

P/N: YZPST-T4150 40A TRIACS

FEATURES

- Glass Passivated Junctions
- High voltage and surge capability
- Low Thermal Resistance and Durability
- Triggering in three quadrants

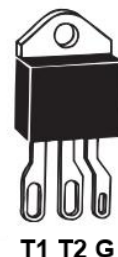
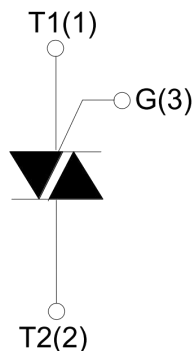
APPLICATIONS

- Static relays
- Heating regulation
- In-duction motor starting circuits
- Phase control operation in light dimmers
- Motor speed controllers



Parameters Summary

VD/VR:800/1200V IT(RMS):40A IGT:50mA



Isolated TO-218X

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 =25°C)	V _{DRM}	800/1200	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	800/1200	V
RMS on-state current(TC=80°C)	I _{T(RMS)}	40	A
Non repetitive surge peak on-state current (full cycle, F=50Hz)	I _{TSM}	400	A
I ² t value for fusing (tp=10ms)	I ² t	800	A ² S
Critical rate of rise of on-state current(I =2×I _{GT})	di/dt	50	A/μS
Peak gate current	I _{GM}	8	A
Peak gate power dissipation	P _{GM}	40	W
Average gate power dissipation	P _{G(AV)}	1	W

Thermal Resistances

Symbol	Parameter	Value	Unit
R _{th(j-c)}	Junction to case	0.85	°C/W
R _{th(j-a)}	Junction to ambient	50	

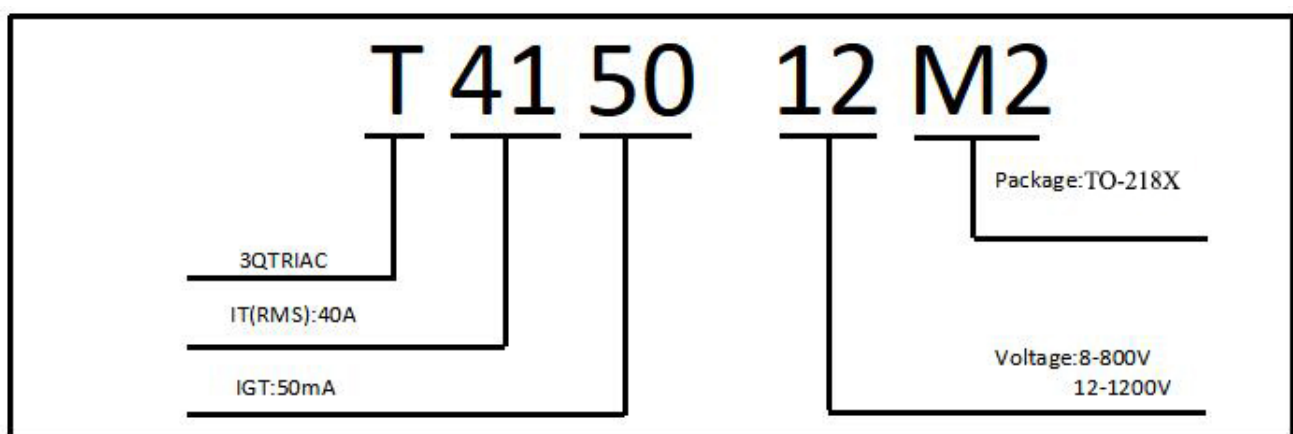
ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)

Symbol	Test Condition	Quadrant		Value	Unit
I_{GT}	$V_D=12V, I_T=0.1A, T_j=25^\circ C$	I II III	MAX.	50	mA
V_{GT}		I II III	MAX.	1.3	V
V_{GD}	$V_D=V_{DRM}, T_j=125^\circ C$	I II III	MIN.	0.2	V
I_L	$I_G=1.2I_{GT}$	I-III	MAX.	100	mA
		II		160	
I_H	$I_T=500mA$		MAX.	80	mA
dV/dt	$V_D=2/3V_{DRM}$ Gate Open $T_j=125^\circ C$		MIN.	1000	V/ μs

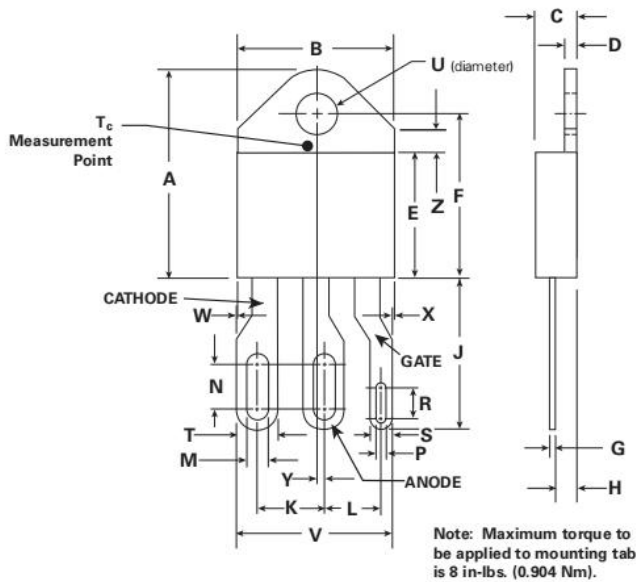
STATIC CHARACTERISTICS

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=60A, t_p=380\mu s$	$T_j=25^\circ C$	1.5	V
V_{TO}	Threshold voltage	$T_j=125^\circ C$	0.80	V
R_D	Dynamic resistance	$T_j=125^\circ C$	15	m Ω
I_{DRM}	$V_D=V_{DRM}, V_R=V_{RRM}$	$T_j=25^\circ C$	10	μA
I_{RRM}		$T_j=125^\circ C$	6	mA

Ordering Information Scheme



TO-218X Package Mechanical Data



Dimension	Inches		Millimeters	
	Min	Max	Min	Max
A	0.810	0.835	20.57	21.21
B	0.610	0.630	15.49	16.00
C	0.178	0.188	4.52	4.78
D	0.055	0.070	1.40	1.78
E	0.487	0.497	12.37	12.62
F	0.635	0.655	16.13	16.64
G	0.022	0.029	0.56	0.74
H	0.075	0.095	1.91	2.41
J	0.575	0.625	14.61	15.88
K	0.256	0.264	6.50	6.71
L	0.220	0.228	5.58	5.79
M	0.080	0.088	2.03	2.24
N	0.169	0.177	4.29	4.49
P	0.034	0.042	0.86	1.07
R	0.113	0.121	2.87	3.07
S	0.086	0.096	2.18	2.44
T	0.156	0.166	3.96	4.22
U	0.164	0.165	4.10	4.20
V	0.603	0.618	15.31	15.70
W	0.000	0.005	0.00	0.13
X	0.003	0.012	0.07	0.30
Y	0.028	0.032	0.71	0.81
Z	0.085	0.095	2.17	2.42

FIG.1 Maximum power dissipation versus on-state current

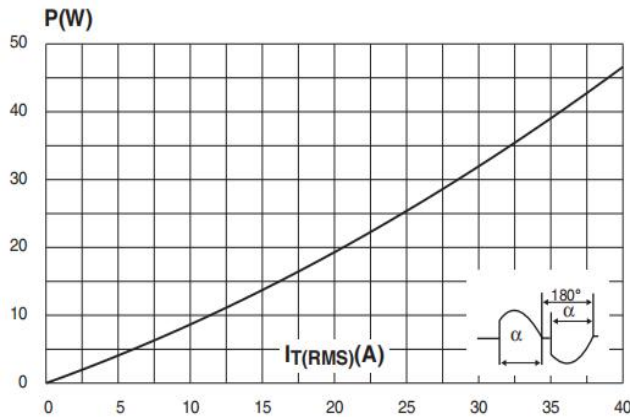


FIG.3: Surge peak on-state current versus number of cycles

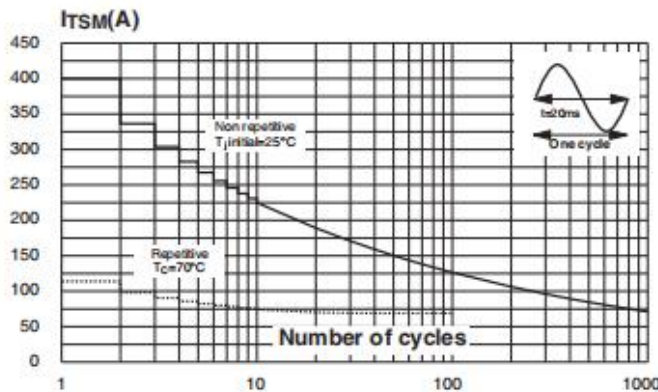
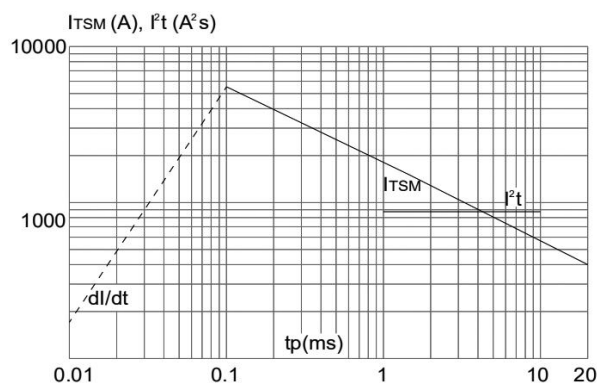


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I^2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)



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FIG.2: on-state current versus case temperature

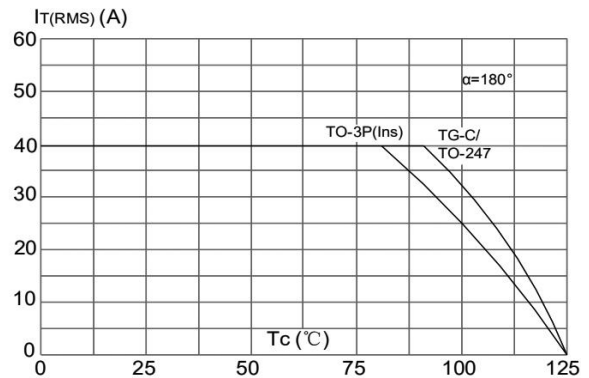


FIG.4: On-state characteristics (maximum values)

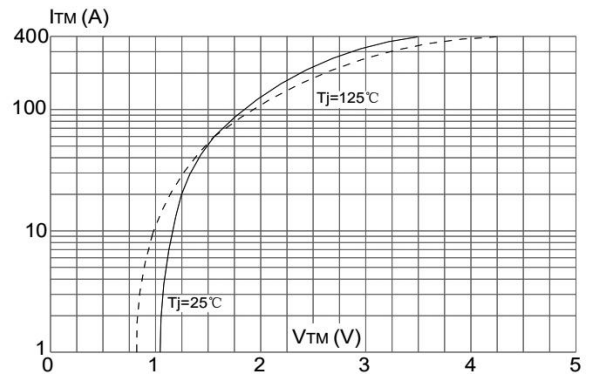


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

