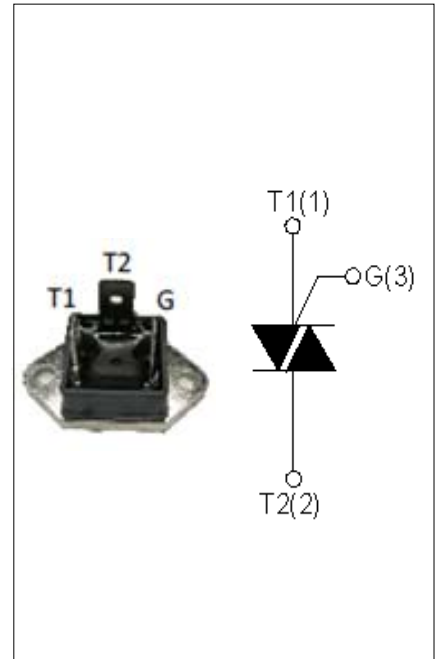


JST55 Series 55A TRIACs

Rev.4.2 July 12 2021

DESCRIPTION:

JST55 series triacs, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interference. With high commutation performances, 3 quadrants products especially recommended for use on inductive load.



MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	55	A
V_{ISO}	2500	V
V_{DRM}/V_{RRM}	600 and 800 and 1200 and 1600	V

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-40-150	°C
Operating junction temperature range	T_j	-40-125	°C
Repetitive peak off-state voltage ($T_j=25^{\circ}C$)	V_{DRM}	600 /800/1200/1600	V
Repetitive peak reverse voltage ($T_j=25^{\circ}C$)	V_{RRM}	600 /800/1200/1600	V
Non repetitive surge peak off-state voltage	V_{DSM}	$V_{DRM} + 100$	V
Non repetitive peak reverse voltage	V_{RSM}	$V_{RRM} + 100$	V
RMS on-state current	TG-C ($T_C=90^{\circ}C$)	$I_{T(RMS)}$	55
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I_{TSM}	550	A
I^2t value for fusing ($t_p=10ms$)	I^2t	1500	A^2s
Critical rate of rise of on-state current ($I_G = 2 \times I_{GT}$)	di/dt	100	$A/\mu s$
Peak gate current	I_{GM}	8	A
Average gate power dissipation	$P_{G(AV)}$	2	W
Peak gate power	P_{GM}	10	W
Insulation voltage(A.C,F=50Hz,1min)	V_{ISO}	2500	V

ELECTRICAL CHARACTERISTICS (T_j=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I _{GT}	V _D =12V R _L =33Ω	I - II -III	MAX	50	mA
V _{GT}		I - II -III	MAX	1.3	V
V _{GD}	V _D =V _{DRM} T _j =125°C R _L =3.3KΩ	I - II -III	MIN	0.2	V
I _L	I _G =1.2I _{GT}	I -III	MAX	80	mA
		II		100	
I _H	I _T =100mA		MAX	60	mA
dV/dt	V _D =2/3V _{DRM} Gate Open T _j =125°C		MIN	1000	V/μs
(dV/dt) _c	Without snubber T _j =125°C		MIN	20	V/μs

STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V _{TM}	I _{TM} =80A t _p =380μs	T _j =25°C	1.55	V
I _{DRM}	V _D =V _{DRM} V _R =V _{RRM}	T _j =25°C	10	μA
I _{RRM}		T _j =125°C	8	mA

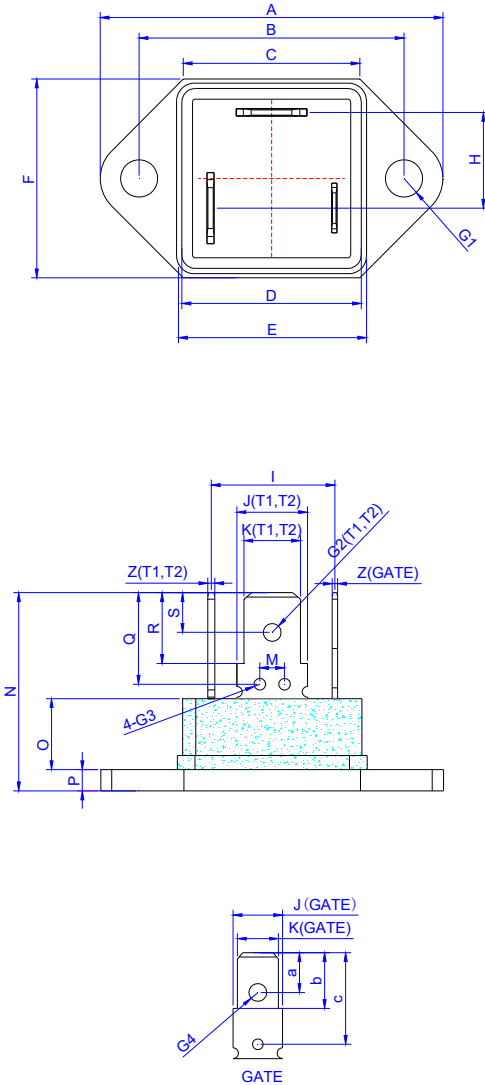
THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R _{th(j-c)}	junction to case(AC)	TG-C	1.3	°C/W

ORDERING INFORMATION

<p>JieJie Microelectronics Co.,Ltd JieJie Semiconductor Co.,Ltd</p>	<p>J</p> <p>Triacs</p>	<p>ST</p> <p>I_{T(RMS)}:55A</p>	<p>55</p>	<p>T</p> <p>T:TG-C</p>	<p>-600</p>	<p>BW</p> <p>BW:I_{GT}1-3≤50mA</p> <p>600:V_{DRM}/ V_{RRM}≥600V 800:V_{DRM}/ V_{RRM}≥800V 1200:V_{DRM}/V_{RRM}≥1200V 1600:V_{DRM}/V_{RRM}≥1600V</p>
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PACKAGE MECHANICAL DATA



Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			39.2			1.543
B	29.8	30.0	30.2	1.173	1.181	1.189
C			20.2			0.795
D			20.5			0.807
E			21.6			0.85
F			23			0.905
G1	$\phi 4.1$	$\phi 4.2$	$\phi 4.3$	$\phi 0.161$	$\phi 0.165$	$\phi 0.169$
H		10.3			0.406	
I		13.9			0.547	
J(T1,T2)		8			0.315	
K(T1,T2)		6.4			0.252	
M	2.7	3.0	3.3	0.106	0.118	0.130
N			22.8			0.898
O		8.2			0.323	
P		2.5			0.098	
Q	9.45	9.75	10.1	0.374	0.383	0.398
R	7.8	7.95	8.1	0.307	0.313	0.319
S	4.3	4.5	4.7	0.169	0.177	0.185
Z(T1,T2)	0.78	0.8	0.85	0.0307	0.0315	0.0335
G2(T1,T2)		$\phi 2$	$\phi 2.2$		$\phi 0.079$	$\phi 0.087$
G3	$\phi 1.1$	$\phi 1.3$	$\phi 1.5$	$\phi 0.043$	$\phi 0.051$	$\phi 0.059$
G4		$\phi 1.55$	$\phi 1.75$		$\phi 0.061$	$\phi 0.069$
a	2.95	3.15	3.35	0.116	0.124	0.132
b	6.2	6.35	6.5	0.244	0.25	0.256
c	9.35	9.75	10	0.368	0.384	0.393
Z(GATE)	0.58	0.6	0.65	0.0228	0.0236	0.0256
J(GATE)		5.6			0.221	
K(GATE)		4.65			0.183	

PACKAGE INFORMATION-TG-C

OUTLINE	UNIT WEIGHT (g/PCS) typ.	INNER BOX (PCS)	PER CARTON (PCS)	PER CARTON WEIGHT(Kg)	PER CARTON SIZE(cm)
BOX	22	100	500	15	46×26.5×18

FIG.1 Maximum power dissipation versus RMS on-state current

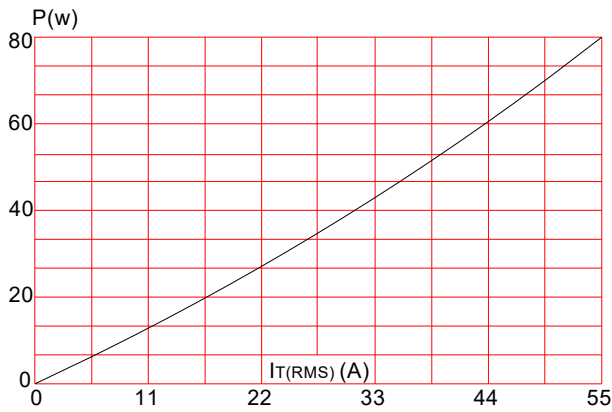


FIG.3: Surge peak on-state current versus number of cycles

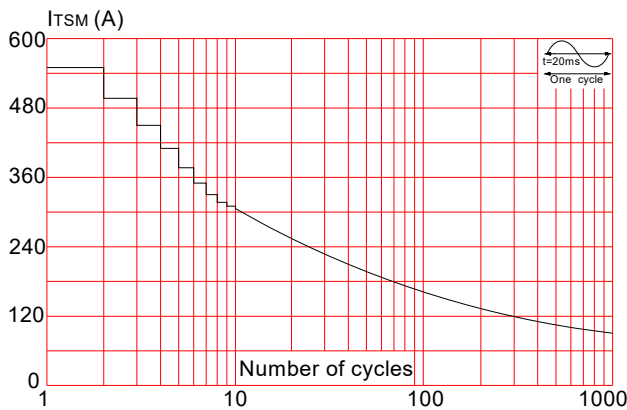


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 20\text{ms}$, and corresponding value of I^2t ($di/dt < 100\text{A}/\mu\text{s}$)

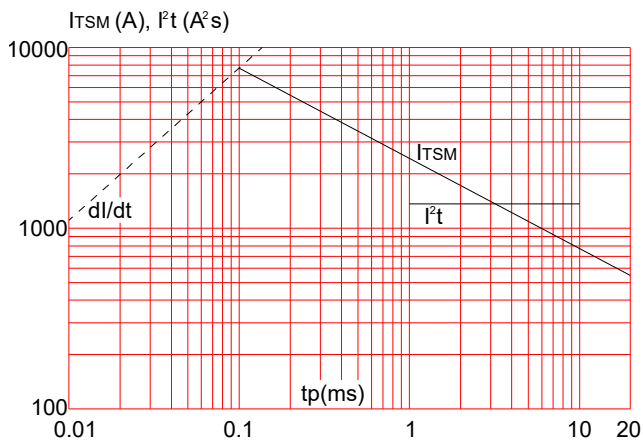


FIG.2: RMS on-state current versus case temperature

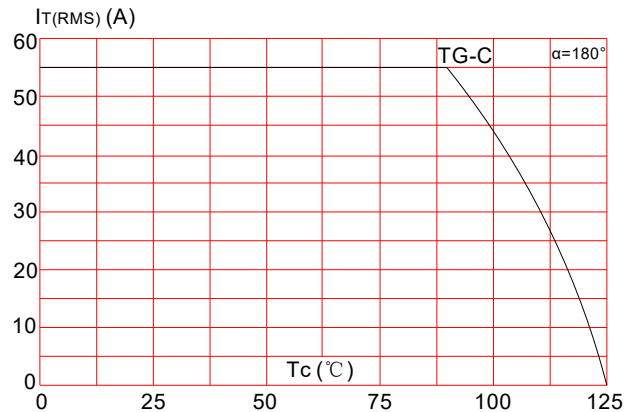


FIG.4: On-state characteristics (maximum values)

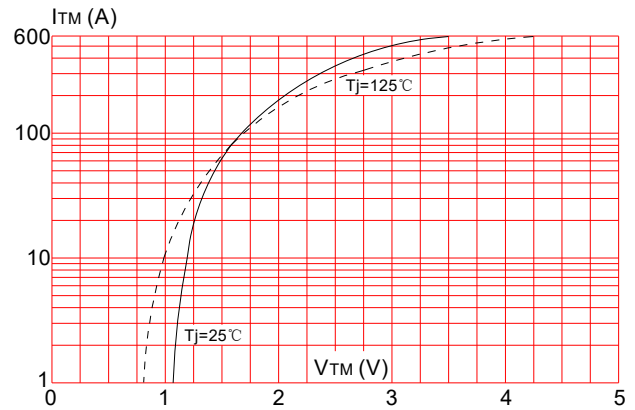
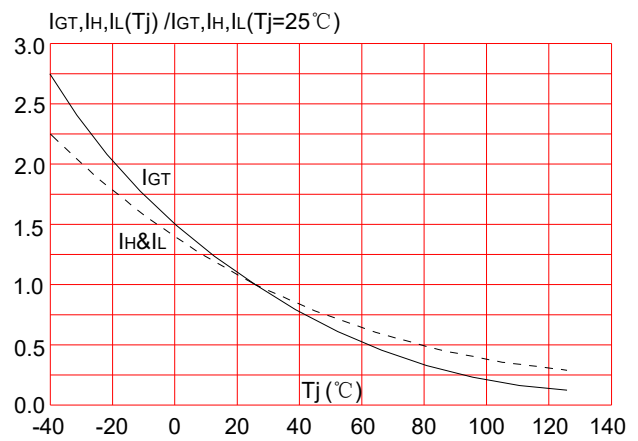


FIG.6: Relative variations of gate trigger current, holding current and latching current versus junction temperature





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