

TRIAC (ISOLATED MOLD TYPE)

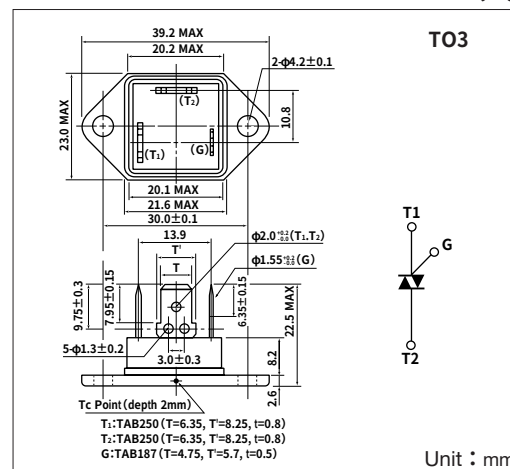
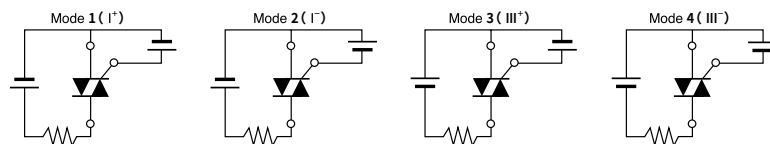
TG25C

UL:E76102(M)

SanRex Triac **TG25C** is isolated mold TRIAC suitable for wide range of applications like Copier Machines, Micro Wave Ovens, Solid State Switches, Motor Controls, Light Controls and Heater Controls.

- $I_T(AV)$ 25A
- High surge capability 250A
- Isolated Mounting (AC2500V)
- Tab Terminals

Trigger mode of the triac



Maximum Ratings

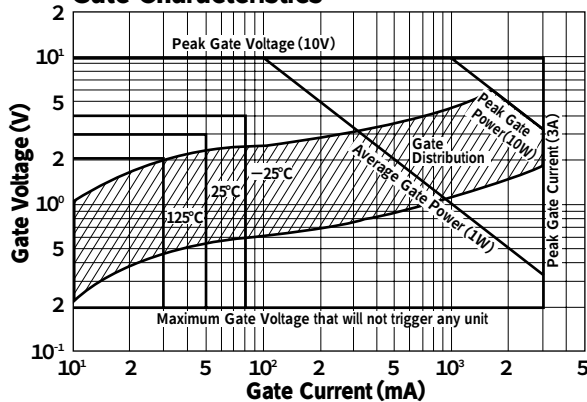
($T_j=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Item	Ratings		Unit
		TG25C40	TG25C60	
V_{DRM}	Repetitive Peak Off-State Voltage	400	600	V
$I_{T(RMS)}$	R.M.S. On-State Current	$T_c=74^{\circ}\text{C}$		25
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, peak, non-repetitive		220/250
I^2t	I^2t	Value for one cycle of surge current		260
P_{GM}	Peak Gate Power Dissipation			10
$P_{G(AV)}$	Average Gate Power Dissipation			1
I_{GM}	Peak Gate Current			3
V_{GM}	Peak Gate Voltage			10
di/dt	Critical Rate of Rise of On-State Current	$I_G=100\text{mA}, T_j=25^{\circ}\text{C}, V_D=\frac{1}{2}V_{DRM}, dI_G/dt=1\text{A}/\mu\text{s}$		50
T_j	Operating Junction Temperature			-25 to +125
T_{stg}	Storage Temperature			-40 to +125
V_{iso}	Isolation Breakdown Voltage (R.M.S.)	A.C.1 minute		2500
	Mounting Torque(M4)	Recommended Value 1.0~1.4(10~14)		1.5(15)
	Mass	Typical value (Excluding bolt, nut and wrapping material)		27

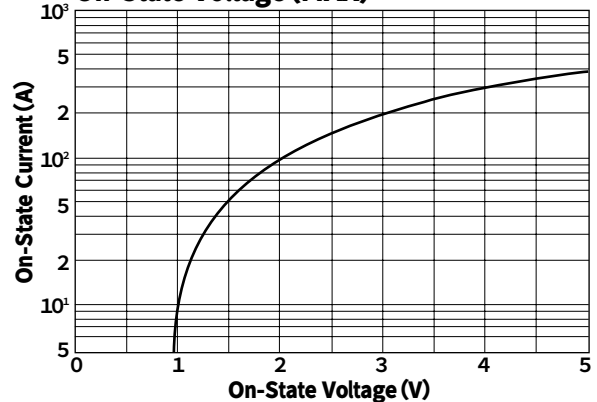
Electrical Characteristics

Symbol	Item	Conditions	Ratings	Unit
I_{DRM}	Reptitive Peak Off-State Current, max	$V_D=V_{DRM}$, Single phase, half wave, $T_j=125^{\circ}\text{C}$	5	mA
V_{TM}	Peak On-State Voltage, max	On-State Current $[\sqrt{2} \times I_{T(RMS)}]$, Inst. measurement	1.4	V
I_{GT1}^{+}	Gate Trigger Current, max	$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	50	mA
I_{GT1}^{-}		$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	50	
I_{GT3}^{+}			—	
I_{GT3}^{-}		$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	50	
V_{GT1}^{+}	Gate Trigger Voltage, max	$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	3	V
V_{GT1}^{-}		$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	3	
V_{GT3}^{+}			—	
V_{GT3}^{-}		$T_j=25^{\circ}\text{C}, I_T=1\text{A}, V_D=6\text{V}$	3	
V_{GD}	Non-Trigger Gate Voltage, min	$T_j=125^{\circ}\text{C}, V_D=\frac{1}{2}V_{DRM}$	0.2	V
t_{gt}	Turn On Time, max.	$I_{T(RMS)}, I_G=100\text{mA}, V_D=\frac{1}{2}V_{DRM}, T_j=25^{\circ}\text{C}, dI_G/dt=1\text{A}/\mu\text{s}$	10	μs
dv/dt	Critical Rate of Rise on-State Voltage, min.	$T_j=125^{\circ}\text{C}, V_D=\frac{2}{3}V_{DRM}$, Exponential wave.	50	$\text{V}/\mu\text{s}$
$(dv/dt)_c$	Critical Rate of Rise off-State Voltage at commutation, min	$T_j=125^{\circ}\text{C}, V_D=\frac{2}{3}V_{DRM}, (di/dt)_c=15\text{A}/\text{ms}$	6	$\text{V}/\mu\text{s}$
I_H	Holding Current, typ.	$T_j=25^{\circ}\text{C}$	30	mA
$R_{th(j-c)}$	Thermal Impedance, max	Junction to case	1.6	$^{\circ}\text{C}/\text{W}$

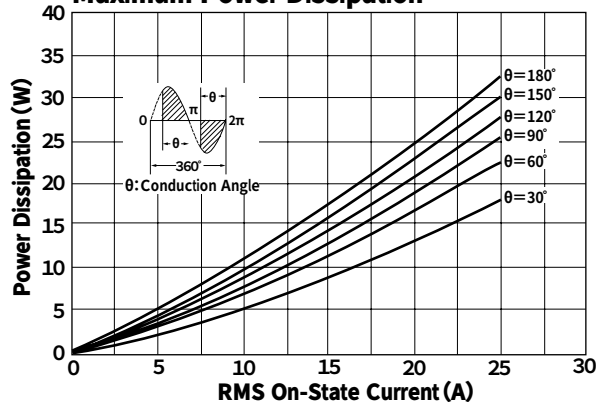
Gate Characteristics



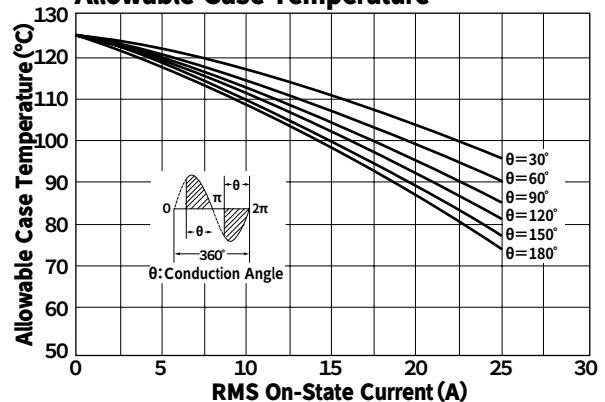
On-State Voltage (MAX)



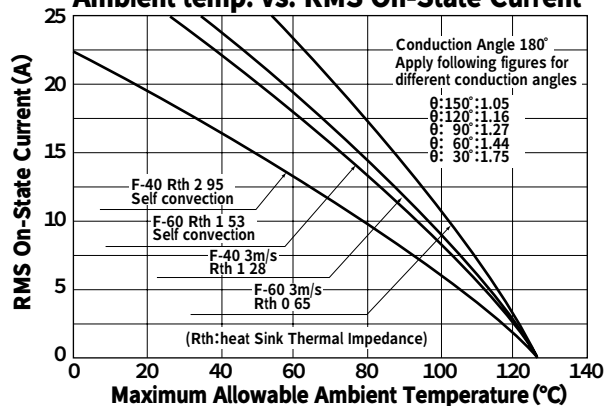
On State Current vs. Maximum Power Dissipation



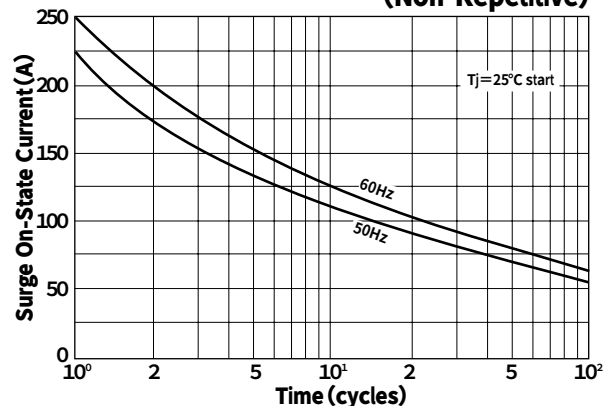
On State Current vs. Allowable Case Temperature



Ambient temp. vs. RMS On-State Current



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance

