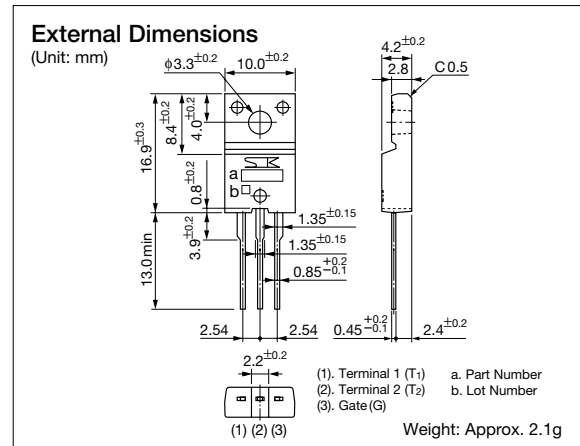


TO-220F 12A Triac

TM1241S-L, TM1261S-L

■ Features

- Repetitive peak off-state voltage: $V_{DRM}=400, 600V$
- RMS on-state current: $I_{T(RMS)}=12A$
- Gate trigger current: $I_{GT}=30mA$ 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
		TM1241S-L	TM1261S-L		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	12.0		A	Conduction angle 360°, $T_c=85^{\circ}C$
Surge on-state current	I_{TSM}	120		A	50Hz full-cycle sine wave, 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.

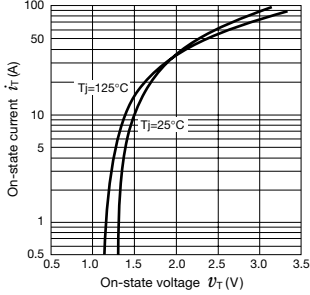
■ Electrical Characteristics

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

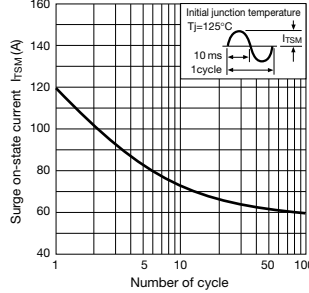
Parameter		Symbol	Ratings			Unit	Conditions	
			min	typ	max			
Off-state current		I _{DRM}		0.3	2.0	mA	V _D =V _{DRM} , R _{GK} =∞, T _j =125°C	
					0.1		V _D =V _{DRM} , R _{GK} =∞, T _j =25°C	
On-state voltage		V _{TM}			1.6	V	Pulse test, I _{TM} =16A	
Gate trigger voltage	I	V _{GT}		0.8	2.0	V	V _D =6V, R _L =10Ω, T _C =25°C	T ₂ ⁺ , G ⁺
	II			0.7	2.0			T ₂ ⁺ , G ⁻
	III			0.8	2.0			T ₂ ⁻ , G ⁻
	IV			1.0				T ₂ ⁻ , G ⁺
Gate trigger current	I	I _{GT}		12	30	mA	V _D =6V, R _L =10Ω, T _C =25°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×V _{DRM} , T _j =125°C	
Holding current		I _H		20		mA	V _D =6V	
Thermal resistance		R _{th}			3.0	°C/W	Junction to case	

TM1241S-L, TM1261S-L

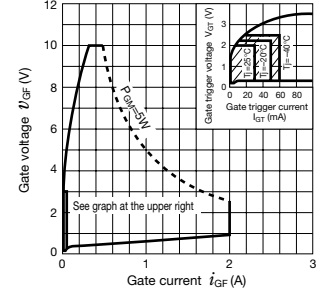
$V_T - I_T$ Characteristics (max)



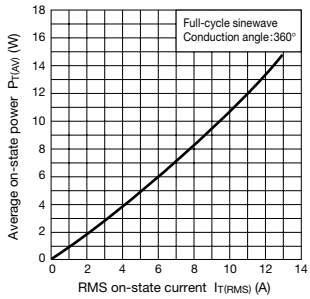
I_{TSM} Ratings



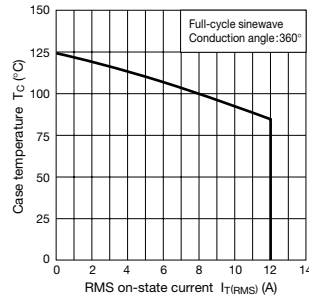
Gate Characteristics



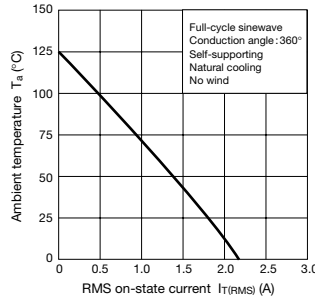
$I_T(RMS) - P_T(AV)$ Characteristics



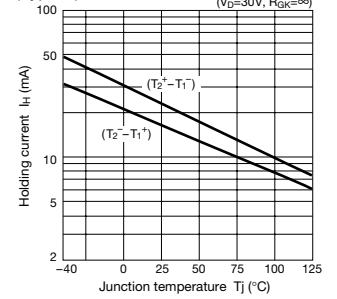
$I_T(RMS) - T_C$ Ratings



$I_T(RMS) - T_a$ Ratings

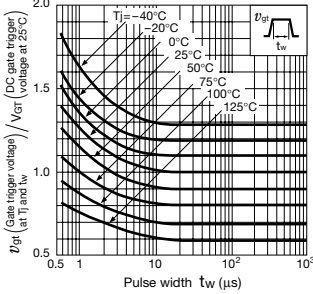


I_H temperature Characteristics (Typical)

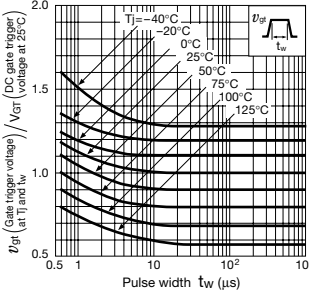


Pulse trigger temperature Characteristics V_{gt} (Typical)

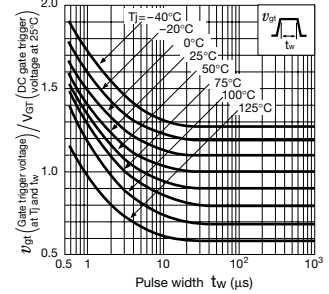
(MODE-I)



(MODE-II)

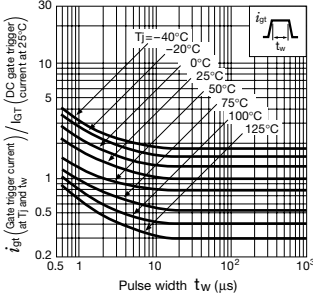


(MODE-III)

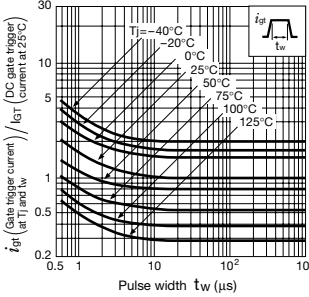


Pulse trigger temperature Characteristics i_{gt} (Typical)

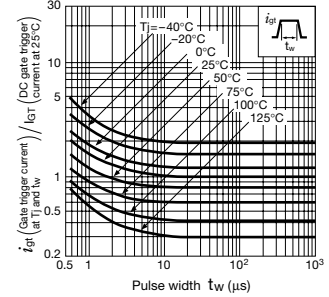
(MODE-I)



(MODE-II)

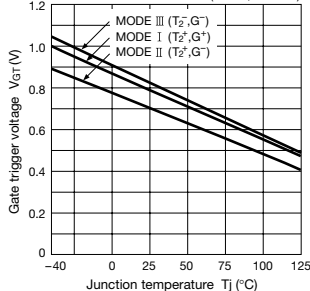


(MODE-III)



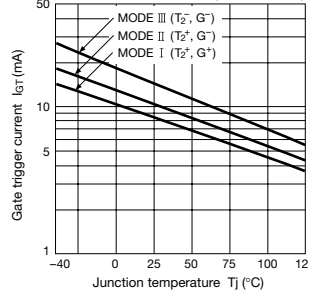
V_{GT} temperature characteristics (Typical)

($V_D=6V, R_L=100\Omega$)



I_{GT} temperature characteristics (Typical)

($V_D=6V, R_L=100\Omega$)



Transient thermal resistance Characteristics

