

TO-220 8A Triac

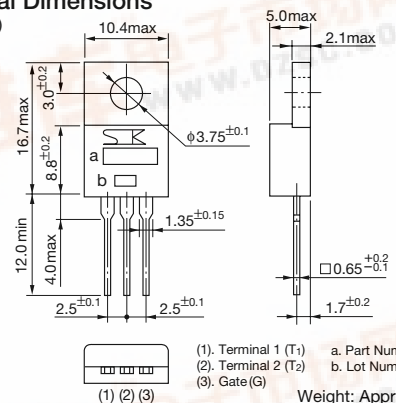
TM841M-L, TM861M-L

■ Features

- Repetitive peak off-state voltage: $V_{DRM}=400, 600V$
- RMS on-state current: $I_{T(RMS)}=8A$
- Gate trigger Current: $I_{GT}=30mA$ max (MODE I, II, III)

External Dimensions

(Unit: mm)



■ Absolute Maximum Ratings

Parameter	Symbol	Ratings		Unit	Conditions
		TM841M-L	TM861M-L		
Repetitive peak off-state voltage	V_{DRM}	400	600	V	
RMS on-state current	$I_{T(RMS)}$	8.0		A	Conduction angle 360°, $T_c=108^{\circ}C$
Surge on-state current	I_{TSM}	80		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		$^{\circ}C$	

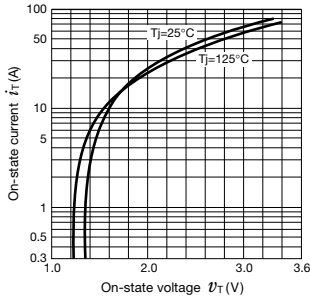
■ Electrical Characteristics

(T_J=25°C, unless otherwise specified)

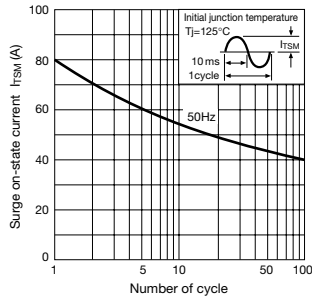
Parameter		Symbol	Ratings			Unit	Conditions
			min	typ	max		
Off-state current		I_{DRM}		0.3	2.0	mA	$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_J=125^{\circ}C$
					0.1		$V_D=V_{DRM}$, $R_{GK}=\infty$, $T_J=25^{\circ}C$
On-state voltage		V_{TM}			1.6	V	Pulse test, $I_{TM}=10A$
Gate trigger voltage	I	V_{GT}		0.8	2.0	V	T_2^+, G^+
	II			0.7	2.0		T_2^+, G^-
	III			0.8	2.0		T_2^-, G^-
	IV			0.9			T_2^-, G^+
Gate trigger current	I	I_{GT}		8	30	mA	T_2^+, G^+
	II			10	30		T_2^+, G^-
	III			12	30		T_2^-, G^-
	IV			30			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		12		mA	$V_D=6V$
Thermal resistance		R_{th}			1.8	$^{\circ}C/W$	Junction to case

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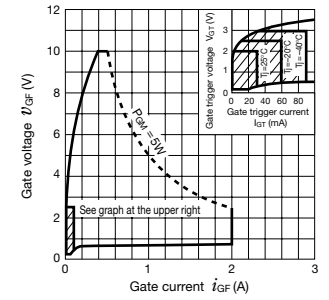
$V_T - I_T$ Characteristics (max)



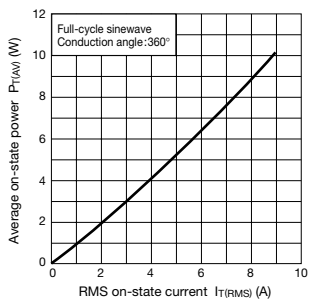
I_{TSM} Ratings



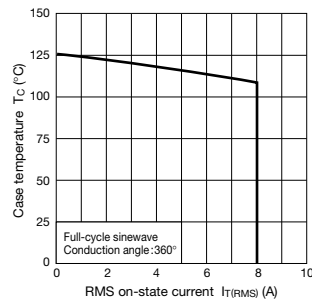
Gate Characteristics



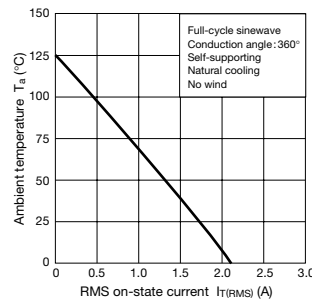
$I_{T(RMS)} - P_{T(AV)}$ Characteristics



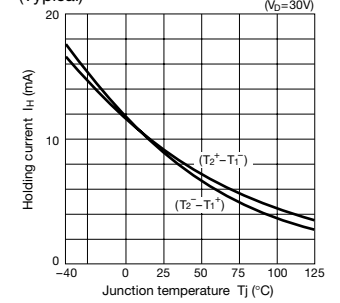
$I_{T(RMS)} - T_C$ Ratings



$I_{T(RMS)} - T_a$ Ratings

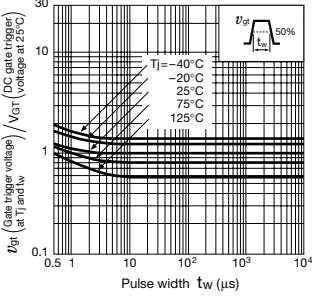


I_H temperature Characteristics (Typical)

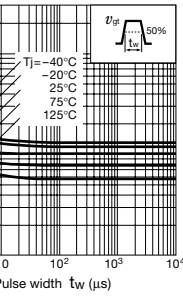


Pulse trigger temperature Characteristics V_{gt} (Typical)

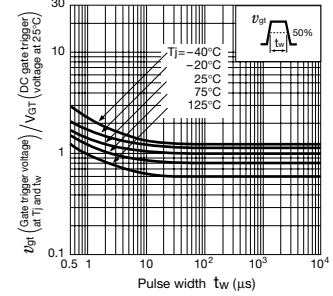
(MODE-I)



(MODE-II)

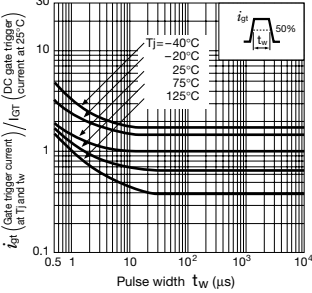


(MODE-III)

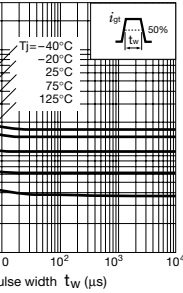


Pulse trigger temperature Characteristics i_{gt} (Typical)

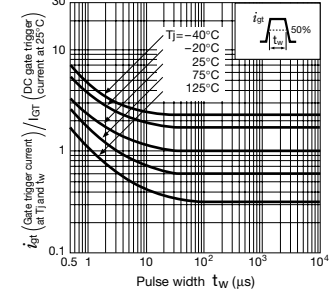
(MODE-I)



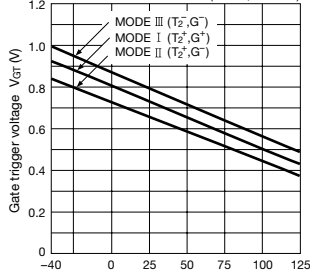
(MODE-II)



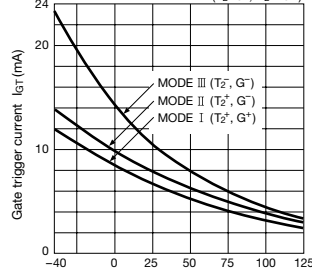
(MODE-III)



V_{GT} temperature characteristics (Typical)



I_{GT} temperature characteristics (Typical)



Transient thermal resistance Characteristics

