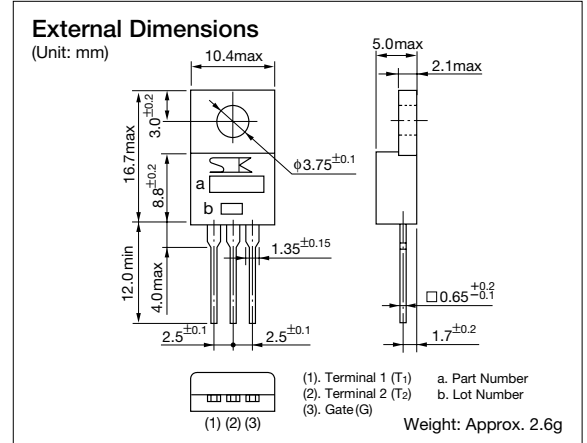


TO-220 5A Triac

TM541M-L, TM561M-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)



■ Absolute Maximum Ratings

Parameter	Symbol	Ratings		Unit	Conditions
		TM541M-L	TM561M-L		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	5.0		A	Conduction angle 360°, $T_c=111^\circ C$
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		$^\circ C$	

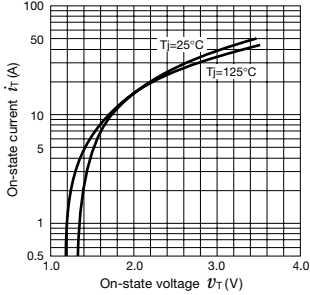
■ Electrical Characteristics

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

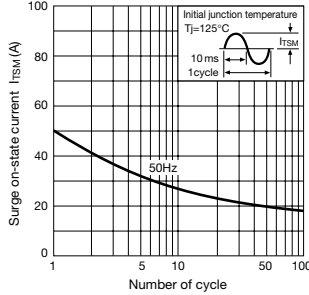
Parameter	Symbol	Ratings			Unit	Conditions		
		min	typ	max				
Off-state current	I_{DRM}		0.3	2.0	mA	$V_D=V_{DRM}, R_{GK}=\infty, T_j=125^\circ C$		
				0.1		$V_D=V_{DRM}, R_{GK}=\infty, T_j=25^\circ C$		
On-state voltage	V_{TM}			1.6	V	Pulse test, $I_{TM}=7A$		
Gate trigger voltage	I	V_{GT}		0.7	2.0	V	$V_D=6V, R_L=10\Omega, T_c=25^\circ C$	T_2^+, G^+
				0.7	2.0			T_2^+, G^-
				0.8	2.0			T_2^-, G^-
				0.8				T_2^-, G^+
Gate trigger current	I	I_{GT}		7	20	mA	$V_D=6V, R_L=10\Omega, T_c=25^\circ C$	T_2^+, G^+
				8	20			T_2^+, G^-
				10	20			T_2^-, G^-
				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}			2.7	$^\circ C/W$	Junction to case		

TM541M-L, TM561M-L

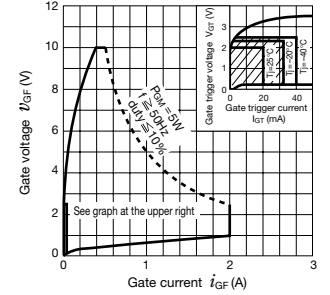
$V_T - I_T$ Characteristics (max)



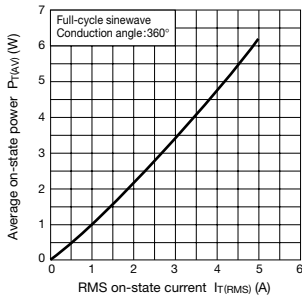
I_{TSM} Ratings



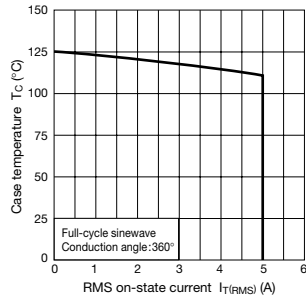
Gate Characteristics



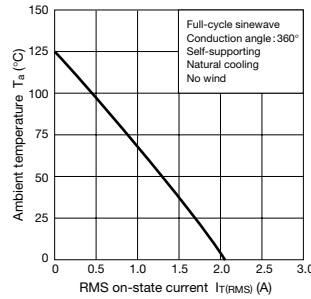
$I_T(RMS) - P_T(AV)$ Characteristics



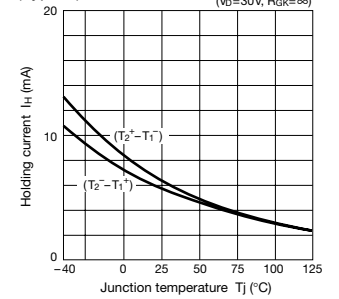
$I_T(RMS) - T_C$ Ratings



$I_T(RMS) - T_a$ Ratings

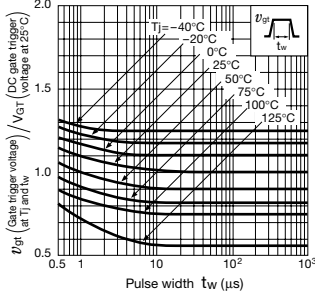


I_H temperature Characteristics (Typical)

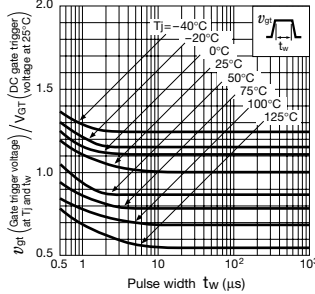


Pulse trigger temperature Characteristics V_{gt} (Typical)

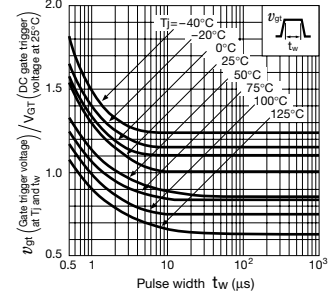
(MODE-I)



(MODE-II)

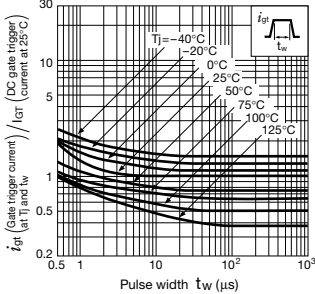


(MODE-III)

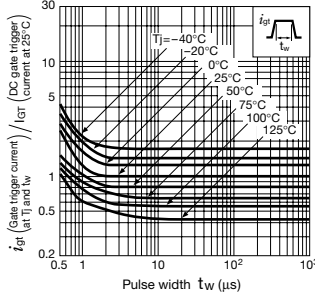


Pulse trigger temperature Characteristics i_{gt} (Typical)

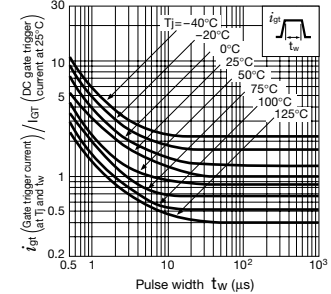
(MODE-I)



(MODE-II)

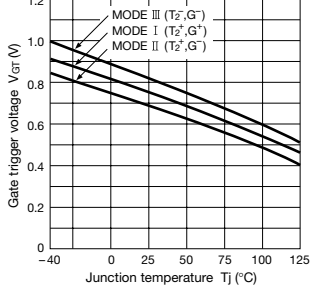


(MODE-III)



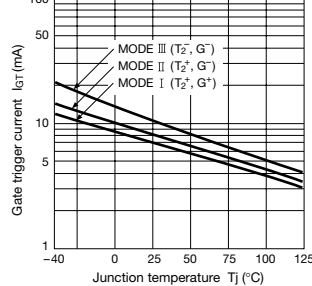
V_{GT} temperature characteristics (Typical)

($V_D=6V, R_L=10\Omega$)



I_{GT} temperature characteristics (Typical)

($V_D=6V, R_L=10\Omega$)



Transient thermal resistance Characteristics (Junction to case)

