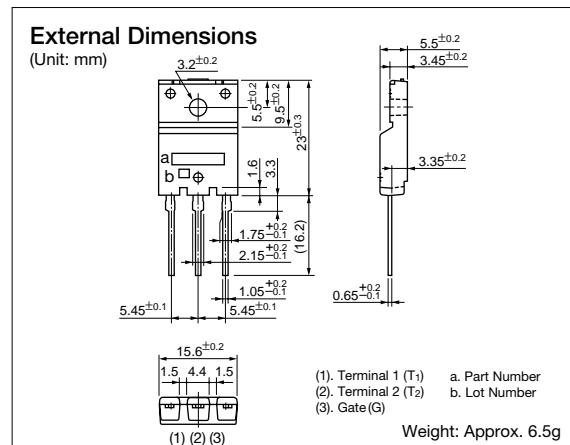


TO-3PF 16A Triac

TM1641B-L, TM1661B-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)
- Rate-of-rise of off-state commutation voltage: $(dv/dt)_c=10V/\mu s$ min.
- Isolation voltage: $V_{ISO}=2000V(AC, 1min.)$
- UL approved type available



Absolute Maximum Ratings

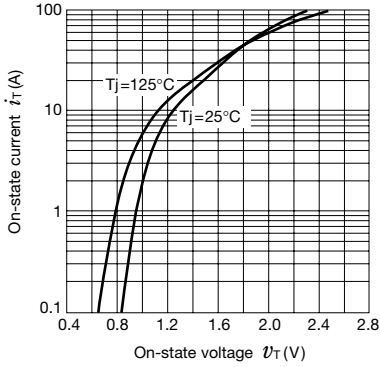
Parameter	Symbol	Ratings		Unit	Conditions
		TM1641B-L	TM1661B-L		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	16		A	Conduction angle 360°, $T_c=92.5^\circ C$
Surge on-state current	I_{TSM}	160		A	50Hz full-cycle sine wave, Peak value, Non-repetitive, $T_j=125^\circ C$
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		$^\circ C$	
Storage temperature	T_{stg}	-40 to +125		$^\circ C$	
Isolation voltage	V_{ISO}	2000		Vrms	50Hz Sine wave, RMS, Terminal to Case, 1 min.

Electrical Characteristics

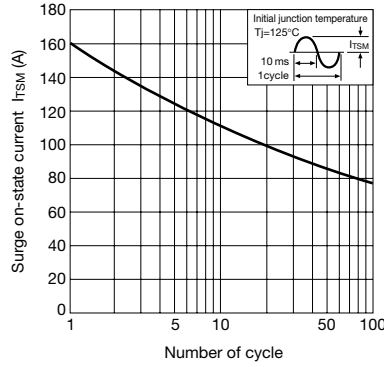
Parameter	Symbol	Ratings			Unit	Conditions	
		min	typ	max			
Off-state current	I_{DRM}		0.1	2.0	mA	$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_j=125^\circ C$	
				0.1		$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_j=25^\circ C$	
On-state voltage	V_{TM}			1.6	V	$I_{TM}=20A$, $T_c=25^\circ C$	
Gate trigger voltage	V_{GT}	I	0.8	1.5	V	$V_D=6V$, $R_L=10\Omega$, $T_c=25^\circ C$	T_2^+ , G^+
		II	0.7	1.5			T_2^- , G^-
		III	0.8	1.5			T_2^- , G^-
		IV	1.0				T_2^+ , G^+
Gate trigger current	I_{GT}	I	12	30	mA	$V_D=6V$, $R_L=10\Omega$, $T_c=25^\circ C$	T_2^+ , G^+
		II	16	30			T_2^+ , G^-
		III	25	30			T_2^- , G^-
		IV	70				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		25		mA	$T_j=25^\circ C$	
Rate-of-rise of off-state commutation voltage	$(dv/dt)_c$	10			V/ μs	$V_D=400V$, $T_j=125^\circ C$	
Thermal resistance	R_{th}			1.8	$^\circ C/W$	Junction to case	

TM1641B-L, TM1661B-L

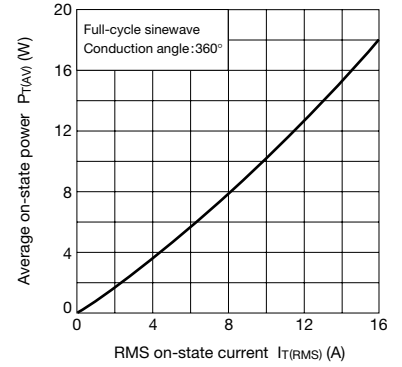
$V_T - I_T$ Characteristics (max)



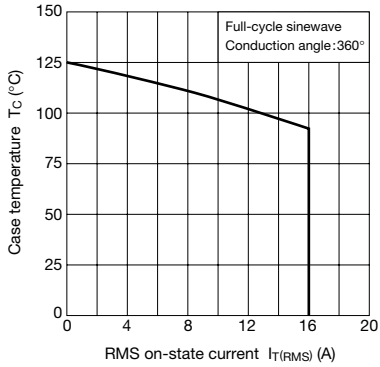
I_{TSM} Ratings



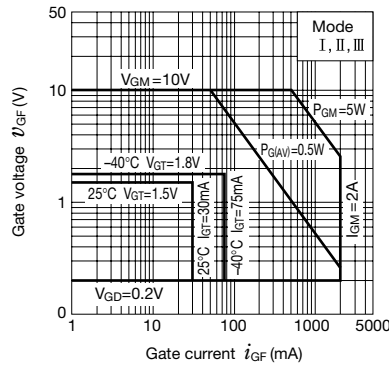
$I_T(RMS) - P_T(AV)$ Characteristics



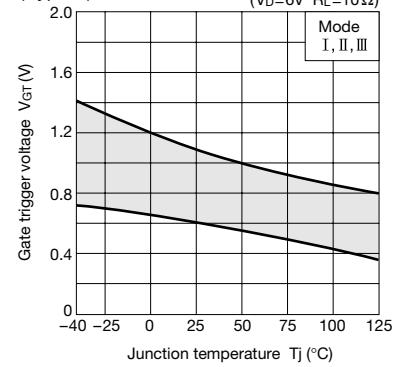
$I_T(RMS) - T_C$ Ratings



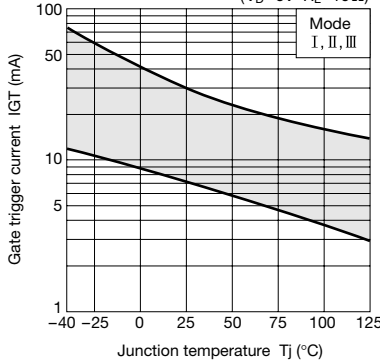
Gate Characteristics



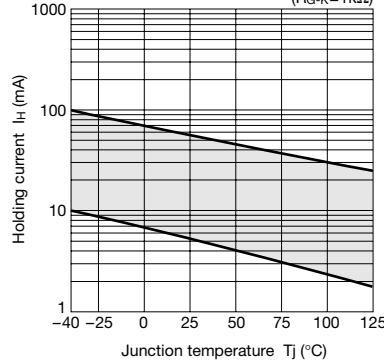
V_{GT} temperature characteristics (Typical)



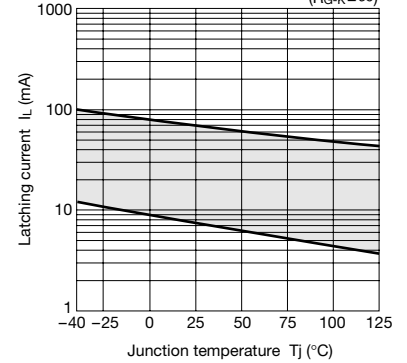
I_{GT} temperature characteristics (Typical)



I_H temperature characteristics (Typical)



I_L temperature characteristics (Typical)



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

