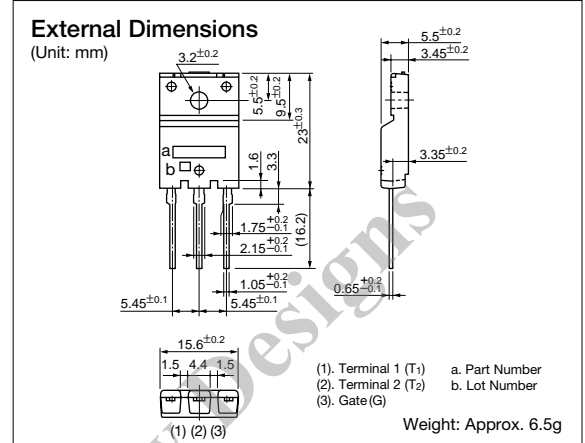


# TO-3PF 25A Triac

## TM2541B-L, TM2561B-L

### ■ Features

- Repetitive peak off-state voltage:  $V_{DRM}=400, 600V$
- RMS on-state current:  $I_{T(RMS)}=25A$
- Gate trigger current:  $I_{GT}=30mA$  max (MODE I, II, III)
- Isolation voltage:  $V_{ISO}=2000V(AC, 1min.)$
- UL approved type available



### ■ Absolute Maximum Ratings

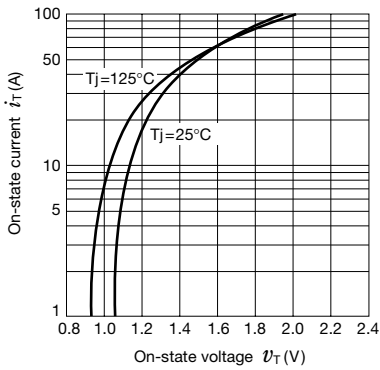
Parameter	Symbol	Ratings		Unit	Conditions
		TM2541B-L	TM2561B-L		
Repetitive peak off-state voltage	$V_{DRM}$	400	600	V	$R_{GK}=\infty, T_J=-40^{\circ}C$ to $+125^{\circ}C$
RMS on-state current	$I_{T(RMS)}$	25		A	Conduction angle 360°, $T_C=84^{\circ}C$
Surge on-state current	$I_{TSM}$	240		A	50Hz full-cycle sine wave, Peak value, Non-repetitive, $T_J=125^{\circ}C$
Peak gate voltage	$V_{GM}$	10		V	$f \geq 50Hz, duty \leq 10\%$
Peak gate current	$I_{GM}$	2		A	$f \geq 50Hz, duty \leq 10\%$
Peak gate power loss	$P_{GM}$	5		W	$f \geq 50Hz, duty \leq 10\%$
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	$V_{ISO}$	2000		Vrms	50Hz Sine wave, RMS, Terminal to Case, 1 min.

### ■ Electrical Characteristics

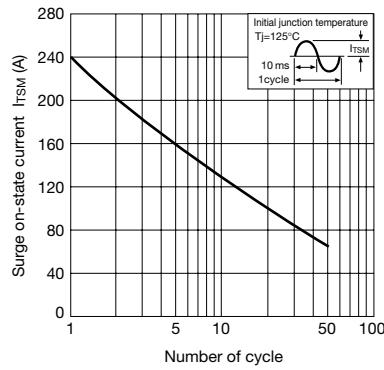
Parameter	Symbol	Ratings			Unit	Conditions	
		min	typ	max			
Off-state current	$I_{DRM}$		0.3	2.0	mA	$V_D=V_{DRM}, R_{GK}=\infty, T_J=125^{\circ}C$	
				0.1		$V_D=V_{DRM}, R_{GK}=\infty, T_J=25^{\circ}C$	
On-state voltage	$V_{TM}$			1.3	V	$I_{TM}=20A, T_C=25^{\circ}C$	
Gate trigger voltage	$V_{GT}$	I	0.8	2.0	V	$V_D=6V, R_L=10\Omega, T_C=25^{\circ}C$	$T_2^+, G^+$
		II	0.8	2.0			$T_2^+, G^-$
		III	0.8	2.0			$T_2^-, G^-$
		IV	1.0				$T_2^-, G^+$
Gate trigger current	$I_{GT}$	I	17	30	mA	$V_D=6V, R_L=10\Omega, T_C=25^{\circ}C$	$T_2^+, G^+$
		II	19	30			$T_2^+, G^-$
		III	22	30			$T_2^-, G^-$
		IV	50				$T_2^-, G^+$
Gate non-trigger voltage	$V_{GD}$	0.2			V	$V_D=1/2 \times V_{DRM}, T_J=125^{\circ}C$	
Holding current	$I_H$		40		mA	$T_J=25^{\circ}C$	
Rate-of-rise of off-state commutation voltage	$(dv/dt)_c$	10			V/ $\mu s$	$V_D=400V, T_J=125^{\circ}C$	
Thermal resistance	$R_{th}$			1.5	°C/W	Junction to case	

# TM2541B-L, TM2561B-L

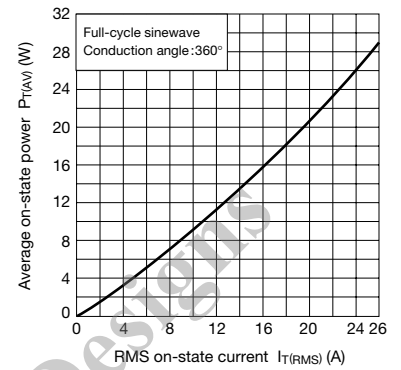
$v_T - i_T$  Characteristics (max)



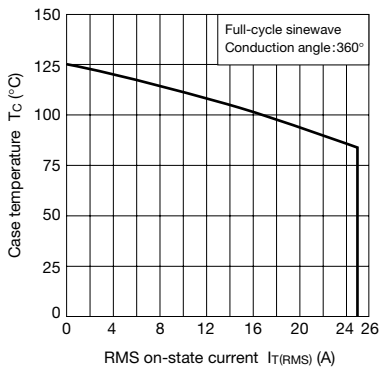
ITSM Ratings



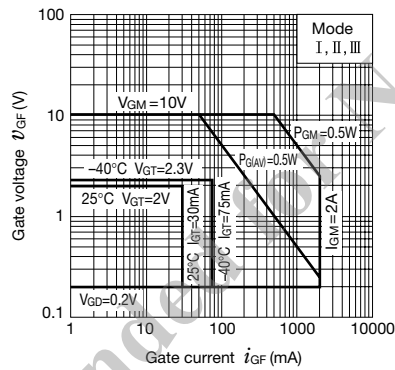
$I_T(RMS) - P_{T(AV)}$  Characteristics



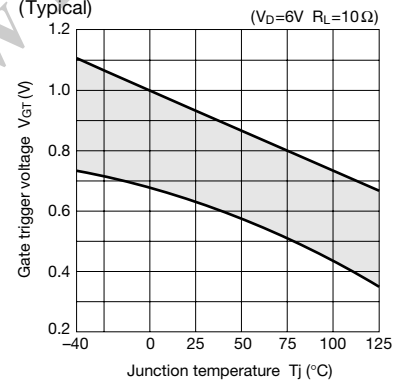
$I_T(RMS) - T_c$  Ratings



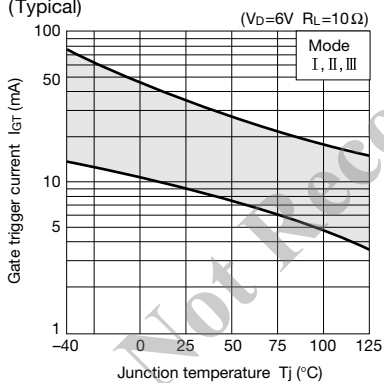
Gate Characteristics



$V_{GT}$  temperature characteristics (Typical)



$I_{GT}$  temperature characteristics (Typical)



$r_{th(j-c)} - t$  Characteristics

