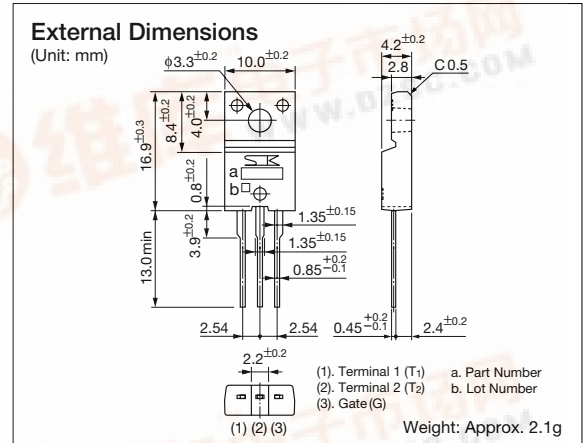


TO-220F 12A Triac

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 sine wave, 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.

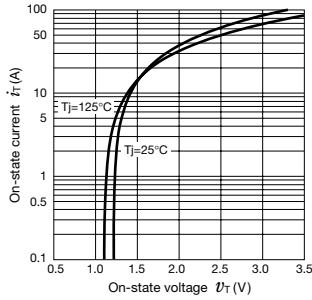
■ Electrical Characteristics

(T_j=25°C, unless otherwise specified)

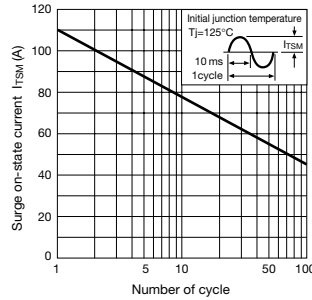
Parameter		Symbol	Ratings			Unit	Conditions
			min	typ	max		
Off-state current		I_{DRM}			2.0	mA	$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_j=125^{\circ}C$
					0.1		$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_j=25^{\circ}C$
On-state voltage		V_{TM}			1.6	V	Pulse test, $I_{TM}=16A$
Gate trigger voltage	I	V_{GT}		1.1	1.8	V	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	I_{GT}		5	8	mA	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

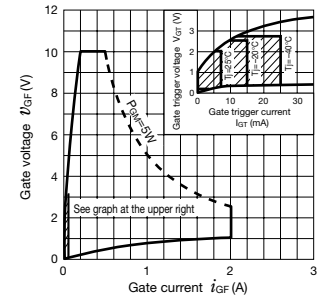
$V_T - I_T$ Characteristics (max)



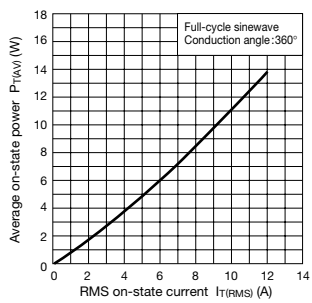
I_{TSM} Ratings



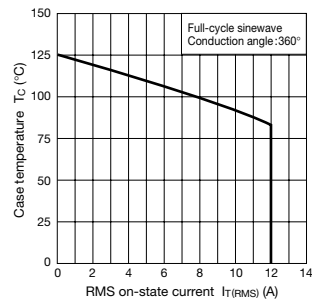
Gate Characteristics



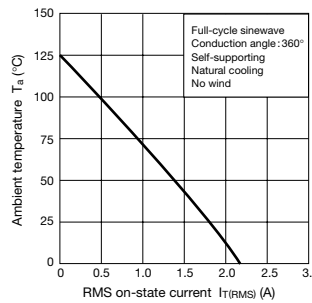
$I_T(RMS) - P_T(AV)$ Characteristics



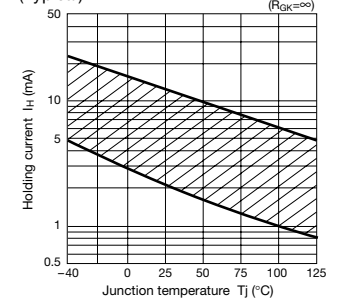
$I_T(RMS) - T_C$ Ratings



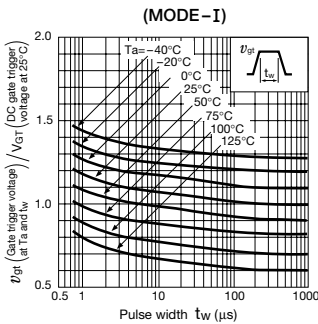
$I_T(RMS) - T_a$ Ratings



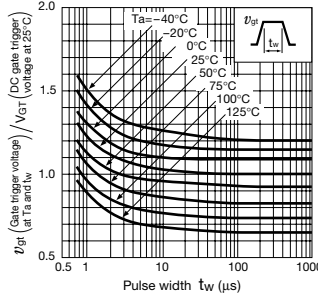
I_H temperature Characteristics (Typical)



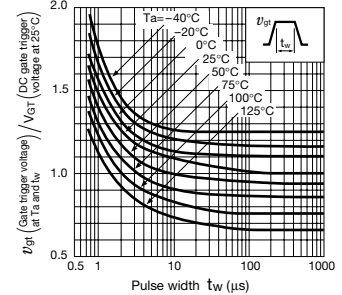
Pulse trigger temperature Characteristics V_{GT} (Typical)



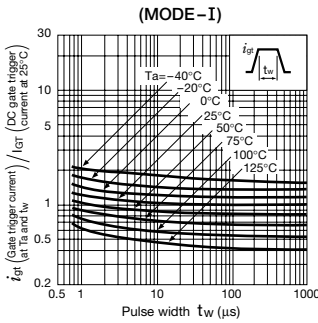
(MODE-II)



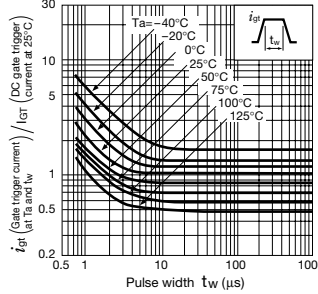
(MODE-III)



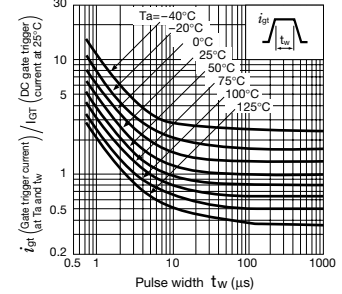
Pulse trigger temperature Characteristics I_{GT} (Typical)



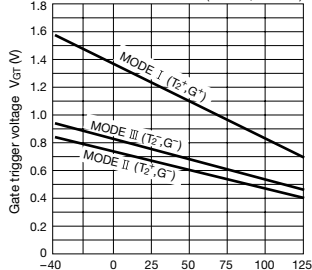
(MODE-II)



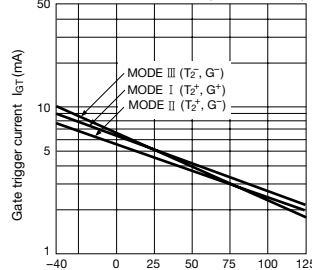
(MODE-III)



V_{GT} temperature characteristics (Typical)



I_{GT} temperature characteristics (Typical)



Transient thermal resistance Characteristics

