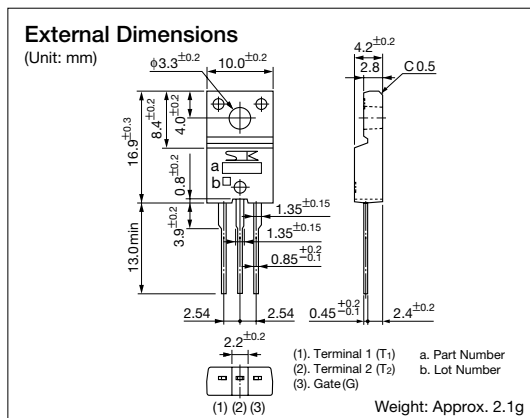


TO-220F 12A Triac

TM1241S-R, TM1261S-R

Features

- Repetitive peak off-state voltage: $V_{DRM}=400, 600V$
- RMS on-state current: $I_{T(RMS)}=12A$
- Gate trigger current: $I_{GT}=8mA$ max (MODE I, II, III)
- Isolation voltage: $V_{ISO}=1500V$ (50Hz Sine wave, RMS)
- For resistive load
- UL approved type available



Absolute Maximum Ratings

Parameter	Symbol	Ratings		Unit	Conditions
		TM1241S-R	TM1261S-R		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	12		A	Conduction angle 360°, $T_c=84^\circ C$
Surge on-state current	I_{TSM}	110		A	50Hz full-cycle sinewave, Peak value, Non-repetitive, $T_j=125^\circ C$
Peak gate voltage	V_{GM}	—		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.

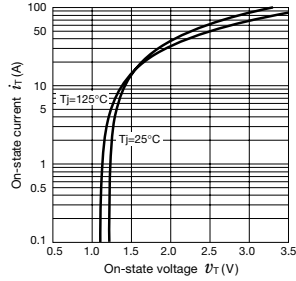
Electrical Characteristics

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

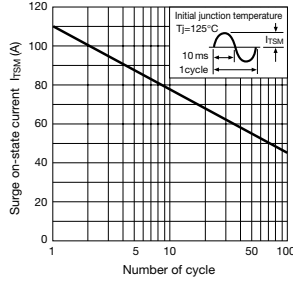
Parameter	Symbol	Ratings			Unit	Conditions	
		min	typ	max			
Off-state current	I_{DRM}			2.0	mA	$V_D=V_{DRM}, R_{GK}=\infty, T_j=125^\circ C$	
				0.1		$V_D=V_{DRM}, R_{GK}=\infty, T_j=25^\circ C$	
On-state voltage	V_{TM}			1.6	V	Pulse test, $I_{TM}=16A$	
Gate trigger voltage	V_{GT}	I	1.1	1.8	V	$V_D=6V, R_L=10\Omega, T_C=25^\circ C$	T_2^+, G^+
		II	0.6	1.2			T_2^+, G^-
		III	0.7	1.2			T_2^-, G^-
		IV	2.1				T_2^-, G^+
Gate trigger current	I_{GT}	I	5	8	mA	$V_D=6V, R_L=10\Omega, T_C=25^\circ C$	T_2^+, G^+
		II	4.5	8			T_2^+, G^-
		III	5	8			T_2^-, G^-
		IV	25				T_2^-, G^+
Gate non-trigger voltage	V_{GD}	0.1			V	$V_D=1/2 \times V_{DRM}, T_j=125^\circ C$	
Holding current	I_H		6		mA	$V_D=6V$	
Thermal resistance	R_{th}			3.0	$^\circ C/W$	Junction to case	

TM1241S-R, TM1261S-R

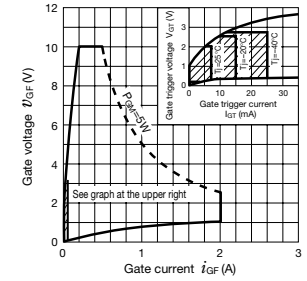
$V_T - I_T$ Characteristics (max)



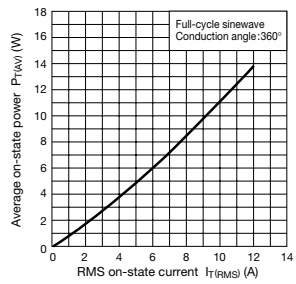
I_{TRM} Ratings



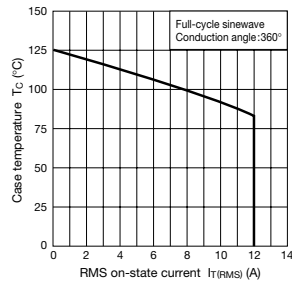
Gate Characteristics



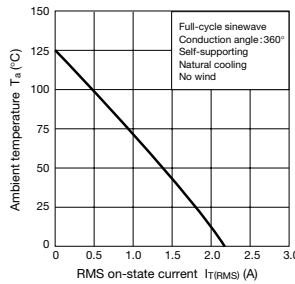
I_{T(RMS)} - P_{T(AV)} Characteristics



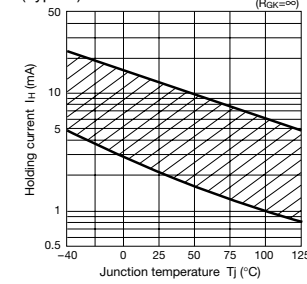
I_{T(RMS)} - T_C Ratings



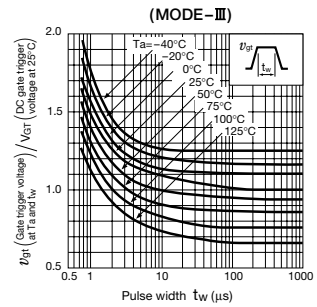
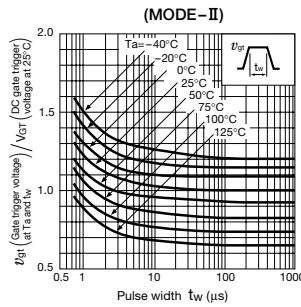
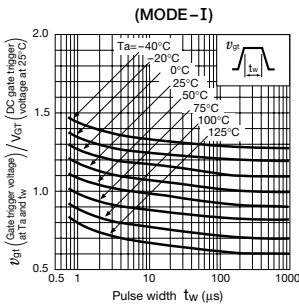
I_{T(RMS)} - T_a Ratings



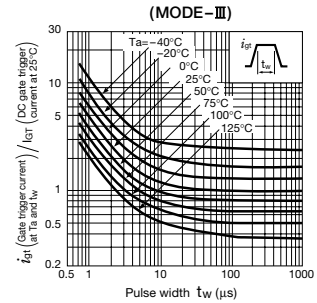
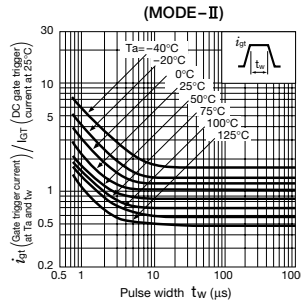
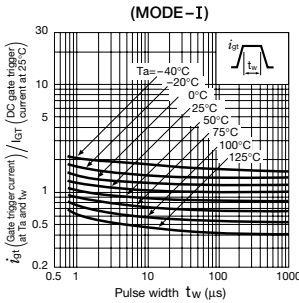
I_H temperature Characteristics (Typical)



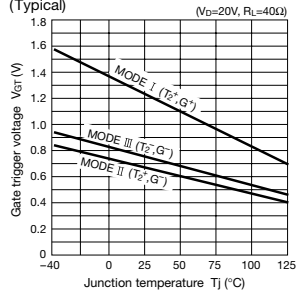
Pulse trigger temperature Characteristics V_{GT} (Typical)



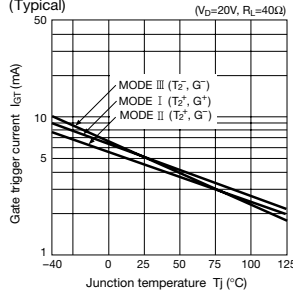
Pulse trigger temperature Characteristics I_{GT} (Typical)



V_{GT} temperature characteristics (Typical)



I_{GT} temperature characteristics (Typical)



Transient thermal resistance Characteristics

