

# TO-220F 16A Triac

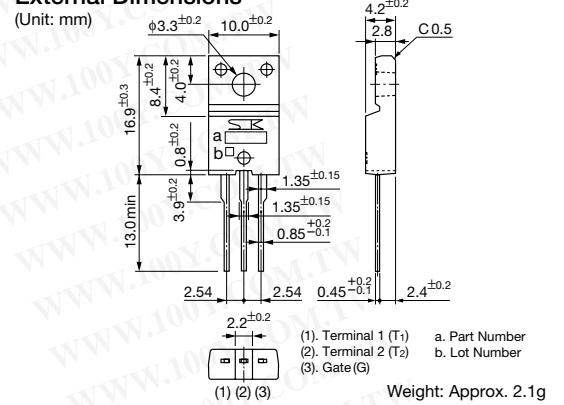
## TM1641S-L, TM1661S-L

### ■ Features

- Repetitive peak off-state voltage:  $V_{DRM}=400, 600V$
- RMS on-state current:  $I_{T(RMS)}=16A$
- Gate trigger current:  $I_{GT}=30mA$  max (MODE I, II, III)
- Isolation voltage:  $V_{ISO}=1500V$ (50Hz Sine wave, RMS)
- UL approved type available

勝特力材料 886-3-5753170  
 胜特力电子(上海) 86-21-34970699  
 胜特力电子(深圳) 86-755-83298787  
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### External Dimensions



### ■ Absolute Maximum Ratings

Parameter	Symbol	Ratings		Unit	Conditions
		TM1641S-L	TM1661S-L		
Repetitive peak off-state voltage	$V_{DRM}$	400	600	V	
RMS on-state current	$I_{T(RMS)}$	16		A	Conduction angle 360°, $T_c=74^\circ C$
Surge on-state current	$I_{TSM}$	150		A	50Hz full-cycle sinewave, Peak value, Non-repetitive, $T_j=125^\circ C$
Peak gate voltage	$V_{GM}$	10		V	
Peak gate current	$I_{GM}$	2		A	
Peak gate power loss	$P_{GM}$	5		W	
Average gate power loss	$P_{G(AV)}$	0.5		W	
Junction temperature	$T_j$	-40 to +125		°C	
Storage temperature	$T_{stg}$	-40 to +125		°C	
Isolation voltage	$V_{ISO}$	1500		Vrms	50Hz Sine wave, RMS, Terminal to Case, 1 min.

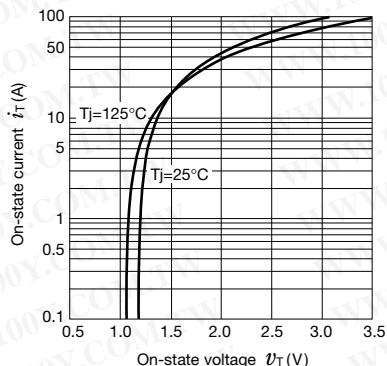
### ■ Electrical Characteristics

( $T_j=25^\circ C$ , unless otherwise specified)

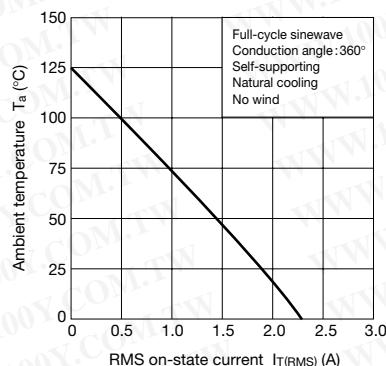
Parameter	Symbol	Ratings			Unit	Conditions
		min	typ	max		
Off-state current	$I_{DRM}$		0.3	2.0	mA	$V_D=V_{DRM}, R_{GK}=\infty, T_j=125^\circ C$
				0.1		$V_D=V_{DRM}, R_{GK}=\infty, T_j=25^\circ C$
On-state voltage	$V_{TM}$			1.6	V	Parse test, $I_{TM}=20A$
Gate trigger voltage	$V_{GT}$	I	0.8	2.0	V	$V_D=6V, R_L=10\Omega, T_c=25^\circ C$
		II	0.7	2.0		
		III	0.8	2.0		
		IV	1.0			
Gate trigger current	$I_{GT}$	I	12	30	mA	$V_D=6V, R_L=10\Omega, T_c=25^\circ C$
		II	16	30		
		III	25	30		
		IV	70			
Gate non-trigger voltage	$V_{GD}$	0.2			V	$V_D=1/2 \times V_{DRM}, T_j=125^\circ C$
Holding current	$I_H$		25		mA	$V_D=6V$
Thermal resistance	$R_{th}$			3.0	°C/W	Junction to case

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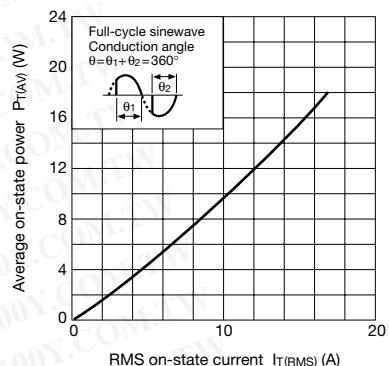
$v_T - i_T$  Characteristics (max)



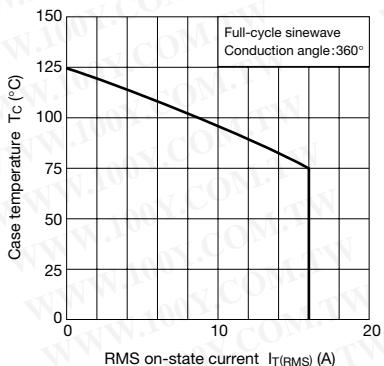
$i_T(\text{RMS}) - T_a$  Ratings



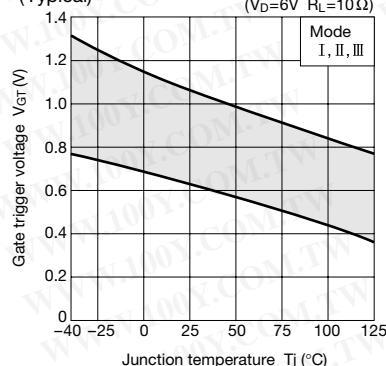
$i_T(\text{RMS}) - P_T(\text{AV})$  Characteristics



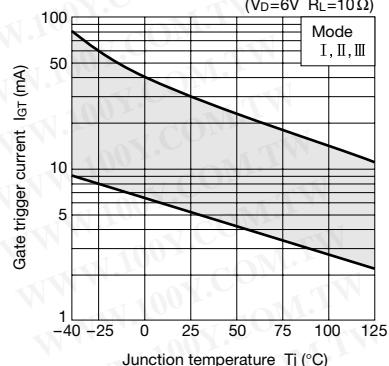
$i_T(\text{RMS}) - T_c$  Ratings



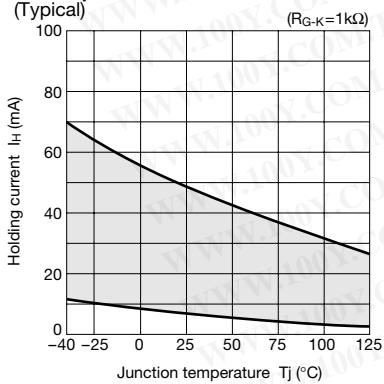
$V_{GT}$  temperature characteristics (Typical)



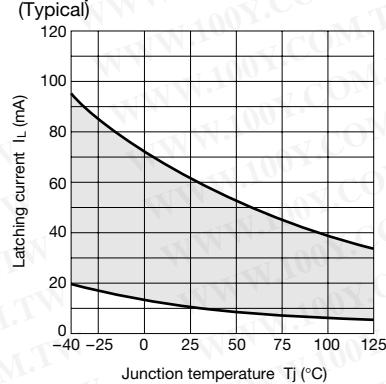
$i_{GT}$  temperature characteristics



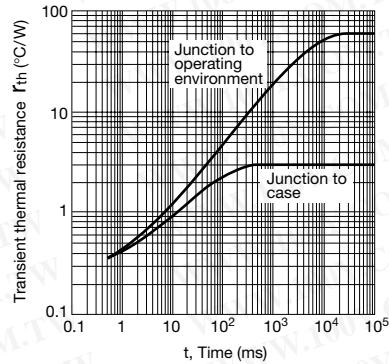
$i_H$  temperature Characteristics (Typical)



$i_L$  temperature Characteristics (Typical)



Transient thermal resistance Characteristics



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