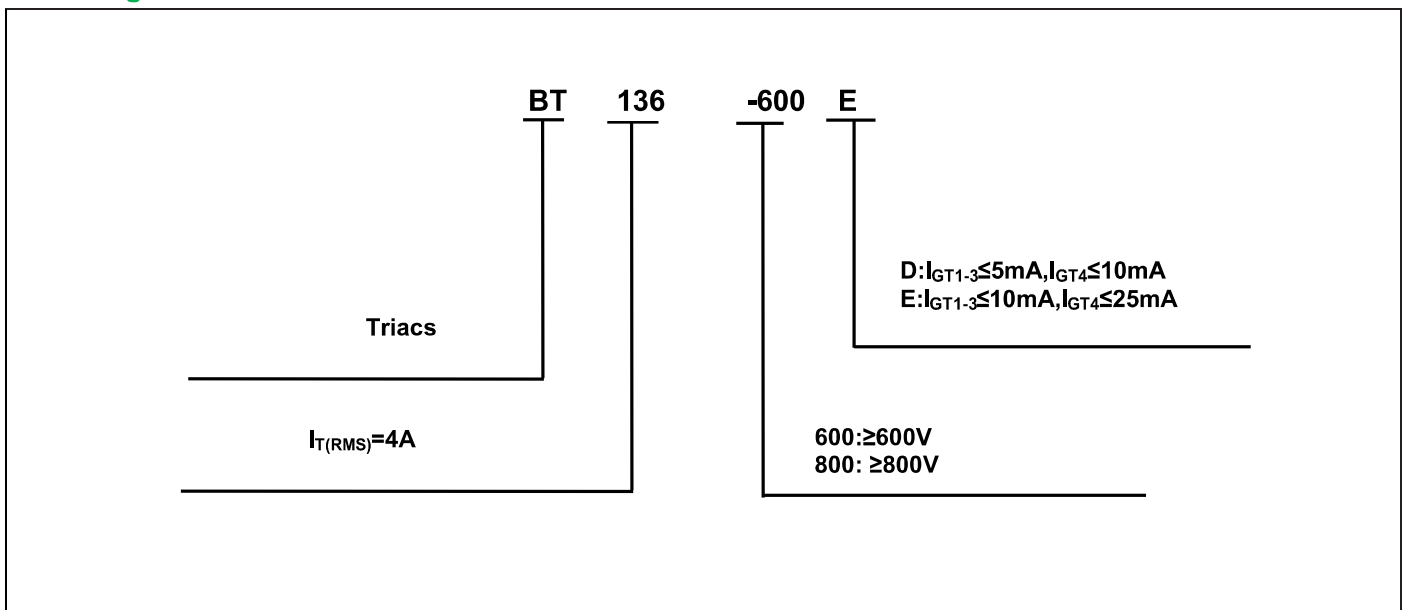
**STATIC CHARACTERISTICS**

Forward "on" voltage	$V_{TM}$	$I_{TM}=6A$ , $t_p=380\mu s$ , Fig.4	≤1.55		V	
Repetitive Peak Off-State Current	$I_{DRM}$	$V_D=V_{DRM}$ $V_R=V_{RRM}$	$T_j=25^\circ C$	≤5	≤5	uA
Repetitive Peak Reverse Current	$I_{RRM}$		$T_j=125^\circ C$	≤0.5	≤0.5	mA

**THERMAL RESISTANCES**

Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	2.6	°C/W
	$R_{th(j-a)}$	Junction to ambient	TYP.	60	°C/W

**Ordering Information**



**Typical Characteristics**

FIG1 Maximum power dissipation versus RMS on-state current

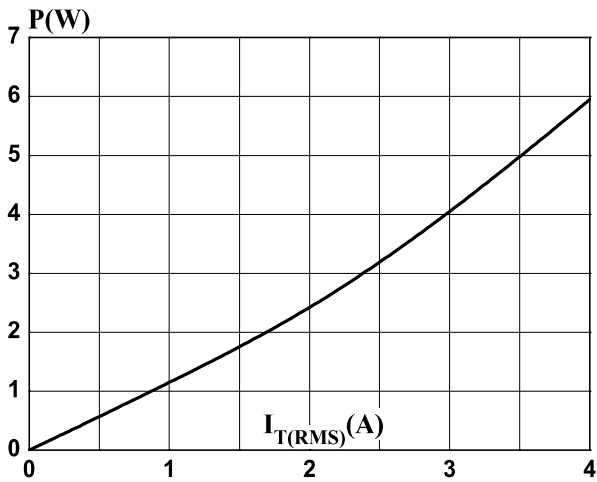


FIG2 RMS on-state current versus case temperature

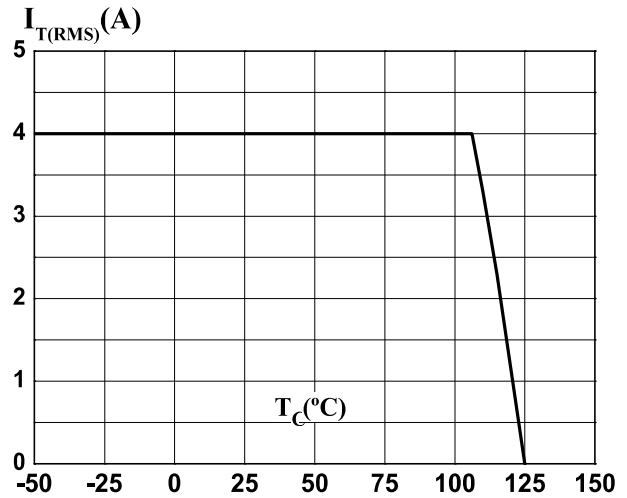


FIG3 Surge peak on-state current versus number of cycles

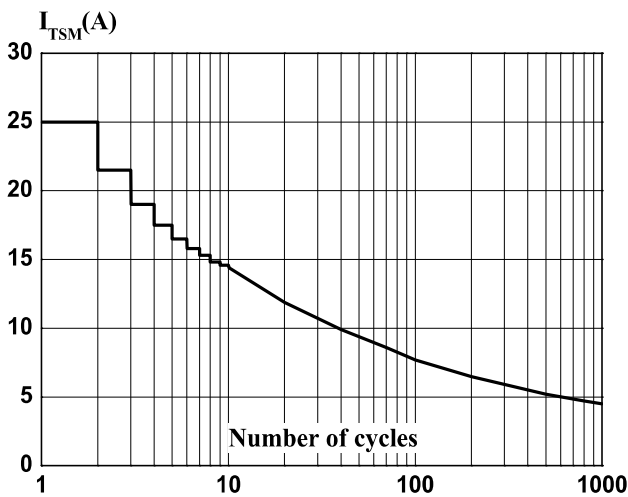


FIG4 On-state characteristics (maximum values)

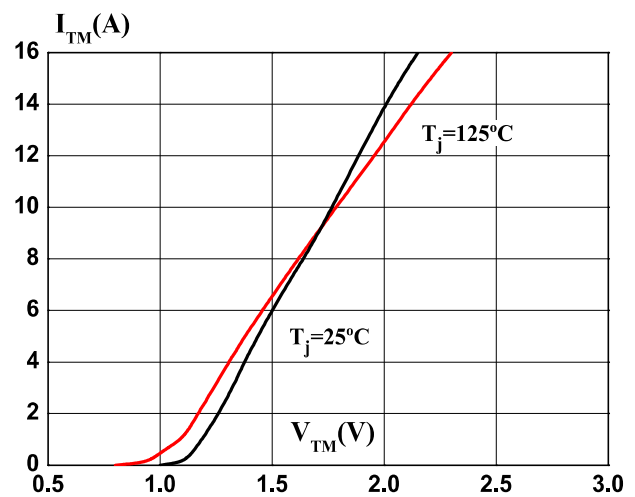


FIG5 Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( $dI/dt < 100\text{A}/\mu\text{s}$ )

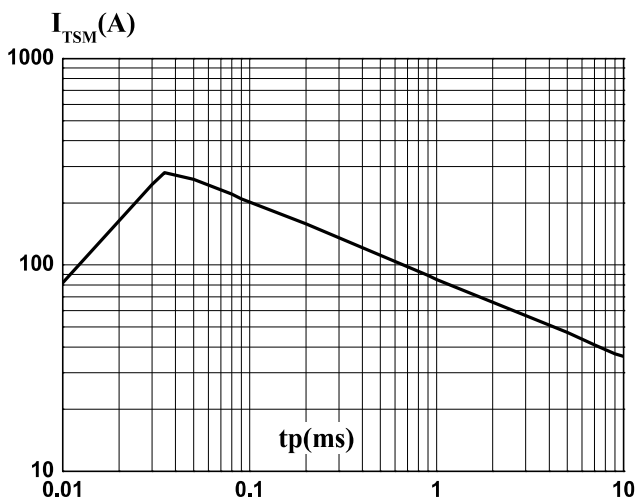
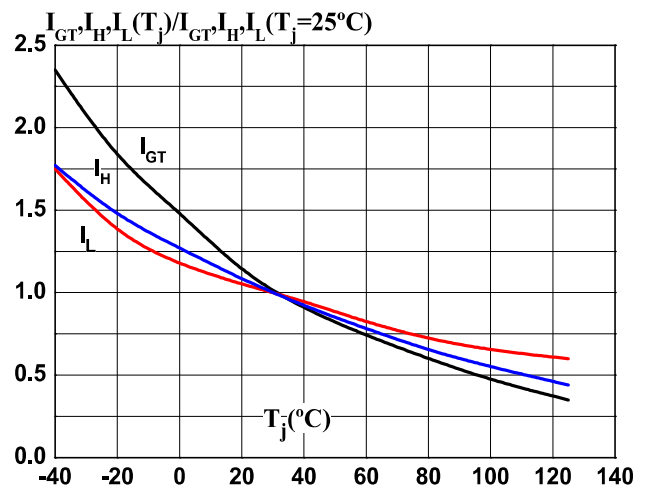
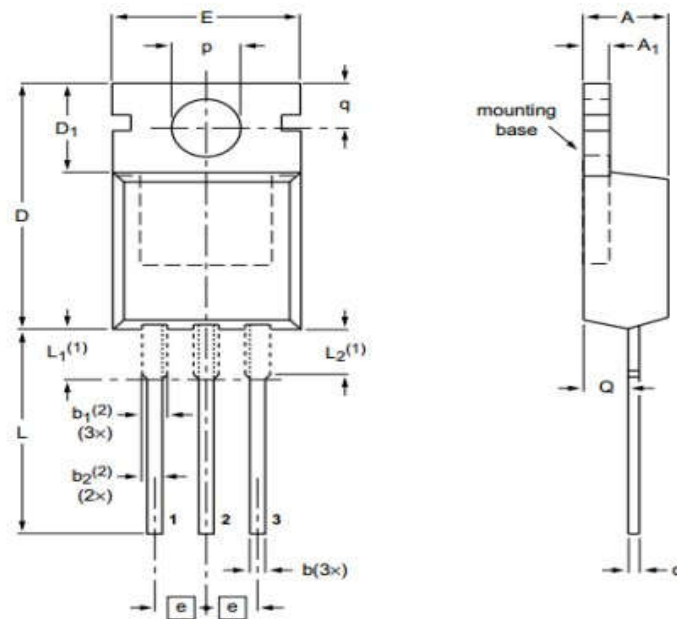


FIG6 Relative variations of gate trigger current, holding current and latching current versus junction temperature



Package Information

TO-220C(Ins)



UNIT	A	A <sub>1</sub>	b	b <sub>1</sub> <sup>(2)</sup>	b <sub>2</sub> <sup>(2)</sup>	c	D	D <sub>1</sub>	E	e	L	L <sub>1</sub> <sup>(1)</sup>	L <sub>2</sub> <sup>(1)</sup> max.	p	q	Q
mm	4.7	1.40	0.9	1.6	1.3	0.7	16.0	6.6	10.3	2.54	15.0	3.30	3.0	3.8	3.0	2.6
	4.1	1.25	0.6	1.0	1.0	0.4	15.2	5.9	9.7		12.8	2.79		3.5	2.7	2.2