



JST138C-1600D 12A TRIAC

Rev.A.1.1

The JST138C-1600D triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. From T2 terminals to external heatsink. Package TO-220C is RoHS compliant.

Parameter		Symbol	Value	Unit
Storage junction temperature range		T _{stg}	-40-150	
Operating junction temperature range		T _j	-40-125	
Repetitive peak off-state voltage (T _j =25)		V _{DRM}	1600	V
Repetitive peak reverse voltage (T _j =25)		V _{RRM}	1600	V
RMS on-state current (T _c 90)		I _{T(RMS)}	12	A
Non repetitive surge peak on-state current (full cycle , t _p =20ms , T _j =25)		I _{TSM}	70	A
Non repetitive surge peak on-state current (full cycle , t _p =16.6ms , T _j =25)			77	
I ² t value for fusing (t _p =10ms , T _j =25)		I ² t	24.5	A ² s
Critical rate of rise of on-state current (I _G =2 I _{GT} , f=100Hz , T _j =125)	-	dI/dt	30	A/μs
	-		20	
Peak gate current (t _p =20μs , T _j =125)		I _{GM}	4	A
Average gate power dissipation (T _j =125)		P _{G(AV)}	0.5	W
Peak gate power		P _{GM}	10	W

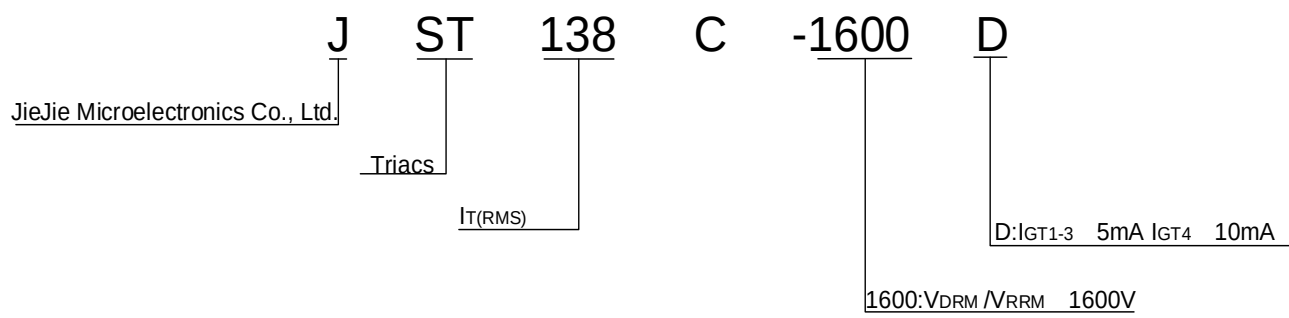
(T_j=25 unless otherwise specified)

Symbol	Test Condition	Quadrant	Value		Unit
I _{GT}	V _D =12V R _L =33Ω	- -	MAX.	5	mA
				10	
V _{GT}		ALL	MAX.	1	V
V _{GD}	V _D =V _{DRM} T _j =125 R _L =3.3kΩ	ALL	MIN.	0.2	V
I _L	I _G =1.2I _{GT}	- -	MAX.	15	mA
				20	
I _H	I _T =500mA		MAX.	10	mA
dV/dt	V _D =1070V Gate Open T _j =125		MIN.	50	V/μs
(dV/dt) _c	(dI/dt) _c =5A/ms, T _j =110		MIN.	5	V/μs
t _{on}	I _G =40mA I _A =200mA I _R =20mA T _j =25		TYP.	3	μs
t _{off}				30	

Symbol	Parameter		Value(MAX.)	Unit
V _{TM}	I _{TM} =15A t _p =380μs	T _j =25	1.8	V
V _{TO}	Threshold voltage	T _j =125	0.84	V
R _D	Dynamic resistance	T _j =125	59	mΩ
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25	10	μA
I _{RRM}		T _j =125	5	mA

Symbol

Parameter



JST138C-1600D



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