

# 3TT16J

## MAIN CHARACTERISTICS

$I_{T(RMS)}$	<b>16A</b>
$V_{DRM}$	<b>800V</b>
$I_{GT}$	<b>35mA</b>

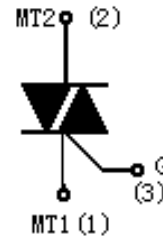
## APPLICATIONS

AC switching  
Phase control

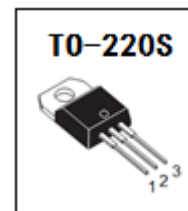
## FEATURES

Glass-passivated mesa chip for reliability and uniform

## Package



Pin	Description
1	MT1
2	MT2
3	G



## ORDER MESSAGES

Halogen-Tube	Halogen-Free-Tube	Halogen-Bag	Halogen-Free-Bag	Marking	Package
3TT16J-CB-B	3TT16J-CB-BR	3TT16J-CB-C	3TT16J-CB-CR	3TT16J	TO-220S

## GENERAL DESCRIPTION

3TT16J 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<sub>c</sub>=25°C)**

Parameter	Symbol	Condition	Value	Unit
Repetitive peak off-state voltage	V <sub>DRM</sub>		± 800	V
On-state RMS current	I <sub>T(RMS)</sub>	full sine wave,	16	A
Non- repetitive surge peak on-state current	I <sub>TSM</sub>	full sine wave ,t=20ms	150	A
		full sine wave ,t=16.7ms	161	A
	I <sup>2</sup> t	t=10ms	112.5	A <sup>2</sup> s
Repetitive rate of rise of on-state current after triggering	di/dt	I <sub>TM</sub> =20A, I <sub>G</sub> =0.2A, dI <sub>G</sub> /dt=0.2A/ μ s	100	A/ μ s
Peak gate current	I <sub>GM</sub>		4	A
Peak gate voltage	V <sub>GM</sub>		5	V
Peak gate power	P <sub>GM</sub>		5	W
Average gate power	P <sub>G(AV)</sub>	over any 20ms period	0.5	W
Storage temperature	T <sub>stg</sub>		-40~150	°C
Operation junction temperature	T <sub>VJ</sub>		125	°C

**THERMAL CHARACTERISTIC**

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Thermal resistance junction to case		full cycle(TO-220S)			2.2	°C/W

**ELECTRICAL ISOLATION**

Parameter	Symbol	Condition	Value	Unit
Isolation voltage	V <sub>ISOL</sub>	1 minute, leads to mounting tab TO-220S	2000	V



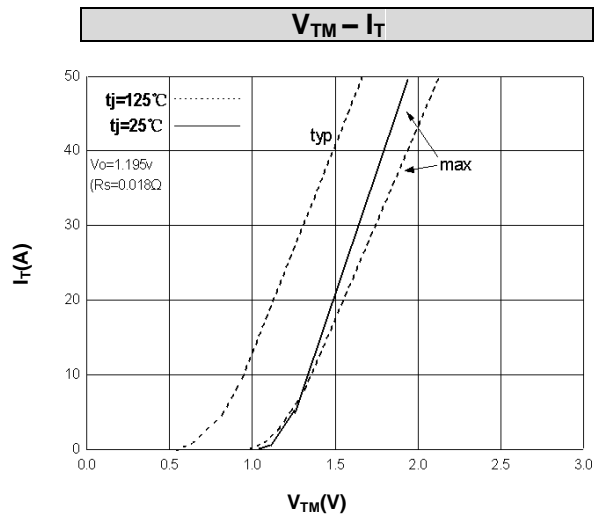
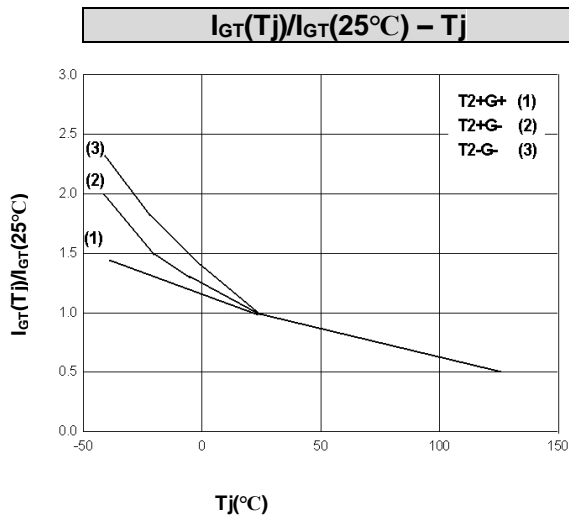
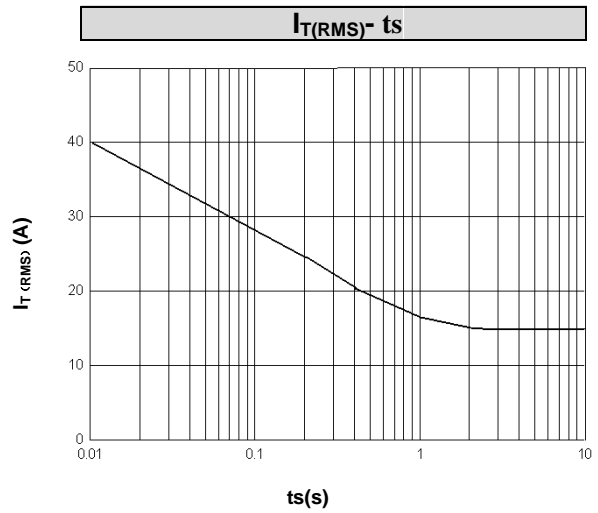
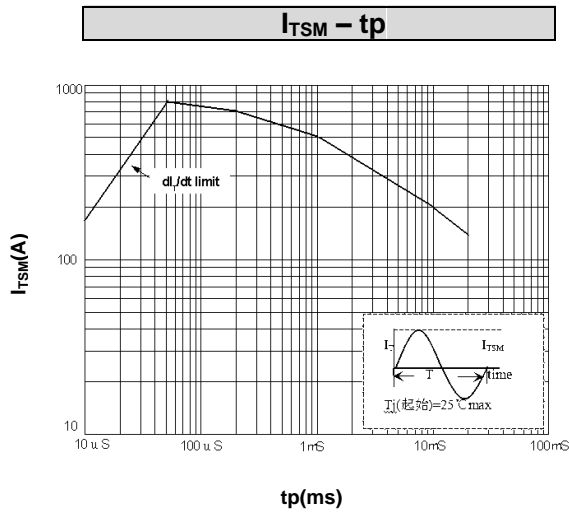
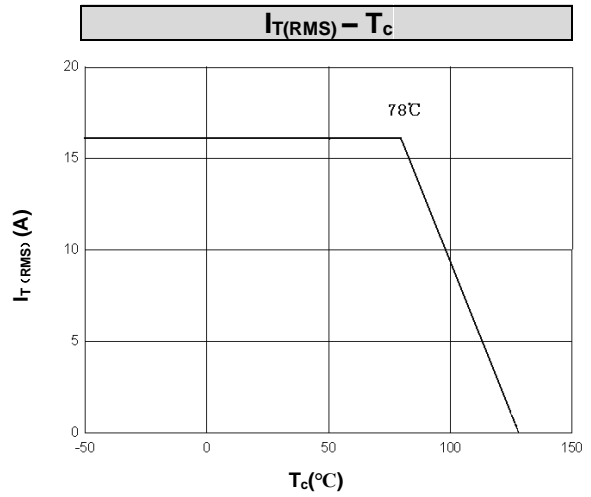
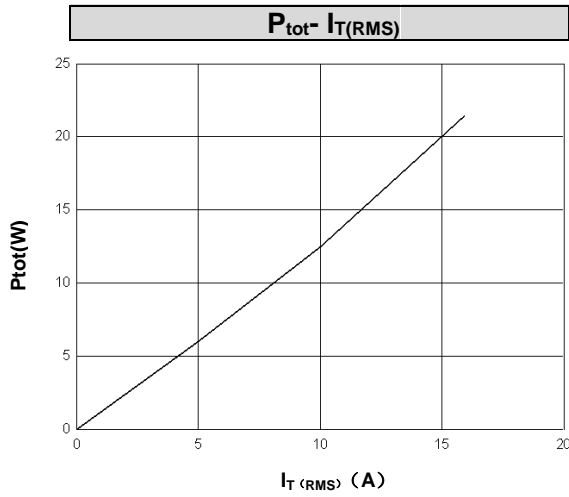
ELECTRICAL CHARACTERISTIC (T<sub>c</sub>=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Peak Repetitive Blocking Current	I <sub>DRM</sub>	V <sub>DM</sub> =V <sub>DRM</sub> , T <sub>j</sub> =125°C, gate open	-	-	1.0	mA
Peak on-state voltage	V <sub>TM</sub>	I <sub>TM</sub> =20A	-	1.4	1.7	V
Gate trigger current	I <sub>GT</sub>	V <sub>DM</sub> =12V, MT1(-),MT2(+),G(+)	-	-	35	mA
		R <sub>L</sub> =100 Ω, MT1(-),MT2(+),G(-)	-	-	35	mA
		MT1(+),MT2(-),G(-)	-	-	35	mA
Gate trigger voltage	V <sub>GT</sub>	V <sub>DM</sub> =12V, MT1(-),MT2(+),G(+)	-	0.7	1.5	V
		R <sub>L</sub> =100 Ω, MT1(-),MT2(+),G(-)	-	0.7	1.5	V
		MT1(+),MT2(-),G(-)	-	0.7	1.5	V
Holding current	I <sub>H</sub>	V <sub>DM</sub> =12V, I <sub>GT</sub> =0.1A	-	-	35	mA
Latching current	I <sub>L</sub>	V <sub>DM</sub> =12V, MT1(-),MT2(+),G(+)	-	-	50	mA
		I <sub>GT</sub> =0.1A, MT1(-),MT2(+),G(-)	-	-	60	mA
		MT1(+),MT2(-),G(-)	-	-	50	mA
Rise of off- state voltage	dV/dt	V <sub>DM</sub> =67% V <sub>DRM(MAX)</sub> , T <sub>j</sub> =125°C, gate open	1000	-	-	V/ μ s
Gate controlled turn-on time	t <sub>gt</sub>	I <sub>TM</sub> =20A, V <sub>DM</sub> =V <sub>DRM(MAX)</sub> , I <sub>G</sub> =0.1A, dI <sub>G</sub> /dt=5A/ μ S	-	2	-	μ s





ELECTRICAL CHARACTERISTICS (curves)

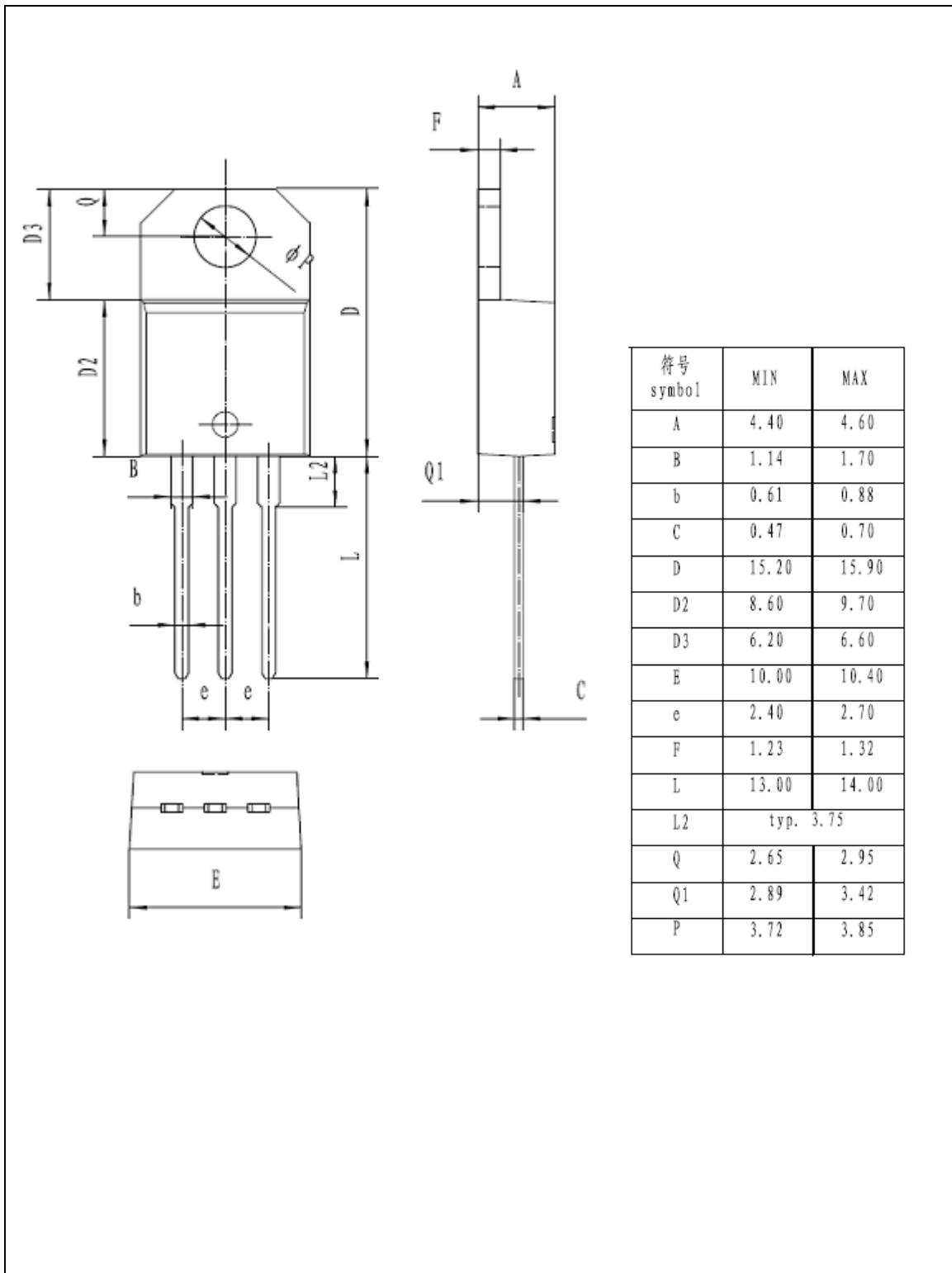




## PACKAGE MECHANICAL DATA

TO-220S

Unit : mm



**NOTE**

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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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