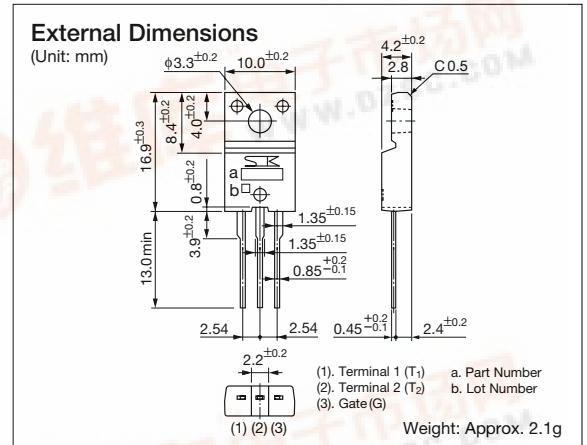


TO-220F 5A Triac

TM541S-L, TM561S-L

Features

- Repetitive peak off-state voltage: $V_{DRM}=400, 600V$
- RMS on-state current: $I_{T(RMS)}=5A$
- Gate trigger current: $I_{GT}=20mA$ max (MODE I, II, III)
- Isolation voltage: $V_{ISO}=1500V$ (50Hz Sine wave, RMS)
- UL approved type available



Absolute Maximum Ratings

Parameter	Symbol	Ratings		Unit	Conditions
		TM541S-L	TM561S-L		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	5.0		A	Conduction angle 360°, $T_c=104^{\circ}C$
Surge on-state current	I_{TSM}	50		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		$^{\circ}C$	
Storage temperature	T_{stg}	-40 to +125		$^{\circ}C$	
Isolation voltage	V_{ISO}	1500		Vrms	50Hz Sine wave, RMS, Terminal to Case, 1 min.

Electrical Characteristics

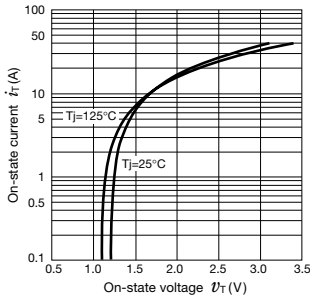
($T_j=25^{\circ}C$, unless otherwise specified)

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	Pulse test, $I_{TM}=7A$	
Gate trigger voltage	V_{GT}	I	0.7	2.0	V	$V_D=6V, R_L=10\Omega, T_c=25^{\circ}C$	T_2^+, G^+
		II	0.7	2.0			T_2^+, G^-
		III	0.8	2.0			T_2^-, G^-
		IV	0.8				T_2^-, G^+
Gate trigger current	I_{GT}	I	7	20	mA	$V_D=6V, R_L=10\Omega, T_c=25^{\circ}C$	T_2^+, G^+
		II	8	20			T_2^+, G^-
		III	10	20			T_2^-, G^-
		IV	15				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		5		mA	$V_D=6V$	
Thermal resistance	R_{th}			4.0	$^{\circ}C/W$	Junction to case	

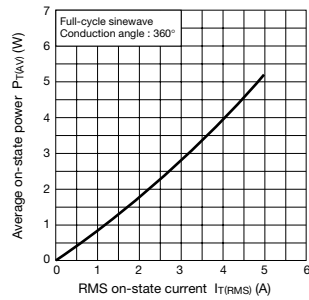


TM541S-L, TM561S-L

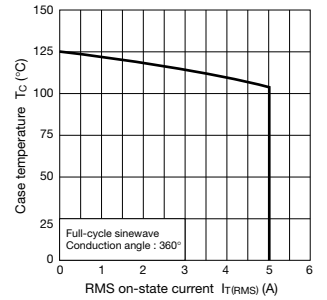
$v_T - i_T$ Characteristics (max)



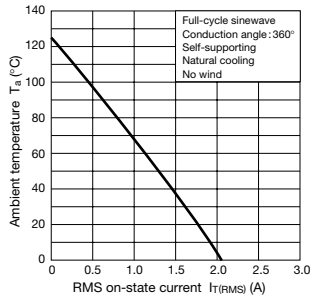
$I_T(\text{RMS}) - P_T(\text{AV})$ Characteristics



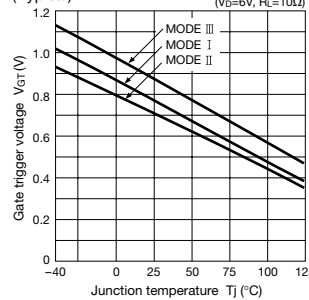
$I_T(\text{RMS}) - T_c$ Ratings



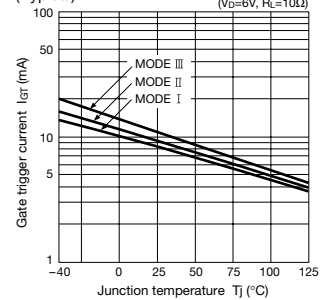
$I_T(\text{RMS}) - T_a$ Ratings



V_{GT} temperature characteristics (Typical)



I_{GT} temperature characteristics (Typical)



Transient thermal resistance Characteristics

