

P/N: YZPST-T4150-08/16F 40A TRIACs

FEATURES

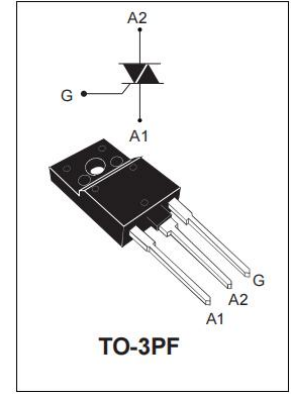
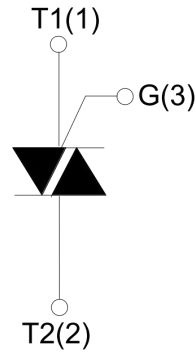
- Glass Passivated Junctions
- High voltage and surge capability
- Low Thermal Resistance and Durability
- Triggering in three quadrants

APPLICATIONS

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

Parameters Summary

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



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}	800/1600	V
Repetitive peak reverse voltage (T =25°C)	V _{RRM}	800/1600	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	0.8	°C/W
R _{th(j-a)}	Junction to ambient	50	

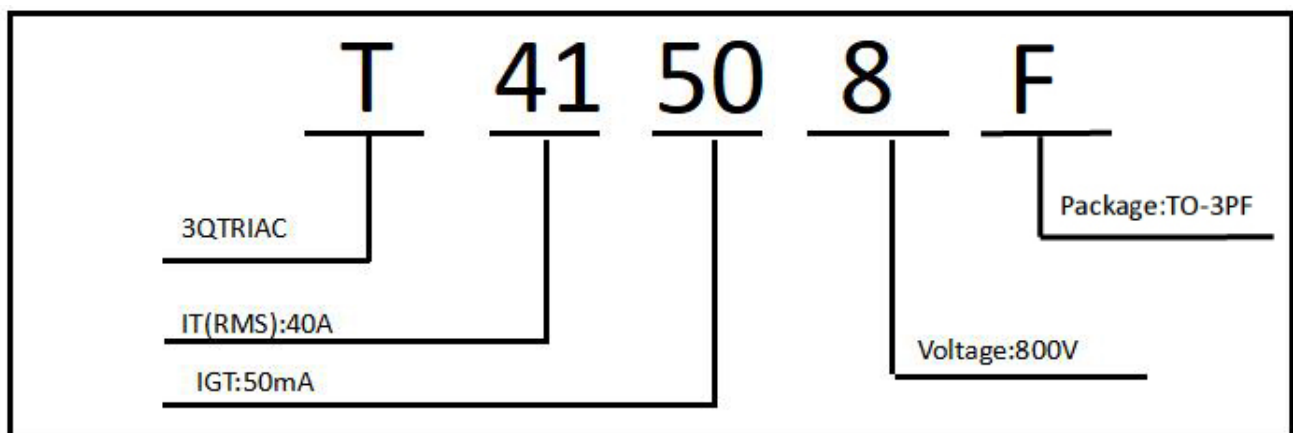
ELECTRICAL CHARACTERISTICS (T=25°C unless otherwise specified)

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-3PF Package Mechanical Data

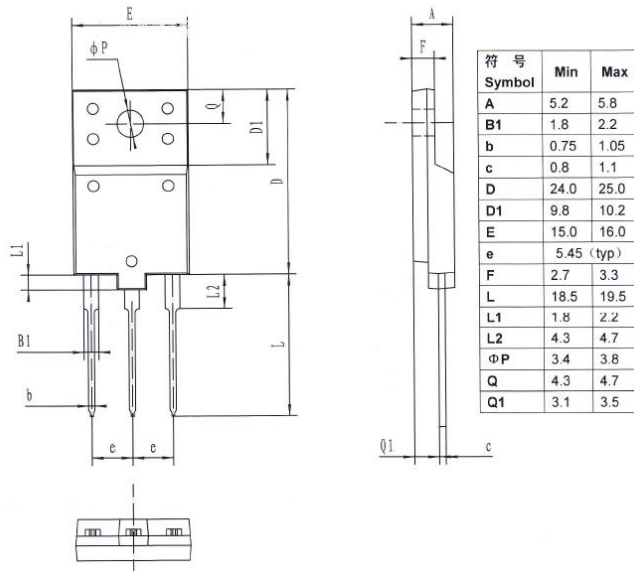


FIG.1 Maximum power dissipation versus on-state current

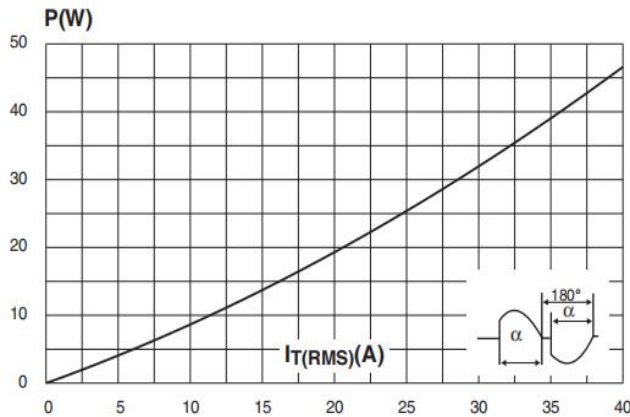


FIG.2: on-state current versus case temperature

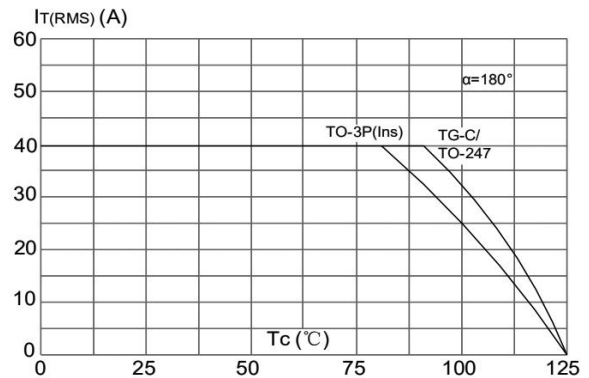


FIG.3: Surge peak on-state current versus number of cycles

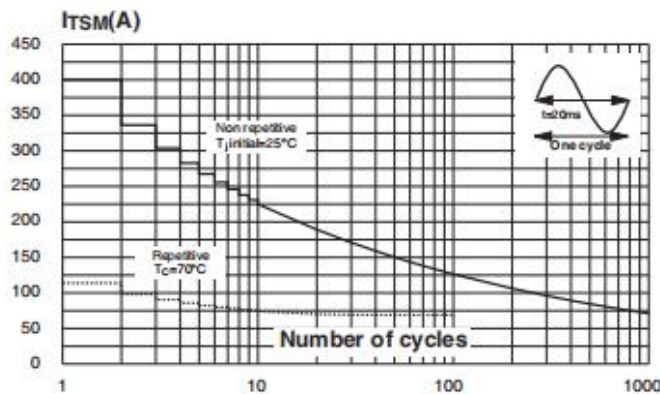


FIG.4: On-state characteristics (maximum values)

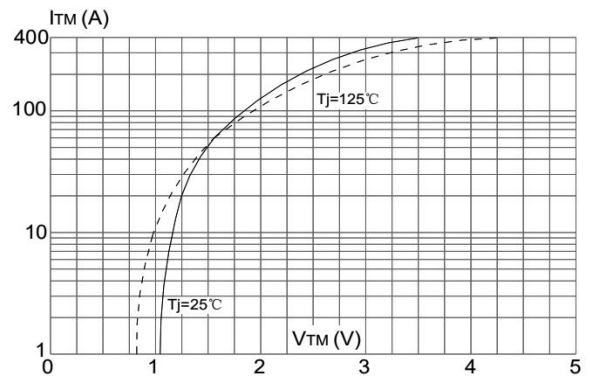


FIG.5: Non-repetitive surge peak on-state current for a sinusoidal pulse with width $t_p < 10\text{ms}$, and corresponding value of $I_2 t$ ($di/dt < 50\text{A}/\mu\text{s}$)

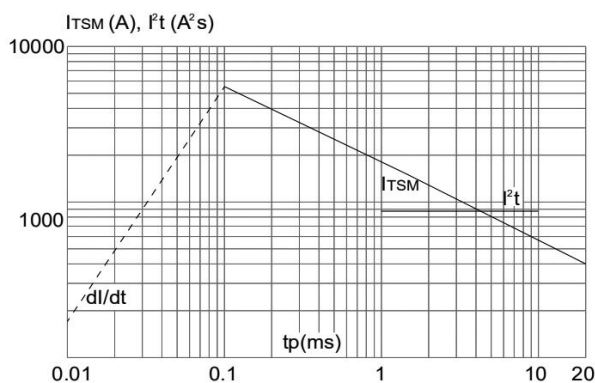


FIG.6: Relative variations of gate trigger current holding current and latching current versus junction temperature

