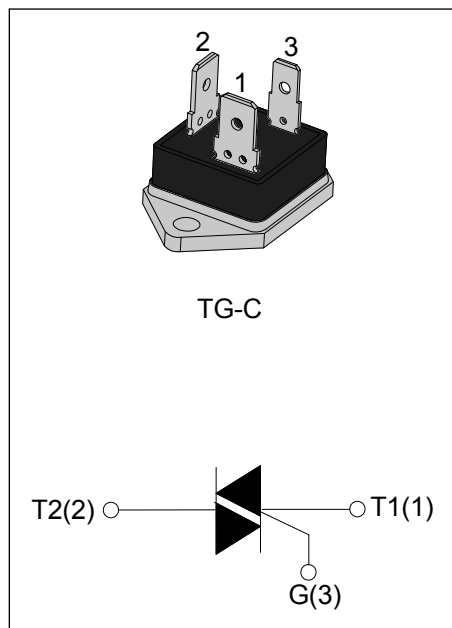




### DESCRIPTION:

JST25 series, with high ability to withstand the shock loading of large current, provide high dv/dt rate with strong resistance to electromagnetic interface. With high commutation performances, 3 quadrants products are especially recommended for use on inductive load.



### MAIN FEATURES

Symbol	Value	Unit
$I_{T(RMS)}$	25	A
$V_{DRM} / V_{RRM}$	600/800/1200	V

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Storage junction 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	V
Repetitive peak reverse voltage ( $T_j=25^{\circ}C$ )	$V_{RRM}$	600/800/1200	V
RMS on-state current	TG-C ( $T_c=90^{\circ}C$ ) $I_{T(RMS)}$	25	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	$I_{TSM}$	250	A
$I^2t$ value for fusing ( $t_p=10ms$ )	$I^2t$	340	A <sup>2</sup> s
Critical rate of rise of on-state current ( $I_G=2 \times I_{GT}$ )	dI/dt	50	A/ $\mu$ s
Peak gate current	$I_{GM}$	4	A
Average gate power dissipation	$P_{G(AV)}$	1	W
Peak gate power	$P_{GM}$	10	W

**ELECTRICAL CHARACTERISTICS** ( $T_j=25^{\circ}\text{C}$  unless otherwise specified)

$V_{\text{DRM}}/V_{\text{RRM}}$ : 600/800V

Symbol	Test Condition	Quadrant		JST25T-600/800V		Unit
				BW	CW	
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V } R_{\text{L}}=33\Omega$	I - II -III	MAX	50	35	mA
$V_{\text{GT}}$		I - II -III	MAX	1.3		V
$V_{\text{GD}}$	$V_{\text{D}}=V_{\text{DRM}} T_j=125^{\circ}\text{C}$ $R_{\text{L}}=3.3\text{K}\Omega$	I - II -III	MIN	0.2		V
$I_{\text{L}}$	$I_{\text{G}}=1.2I_{\text{GT}}$	I -III	MAX	80	70	mA
		II		100	80	
$I_{\text{H}}$	$I_{\text{T}}=100\text{mA}$		MAX	75	50	mA
dV/dt	$V_{\text{D}}=2/3V_{\text{DRM}}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	1000	500	V/ $\mu\text{s}$

$V_{\text{DRM}}/V_{\text{RRM}}$ : 600/800V

Symbol	Test Condition	Quadrant		Value	Unit
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V } R_{\text{L}}=33\Omega$	I - II -III	MAX	50	mA
		IV		70	
$V_{\text{GT}}$		ALL	MAX	1.3	V
$V_{\text{GD}}$	$V_{\text{D}}=V_{\text{DRM}} T_j=125^{\circ}\text{C}$ $R_{\text{L}}=3.3\text{K}\Omega$	ALL	MIN	0.2	V
$I_{\text{L}}$	$I_{\text{G}}=1.2I_{\text{GT}}$	I -III-IV	MAX	80	mA
		II		100	
$I_{\text{H}}$	$I_{\text{T}}=100\text{mA}$		MAX	75	mA
dV/dt	$V_{\text{D}}=2/3V_{\text{DRM}}$ Gate Open $T_j=125^{\circ}\text{C}$		MIN	500	V/ $\mu\text{s}$

$V_{\text{DRM}}/V_{\text{RRM}}$ : 1200V

Symbol	Test Condition	Quadrant		JST25T-1200V		Unit
				BW	CW	
$I_{\text{GT}}$	$V_{\text{D}}=12\text{V } R_{\text{L}}=33\Omega$	I - II -III	MAX	50	35	mA
$V_{\text{GT}}$		I - II -III	MAX	1.5		V
$V_{\text{GD}}$	$V_{\text{D}}=V_{\text{DRM}} T_j=125^{\circ}\text{C}$ $R_{\text{L}}=3.3\text{K}\Omega$	I - II -III	MIN	0.2		V

I <sub>L</sub>	I <sub>G</sub> = 1.2I <sub>GT</sub>	I - III	MAX	90	70	mA
		II		100	80	
I <sub>H</sub>	I <sub>T</sub> = 100mA		MAX	80	60	mA
dV/dt	V <sub>D</sub> = 2/3V <sub>DRM</sub> Gate Open T <sub>j</sub> = 125°C		MIN	1500	1000	V/μs

## STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX)	Unit
V <sub>TM</sub>	I <sub>TM</sub> = 35A tp = 380μs	T <sub>j</sub> = 25°C	1.5	V
I <sub>DRM</sub>	V <sub>D</sub> = V <sub>DRM</sub> V <sub>R</sub> = V <sub>R</sub> RM	T <sub>j</sub> = 25°C	5	μA
I <sub>R</sub> RM		T <sub>j</sub> = 125°C	3	mA

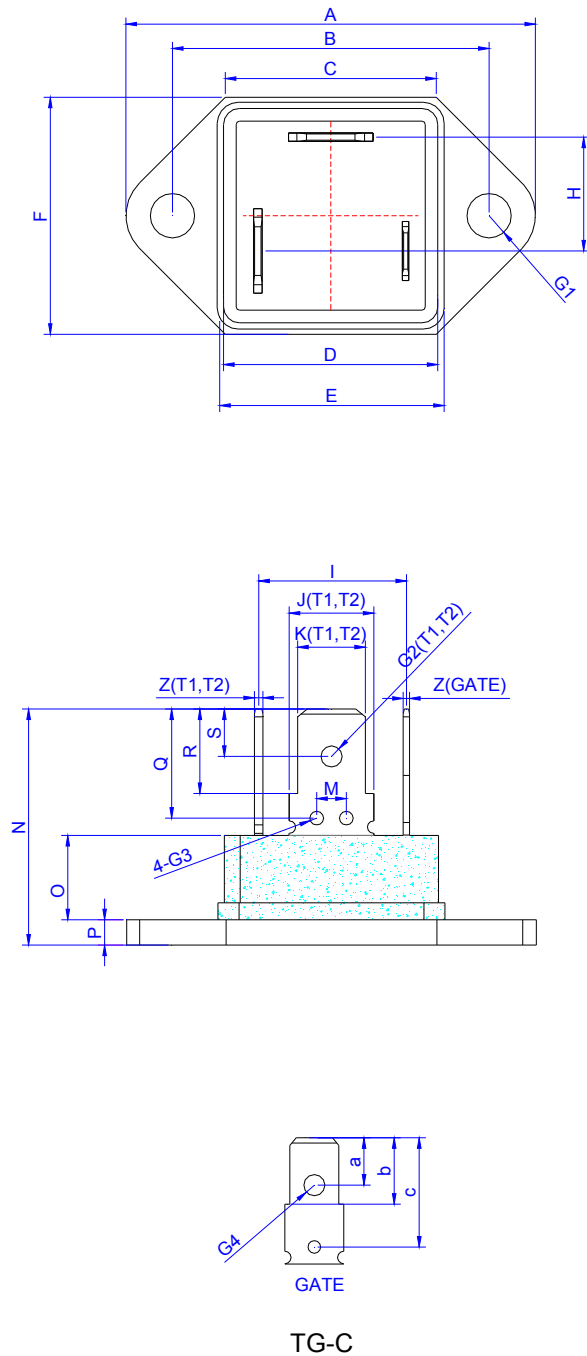
## THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
R <sub>th(j-c)</sub>	junction to case(AC)	TG-C	0.85	°C/W

## ORDERING INFORMATION

JieJie Microelectronics Co.,Ltd J Triacs I <sub>T(RMS)</sub> :25A T: TG-C	<b>ST</b> <b>25</b> <b>T</b>	-600 BW BW: I <sub>GT1-3</sub> ≤ 50mA CW: I <sub>GT1-3</sub> ≤ 35mA B: I <sub>GT1-3</sub> ≤ 50mA I <sub>GT4</sub> ≤ 70mA 600: V <sub>DRM</sub> / V <sub>R</sub> RM ≥ 600V 800: V <sub>DRM</sub> / V <sub>R</sub> RM ≥ 800V 1200: V <sub>DRM</sub> / V <sub>R</sub> RM ≥ 1200V
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PACKAGE MECHANICAL DATA

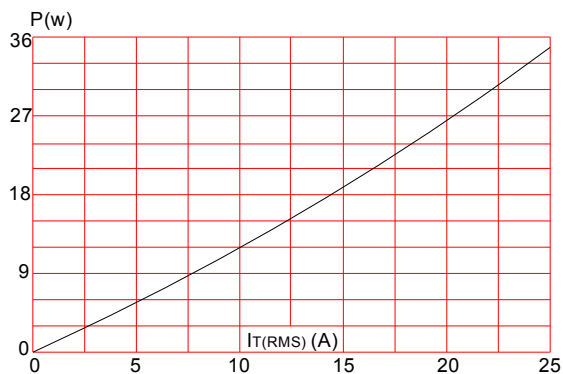


Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A			39.2			1.543
B	29.8	30.0	30.2	1.173	1.181	1.189
C			20.2			0.795
D			20.5			0.807
E			21.6			0.85
F			23			0.905
G1	Φ4.1	Φ4.2	Φ4.3	Φ0.161	Φ0.165	Φ0.169
H		10.3			0.406	
I		13.9			0.547	
J(T1,T2)		8			0.315	
K(T1,T2)		6.4			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)		Φ2	Φ2.2		Φ0.079	Φ0.087
G3	Φ1.1	Φ1.3	Φ1.5	Φ0.043	Φ0.051	Φ0.059
G4		Φ1.55	Φ1.75		Φ0.061	Φ0.069
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	

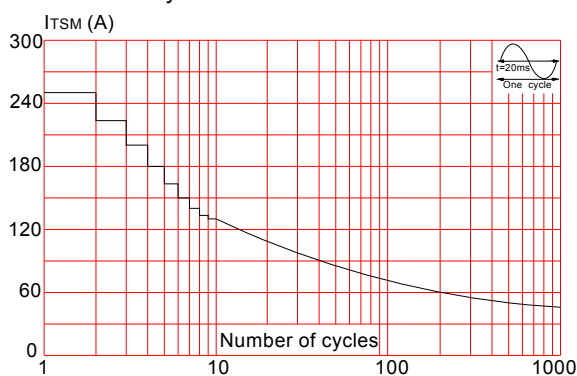
PACKAGE MECHANICAL DATA

PACKAGE	WEIGHT (PER PCS)	OUTLINE	INNER BOX (PCS)	PER CARTON (PCS)
TG-C	21.5g	BOX	80	720

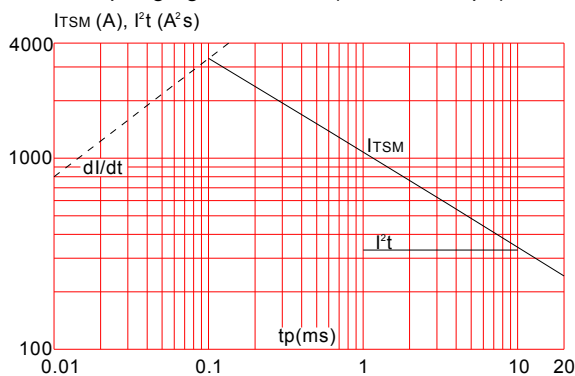
**FIG.1:** Maximum power dissipation versus RMS on-state current



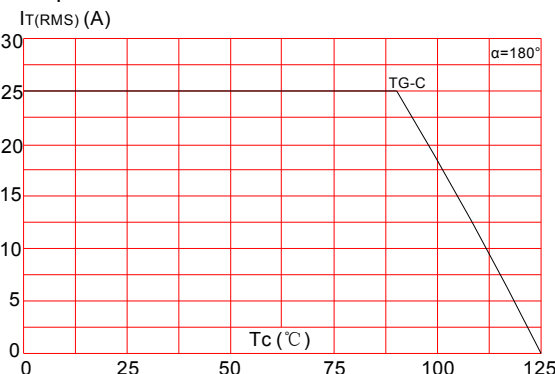
**FIG.3:** Surge peak on-state current versus number of cycles



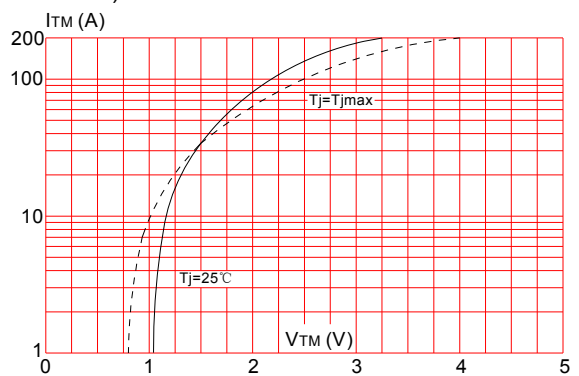
**FIG.5:** Non-repetitive surge peak on-state current for a sinusoidal pulse with width  $t_p < 20\text{ms}$ , and corresponding value of  $I^2t$  ( $di/dt < 50\text{A}/\mu\text{s}$ )



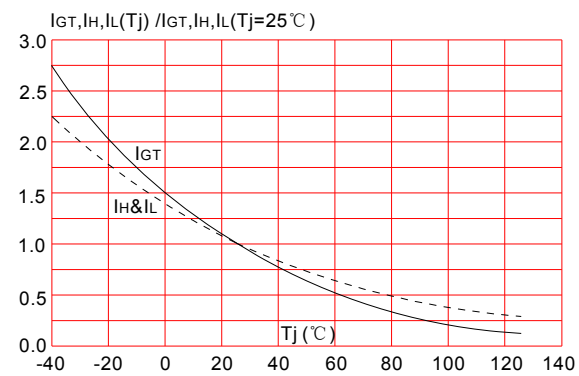
**FIG.2:** RMS on-state current versus case temperature




**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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