JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

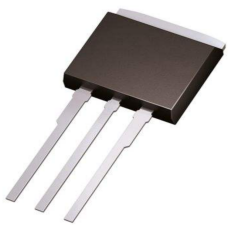
TO-262K Plastic-Encapsulate Thyristors

CT408R 4Q TRIACs

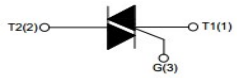
MAIN CHARACTERISTICS

$I_{T(RMS)}$		8A
V_{DRM}/V_{RRM}	CT408R-600S/C	600V
	CT408R-800S/C	800V
V_{TM}		1.55V

TO-262K



1.MAIN TERMINAL 1
2.MAIN TERMINAL 2
3.GATE



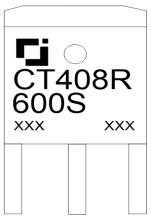
FEATURES

- NPNPN 5-layer Structure TRIACs
- Mesa Glass Passivated Technology
- Multi Layers Metal Electrodes
- High Junction Temperature
- Good Commutation Performance

APPLICATIONS

- Heater Control
- Motor Speed Controller
- Mixer

MARKING



CT408R:Series Code
600S:Depends on V_{DRM} and I_{GT}
XXX:Internal Code

ABSOLUTE RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Test condition		Value		Unit
V_{DRM}/ V_{RRM}	Repetitive peak off-state voltage	T_j=25℃	CT408R-600S/C	600		V
			CT408R-800S/C	800		V
$I_{T(RMS)}$	RMS on-state current	TO-262K(T_C≤105℃), Fig. 1,2		8		A
I_{TSM}	Non repetitive surge peak on-state current	Full sine wave, T_j(init)=25℃, tp=20ms; Fig. 3,5		80		A
I^2t	I^2t value	tp=10ms		36		A^2s
dI_T/dt	Critical rate of rise of on-state current	I_G=2*I_{GT}, tr≤10ns, F=120Hz, T_j=125℃		Ⅰ-Ⅱ-Ⅲ	50	A/μs
				Ⅳ	10	
I_{GM}	Peak gate current	tp=20μs, T_j=125℃		2		A
$P_{G(AV)}$	Average gate power	T_j=125℃		0.5		W
T_{STG}	Storage temperature			-40~+150		℃
T_j	Operating junction temperature			-40~+125		

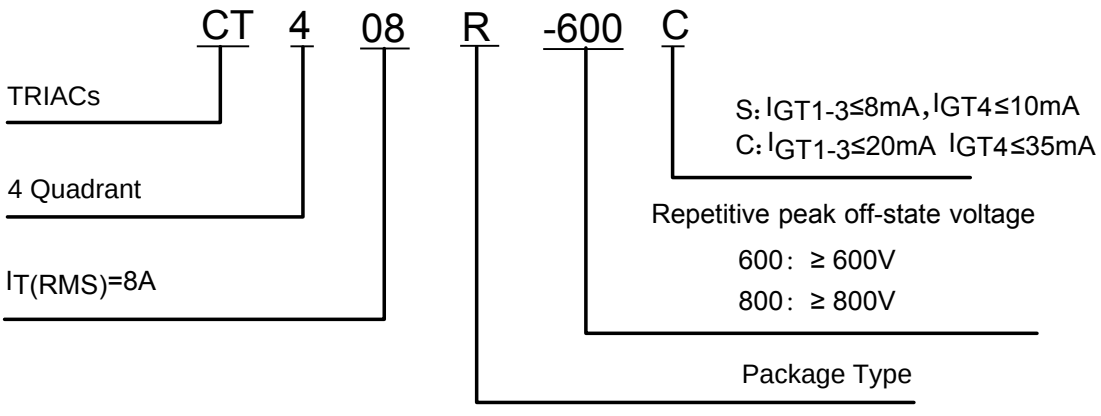
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Symbol	Parameter	Test condition		Value		Unit
				S	C	
I_{GT}	Gate trigger current	V_D=12V, I_T =1A, T_j=25℃, Fig. 6	Ⅰ - Ⅱ -Ⅲ	≤8	≤20	mA
			Ⅳ	≤10	≤35	
V_{GT}	Gate trigger voltage		Ⅰ - Ⅱ -Ⅲ - Ⅳ	≤1.3		V
V_{GD}	Non-triggering gate voltage	VD=VDRM, T_j=125℃		≥0.2		V
I_H	Holding current	V_D=12V, I_{GT}=0.1A, T_j=25℃, Fig. 6	Ⅰ - Ⅱ -Ⅲ - Ⅳ	≤10	≤20	mA
I_L	Latching current		Ⅰ -Ⅲ- Ⅳ	≤15	≤25	mA
			Ⅱ	≤20	≤35	mA
dV_D/dt	Critical rate of rise of off-state	V_D=67%V_{DRM}, Gate Open T_j=125℃		≥10	≥20	V/μs
V_{TM}	On-state Voltage	I_{TM}=10A，tp=380μs , Fig. 4		≤1.55		V
I_{DRM} / I_{RRM}	Repetitive peak off-state current	V_D=V_{DRM}/V_{RRM}, T_j=25℃		≤5	≤5	μA
		V_D=V_{DRM}/V_{RRM},T_j=125℃		≤1	≤1	mA

THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
Rth (j-c)	Junction to case (AC)	TO-262K	1.6	℃/W
Rth (j-a)	Junction to ambient	TO-262K	45	℃/W

PART NUMBER



CHARACTERISTICS CURVES

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

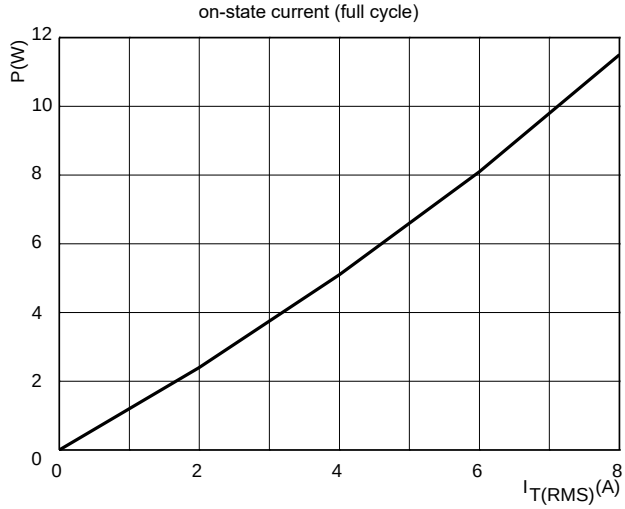


FIG.2: RMS on-state current versus case temperature (full cycle)

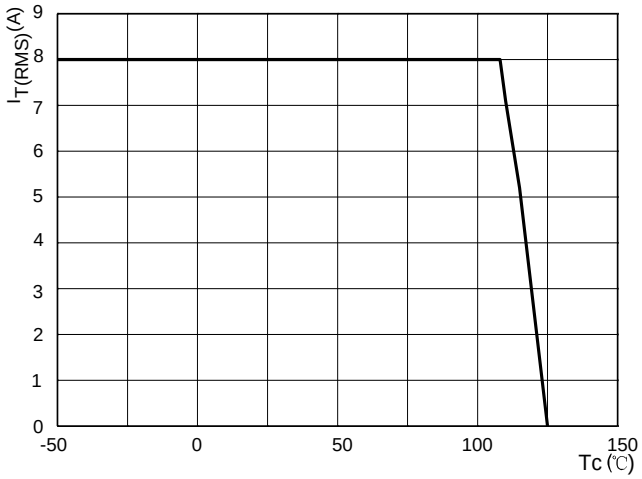


FIG.3: Surge peak on-state current versus number of cycles

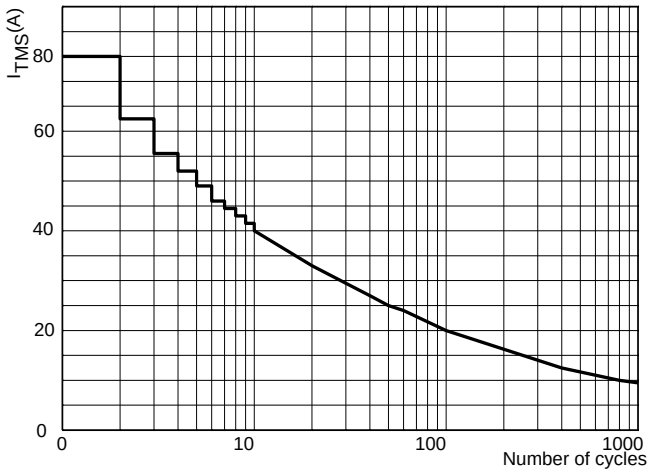


FIG.4: On-state characteristics (maximum values)

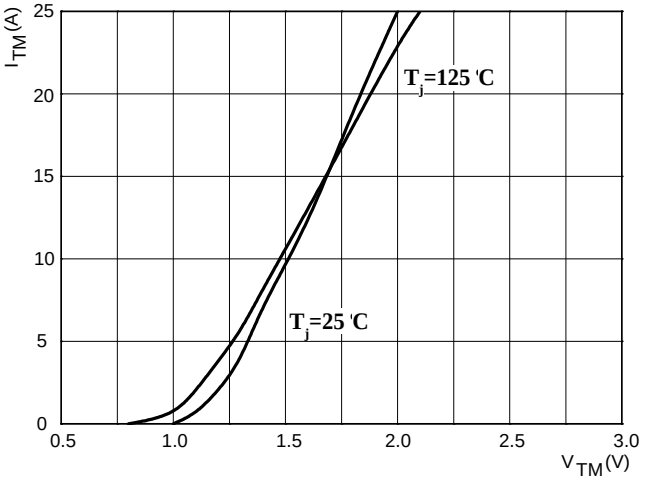


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width tp < 10ms

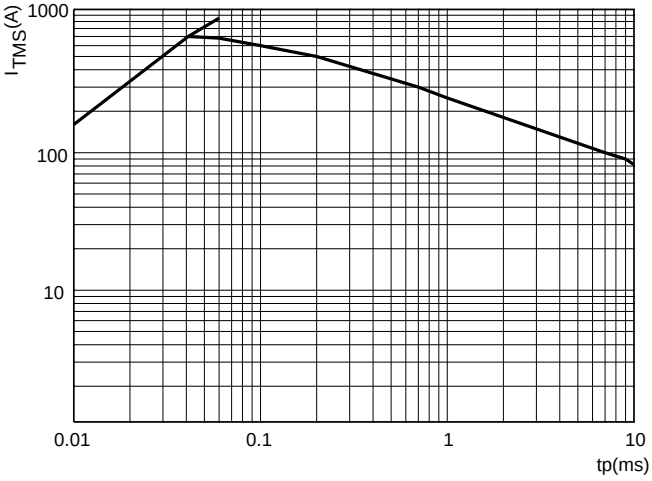
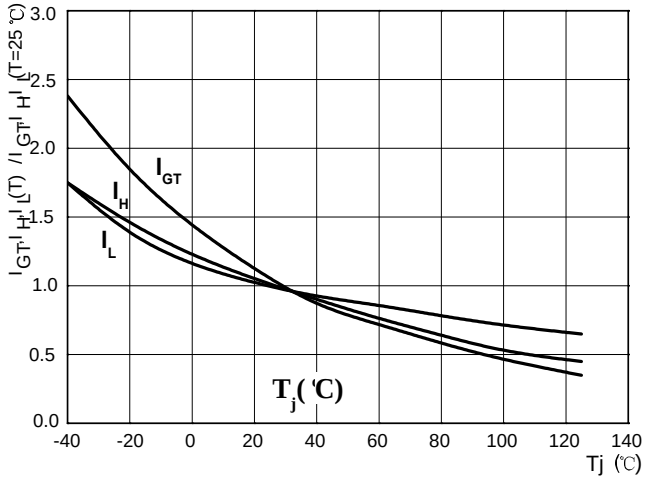
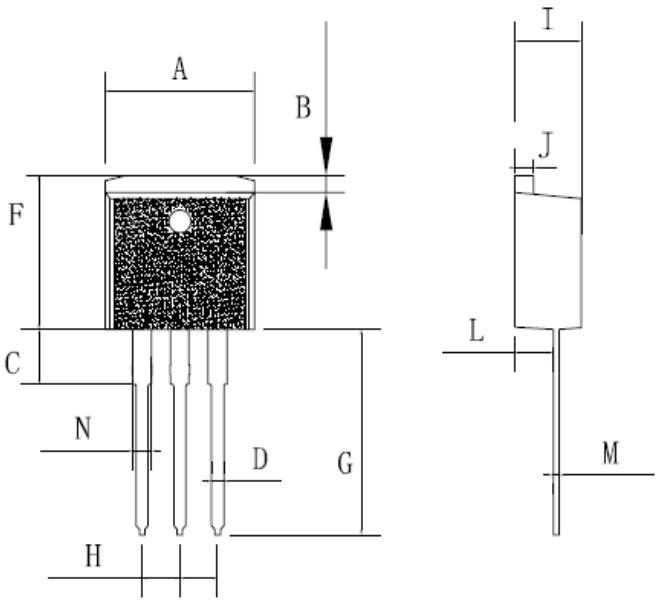


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature (typical values)



TO-262K PACKAGE OUTLINE DIMENSIONS



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	9.7	10.4	0.381	0.409
B	1.31	1.62	0.051	0.063
C	3.5	3.9	0.137	0.153
D	0.7	0.92	0.027	0.036
F	9.95	10.35	0.391	0.407
G	12.95	13.9	0.509	0.547
H	2.4	2.7	0.094	0.106
I	4.38	4.65	0.172	0.183
J	1.15	1.36	0.045	0.053
L	2.35	2.85	0.092	0.112
M	0.32	0.58	0.012	0.022
N	1.18	1.42	0.046	0.055

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