

3TT12J

MAIN CHARACTERISTICS

$I_{T(RMS)}$	12A
V_{DRM}	800V
I_{GT}	35mA

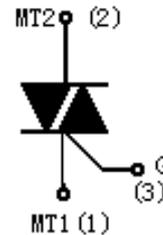
APPLICATIONS

AC switching
Phase control

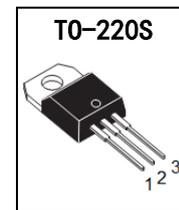
FEATURES

Glass-passivated mesa chip for reliability and uniform
Uniform gate trigger currents in three quadrants
RoHS products

Package



Pin	Description
1	MT1
2	MT2
3	G



ORDER MESSAGES

Halogen-Tube	Halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag	Marking	Package
3TT12J-CB-B	3TT12J-CB-BR	3TT12J-CB-C	3TT12J-CB-CR	3TT12J	TO-220S

GENERAL DESCRIPTION

3TT12J are Glass passivated three quadrant triacs, designed for high performance full-wave ac control applications where high static and dynamic dV/dt and high dI/dt can occur. They are specially recommended for use on inductive loads such as motor control circuits.

Available packages are TO-220S (internally isolated) .

**ABSOLUTE RATINGS (T_c=25°C)**

Parameter	Symbol	Condition	Value	Unit
Repetitive peak off-state voltage	V _{DRM}	T _j =25°C	± 800	V
On-state RMS current	I _{T(RMS)}	full sine wave	12	A
Non- repetitive surge peak on-state current	I _{TSM}	full sine wave ,t=20ms	150	A
I ² t value for Fusing	I ² t	t=10ms	112.5	A ² s
Repetitive rate of rise of on-state current after triggering	di/dt	I _{TM} =20A, I _G =0.2A, dI _G /dt=0.2A/μs	100	A/μs
Peak gate current	I _{GM}		4	A
Peak gate voltage	V _{GM}		5	V
Peak gate power	P _{GM}		5	W
Average gate power	P _{G(AV)}	over any 20ms period	1	W
Storage temperature	T _{stg}		-40~150	°C
Operation junction temperature	T _{VJ}		-40~125	°C

THERMAL CHARACTERISTIC

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Thermal resistance junction to case	R _{th(j-c)}	full cycle(TO-220S)			2.4	°C/W

ELECTRICAL ISOLATION

Parameter	Symbol	Condition	Value	Unit
Isolation voltage	V _{ISOL}	1 minute, leads to mounting tab TO-220S	2000	V



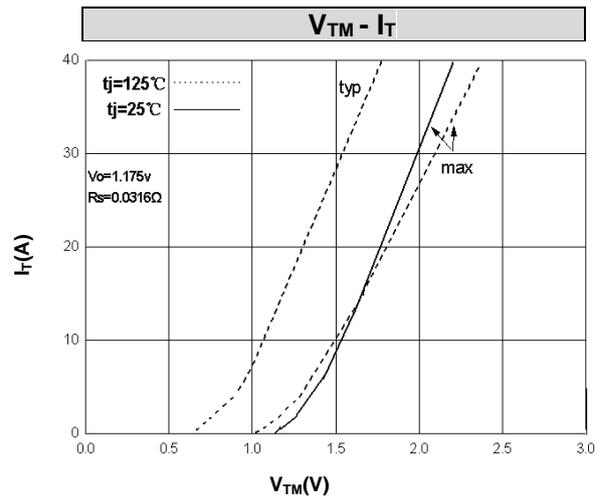
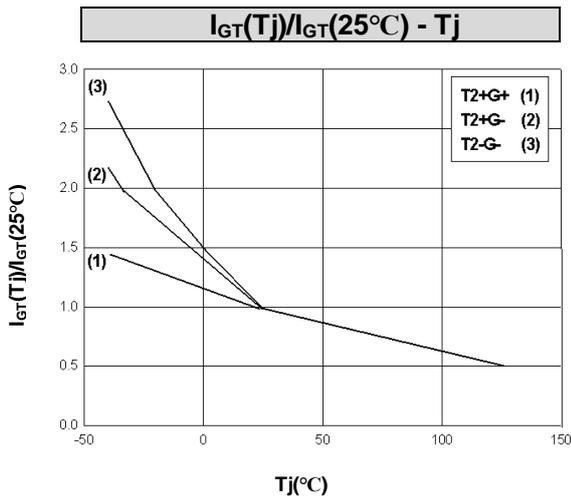
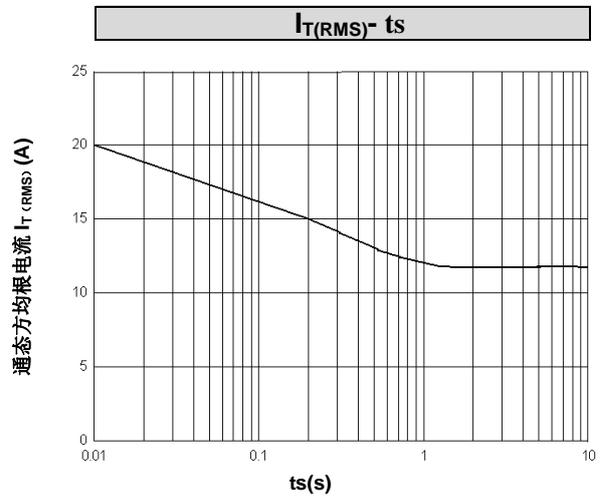
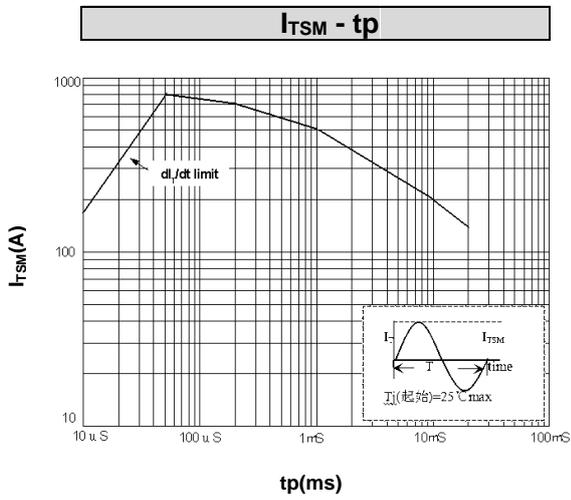
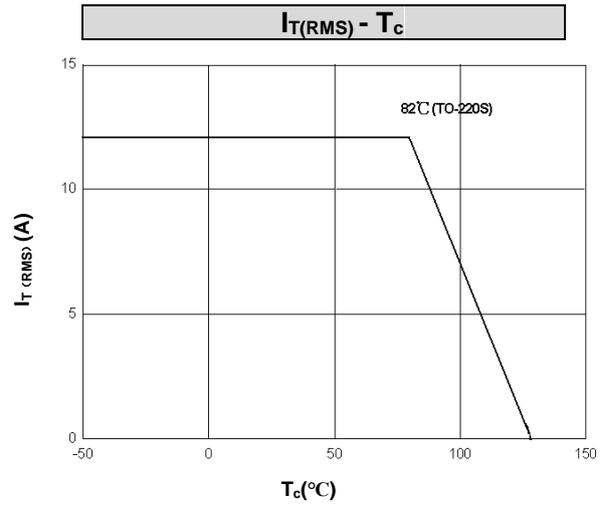
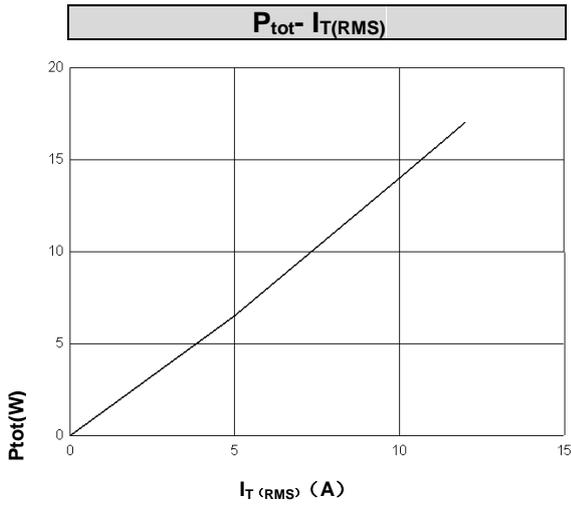
ELECTRICAL CHARACTERISTIC (T_c=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit	
Peak Repetitive Blocking Current	I _{DRM}	V _{DM} =V _{DRM} , T _j =125°C, gate open	-	-	0.8	mA	
Peak on-state voltage	V _{TM}	I _{TM} =17A, T _j =25°C,	-	1.3	1.7	V	
Gate trigger current	I _{GT}	V _{DM} =12V, R _L =100Ω	MT1(-),MT2(+),G(+)	2	-	35	mA
			MT1(-),MT2(+),G(-)	2	-	35	mA
			MT1(+),MT2(-),G(-)	2	-	35	mA
Gate trigger voltage	V _{GT}	V _{DM} =12V, R _L =100Ω	MT1(-),MT2(+),G(+)	-	0.7	1.3	V
			MT1(-),MT2(+),G(-)	-	0.7	1.3	V
			MT1(+),MT2(-),G(-)	-	0.7	1.3	V
Holding current	I _H	V _{DM} =12V, I _{GT} =0.1A	-	-	35	mA	
Latching current	I _L	V _{DM} =12V, I _{GT} =0.1A	MT1(-),MT2(+),G(+)	-	-	50	mA
			MT1(-),MT2(+),G(-)	-	-	60	mA
			MT1(+),MT2(-),G(-)	-	-	50	mA
Rise of off- state voltage	dV/dt	V _{DM} =67% V _{DRM(MAX)} , T _j =125°C, gate open	1000	-	-	V/μs	
Gate controlled turn-on time	t _{gt}	I _{TM} =16A, V _{DM} =V _{DRM(MAX)} , I _G =0.1A, dI _G /dt=5A/μS	-	2	-	μs	





ELECTRICAL CHARACTERISTICS (curves)



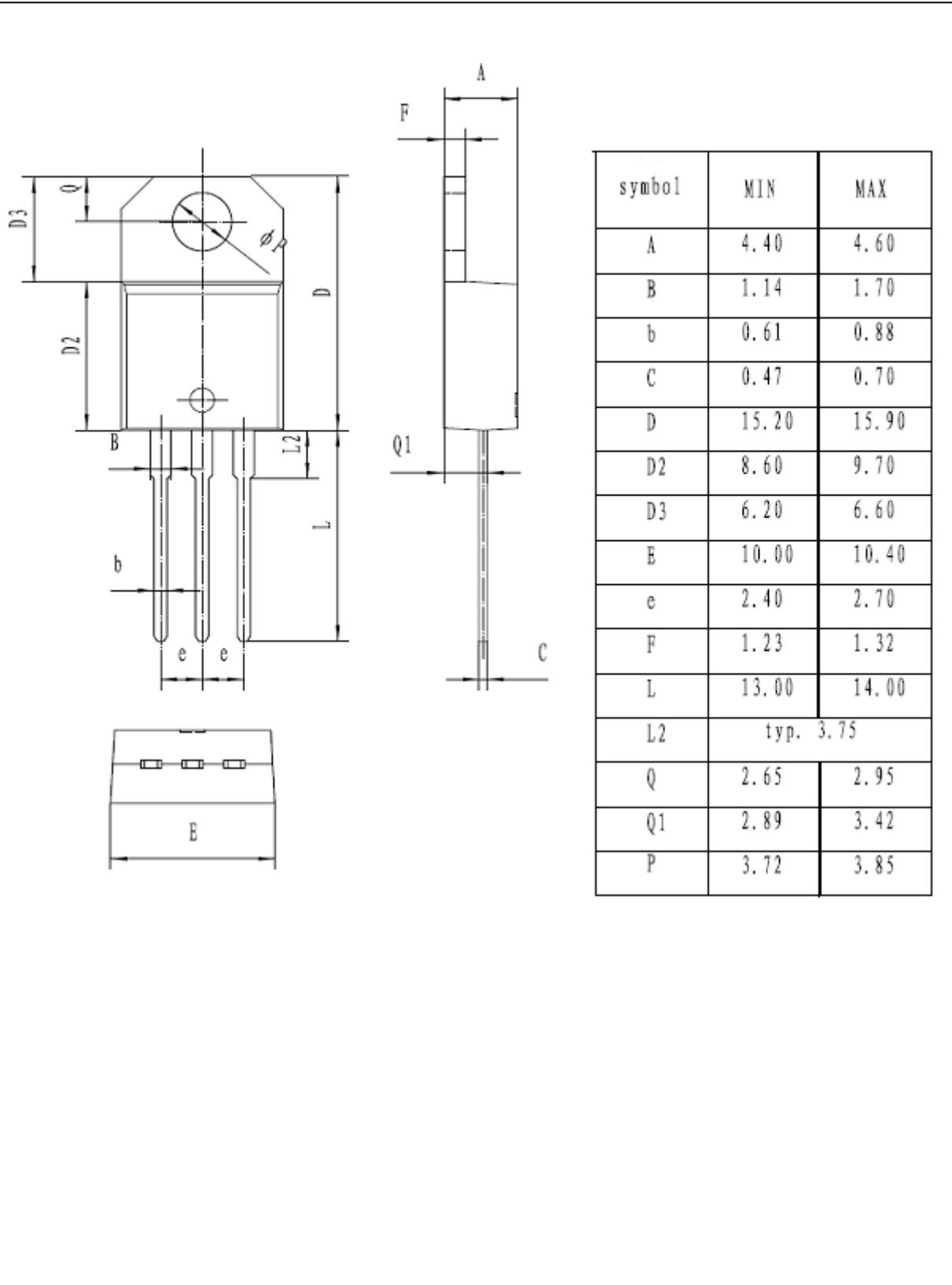


3TT12J

PACKAGE MECHANICAL DATA

TO-220S

Unit : mm



**NOTE**

1. Jilin Sino-microelectronics co., Ltd sales its product either through direct sales or sales agent , thus, for customers, when ordering, please check with our company.
2. We strongly recommend customers check carefully on the trademark when buying our product, if there is any question, please don't be hesitate to contact us.
3. Please do not exceed the absolute maximum ratings of the device when circuit designing.
4. Jilin Sino-microelectronics co., Ltd reserves the right to make changes in this specification sheet and is subject to change without prior notice.

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