

**Product Summary**

Symbol	Value	Unit
$I_{T(RMS)}$	0.8	A
$V_{DRM} V_{RRM}$	600 / 800	V
$I_{GT}$	10~200	$\mu A$

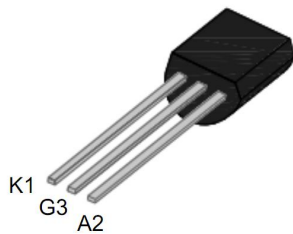
**Feature**

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

**Application**

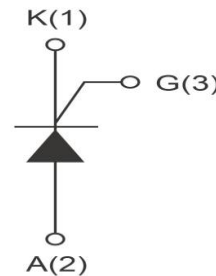
Power charger, T-tools, massager, solid state relay, AC Motor speed regulation and so on.

**Package**

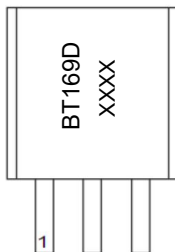


**TO-92**

**Circuit diagram**



**Marking**



### 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	$I_{T(RMS)}$	0.8	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	8	A
$I^2t$ value for fusing (tp=10ms)	$I^2t$	0.32	A <sup>2</sup> s
Critical rate of rise of on-state current ( $I_G = 2 \times I_{GT}$ )	$di_T/dt$	50	A/ $\mu$ s
Peak gate current	$I_{GM}$	1	A
Average gate power dissipation	$P_{G(AV)}$	0.1	W
Junction Temperature	$T_J$	-40 ~ +110	°C
Storage Temperature	$T_{STG}$	-40 ~ +150	°C

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

Parameter	Symbol	Test Condition	Value		Unit	
			Min	Max		
Gate trigger current	$I_{GT}$	$V_D = 12V I_T = 10mA T_j = 25^\circ C$	10	200	$\mu A$	
Gate trigger voltage	$V_{GT}$		-	0.8	V	
Gate non-trigger voltage	$V_{GD}$	$V_D = 1/2 V_{DRM} T_j = 110^\circ C$	0.2	-	V	
latching current	$I_L$	$V_D = 12V I_G = 0.5mA$ $R_{GK} = 1k\Omega T_j = 25^\circ C$	-	3	mA	
Holding current	$I_H$		-	4	mA	
Critical-rate of rise of commutation voltage	$dV_D/dt$	$V_D = 2/3 V_{DRM}$ Gate Open $T_j = 110^\circ C$	10	-	V/ $\mu$ s	
<b>STATIC CHARACTERISTICS</b>						
Forward "on" voltage	$V_{TM}$	$I_{TM} = 1.2A t_p = 380\mu s$	-	1.5	V	
Repetitive Peak Off-State Current	$I_{DRM}$	$V_D = V_{DRM} V_R = V_{RRM}$	$T_j = 25^\circ C$	-	5	$\mu A$
Repetitive Peak Reverse Current	$I_{RRM}$		$T_j = 110^\circ C$	-	0.1	mA
<b>THERMAL RESISTANCES</b>						
Thermal resistance	$R_{th(j-c)}$	Junction to case	TYP.	60	°C/W	
	$R_{th(j-a)}$	Junction to ambient	TYP.	150	°C/W	

**Typical Characteristics**

FIG.1: Maximum power dissipation versus RMS on-state current (full cycle)

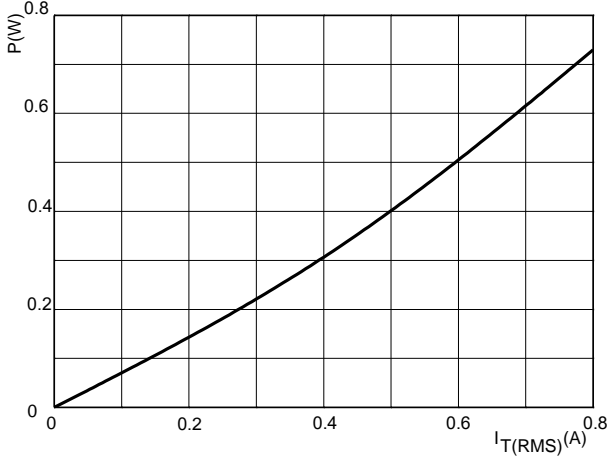


FIG.2: RMS on-state current versus case temperature (full cycle)

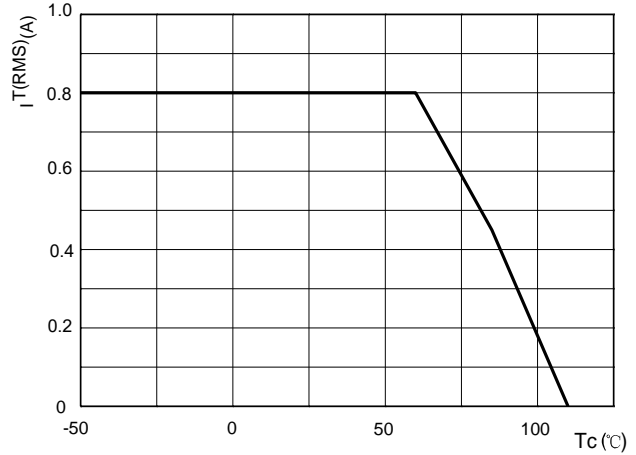


FIG.3: Surge peak on-state current versus number of cycles

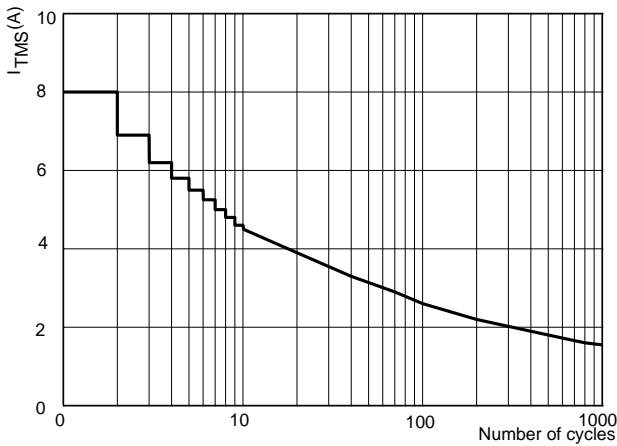


FIG.4: On-state characteristics (maximum values)

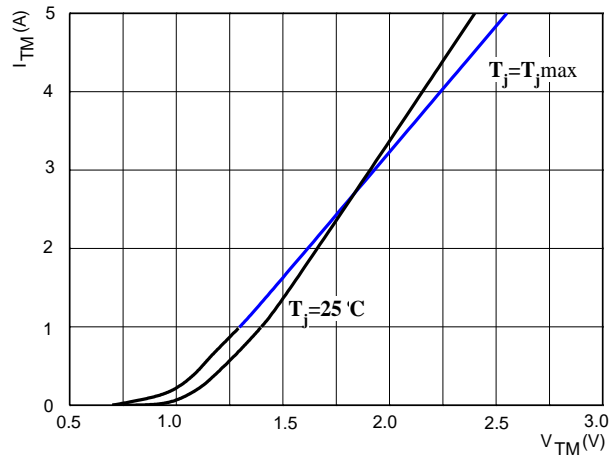


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 10\text{ms}$

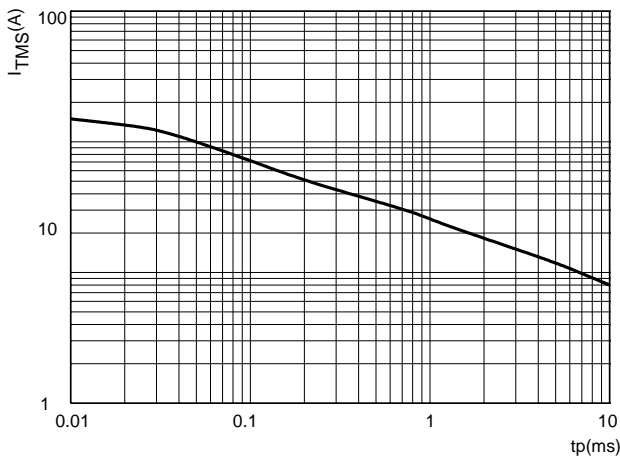
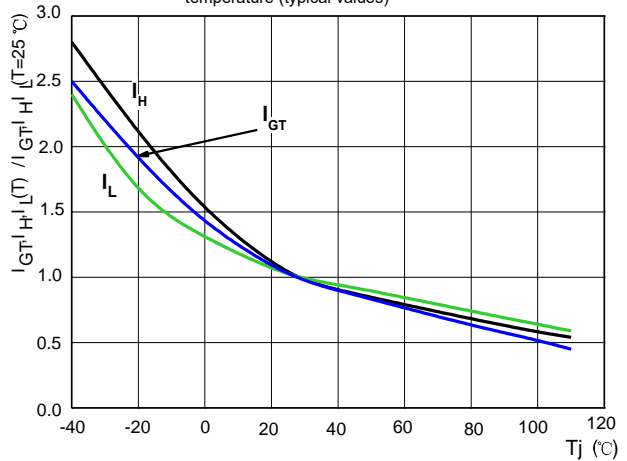
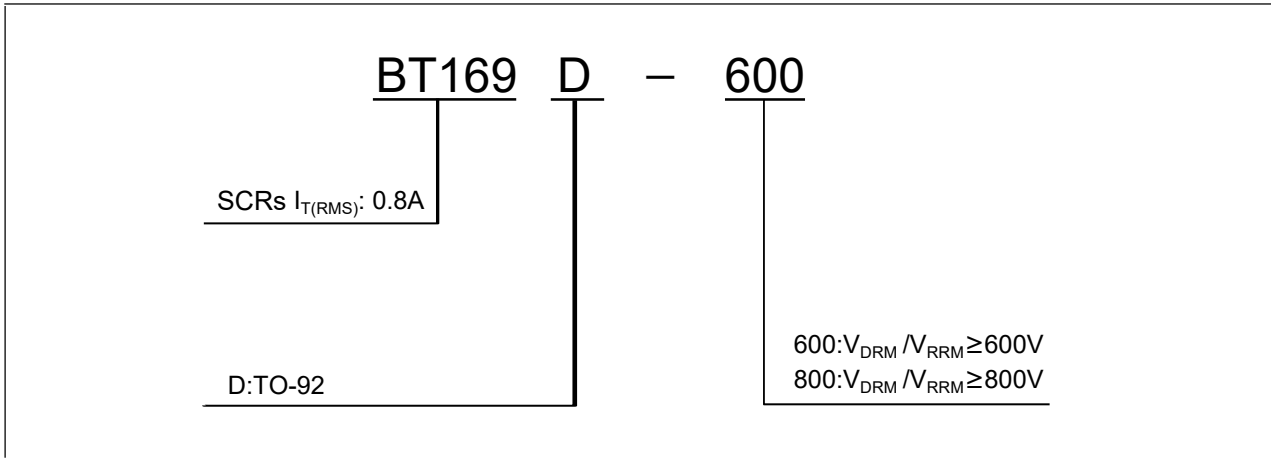


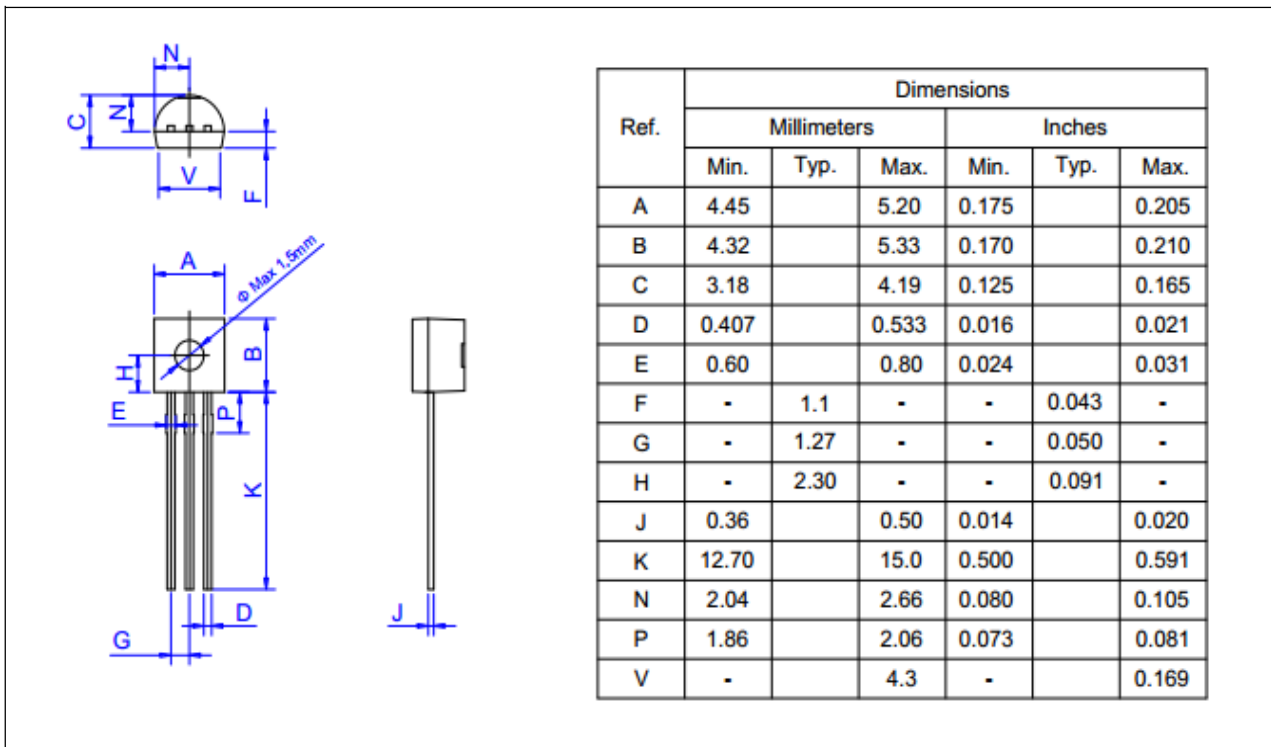
FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



**Ordering Information**



**TO-92 Package Information**



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