



JST138C-600D 12A TRIAC

Rev.A.1.1

DESCRIPTION:

The JST138G600D triac is suitable for AC switching. It can be used as an application in starting circuits, faders, dimmers, motor speed controllers, external relays, etc. Package T-220C is recommended.

MAIN FEATURES

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage temperature	$T_{stg}$	-40-150	°C
Junction temperature	$T_j$	-40-125	°C
Repetitive peak forward-state voltage ( $f=25\text{ Hz}$ )	$V_{DRM}$	600	V
Repetitive peak reverse voltage ( $f=25\text{ Hz}$ )	$V_{RRM}$	600	V
RMS forward-state current ( $T_j=98\text{ °C}$ )	$I_{T(RMS)}$	120	A
Non-repetitive forward-state current ( $f_{avg}=20\text{ ms}, T_j=25\text{ °C}$ )	$I_{TSM}$	95	A
Non-repetitive forward-state current ( $f_{avg}=16.6\text{ ms}, T_j=25\text{ °C}$ )		105	
Forward-state surge current ( $f_{avg}=10\text{ ms}, T_j=25\text{ °C}$ )	$I_{TSM}$	45	A <sup>2</sup> s
Critical rate of change of forward-state current ( $I_{GT}=2\text{ A}, f=100\text{ Hz}, T_j=125\text{ °C}$ )	$dI/dt$	50	A/ $\mu\text{s}$
		20	

Peak gate power	$P_{GM}$	10	W
Peak pulse power ( $T_j=25\text{ °C}$ ; non-repetitive,-)			

**ELECTRICAL CHARACTERISTICS**

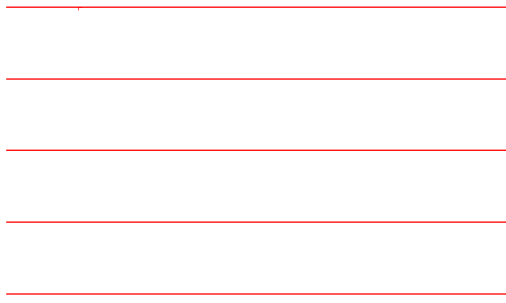
Symbol	Test Condition	Quadrant	Value		Unit
$I_{GT}$	$V_D=12V R_L=33$	- -	MAX.	5	mA
				10	
$V_{GT}$		ALL	MAX.	1	V
$V_{GD}$	$V_D=V_{DRM} T_j=125$ $R_L=3.3k$	ALL	MI .	N0.2	V
$I_L$	$I_G=1.2 I_{GT}$	- -	MAX.	15	mA
				20	
$I_f$	$I_T=500mA$		MAX.	10	mA
$dV/dt$	$V_D=400V$ Gate n $T_j=125$		MI .	O N50	$V/\mu s$
$(dV/dt)_c$	$(dI/dt)_c=5 A/ms, T_j=110$		MI	N2	$V/\mu s$
$t$	$I_G=20mA I_A=200mA I_K=20mA$ $T_j=25$		° TYP. °	3	$\mu s$
$t$				30	

**STATIC CHARACTERISTICS**

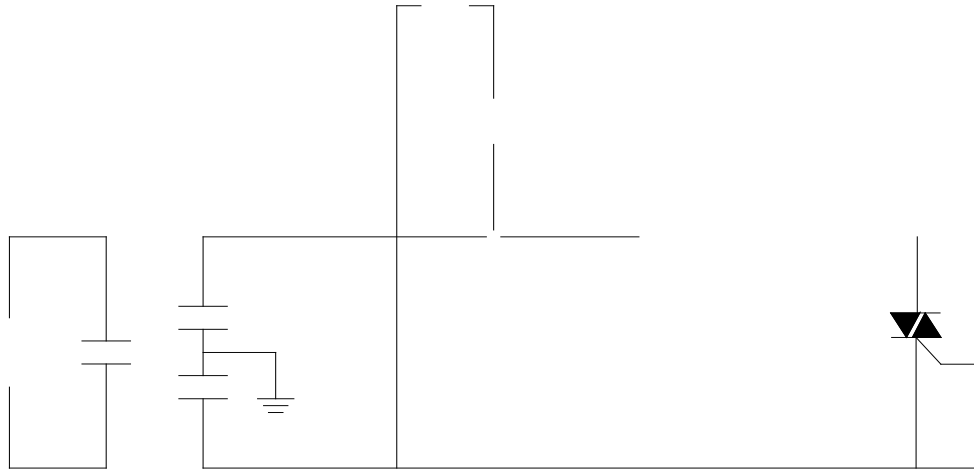
Symbol	Parameter		Value(MAX.)	Unit
$V_{TM}$	$I_{RM}=15 A t_p=380\mu s$	$T_j=25$	1.6	V
$V_T$	Thresh °	$T_j=125$	0.8	V °
$R_D$	Dynamic resistance	$T_j=125$	41	m
$I_{BRM}$	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	$\mu A$
$I_{RRM}$		$T_j=125$	0.4	Un @

**JST138C-600D**

**FIG.1:** Maximum p  
state current



**FIG.2:** RMS -state current versus case  
temperature



**ORDERING INFORMATION**

Order code	Voltage $V_{DRM}/V_{RRM}$ (V)	IGT(mA)		Package	Base qty. (pcs)	Delivery mode
		-	-			
JST138C-600D	600	5	10	TO-220C	50	Tube

PACKAGE MECHANICAL DATA

