

TRIAC For High Power

TG40E80

$I_{T(RMS)}=40A$, $V_{DRM}=800V$

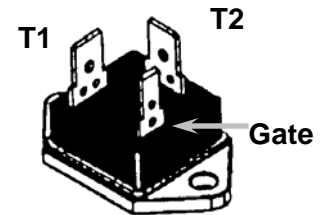
SanRex Triac **TG40E80** is specially designed use for high power AC switching application. Thanks to SanRex's new isolated diffusion technology, the Triac **TG40E80** features high dv/dt, dv/dt/c and very low on-state voltage. These benefits make this design an extremely reliable and efficient device for use in wide variety of applications.

Features

- * High Power
- * High Surge Current
- * Low On-State Voltage
- * High Commutation Performance
- * UL registered E76102

Typical Applications

- * Home Appliances
- * Water Heaters
- * Heater Controls
- * Lighting Controls
- * Temperature Controls



Isolated Fast-on Package



Internal schematic diagram

< Maximum Ratings >

(T_j = 25°C unless otherwise noted)

Symbol	Item	Conditions	Ratings	Unit
V _{DRM}	Repetitive Peak Off-state Voltage		800	V
I _{T(RMS)}	R.M.S. On-state Current	T _C = 64°C	40	A
I _{TSM}	Surge On-state Current	One cycle, 60Hz, Peak, non-repetitive	420	A
I ² t	I ² t (for fusing)	Value for one cycle surge current	730	A ² s
P _{GM}	Peak Gate Power Dissipation		10	W
P _{G(AV)}	Average Gate Power Dissipation		1	W
I _{GM}	Peak Gate Current		3	A
V _{GM}	Peak Gate Voltage		10	V
di/dt	Critical Rate of Rise of On-State Current	I _G = 100mA, V _D = 1/2V _{DRM} , di _G /dt = 1A/μs	50	A/F s
T _j	Operation Junction Temperature		-40 to +125	°C
T _{stg}	Storage Temperature		-40 to +150	°C
V _{ISO}	Isolation Breakdown Voltage	R.M.S. , A.C. 1 minute	2500	V
	Mounting Torque (M4)	Recommended value 1.0 – 1.4 N*m	1.5	N*m
	Mass	Typical Value	23	g

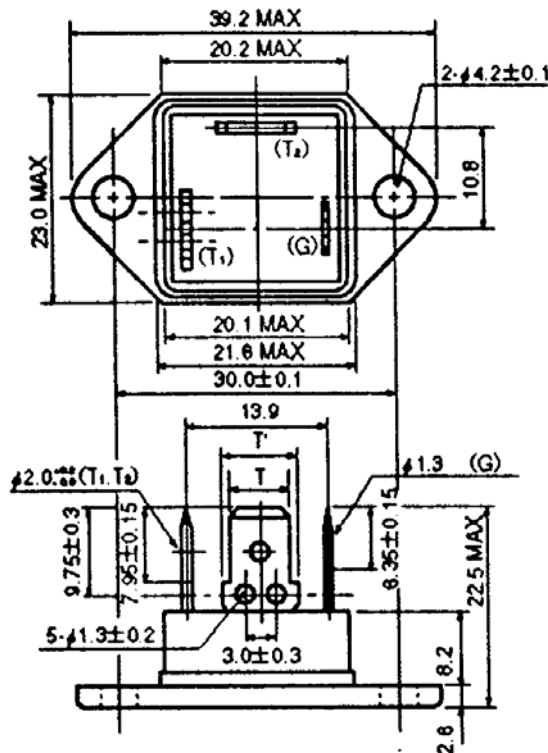
TRIAC for High Power

TG40E80

< Electrical Characteristics >

(T_j = 25°C unless otherwise noted)

Symbol	Item	Conditions	Ratings			Unit
			Min.	Typ.	Max.	
I _{DRM}	Repetitive Peak Off-state Current	T _j = 125°C, V _D = V _{DRM}			5	mA
V _{TM}	Peak On-State Voltage	I _T = 60A, Instant measurement			1.4	V
I _{GT1} ⁺	Gate Trigger Current	V _D = 6V, I _T = 1A			50	mA
I _{GT1} ⁻					50	mA
I _{GT3} ⁺					-	mA
I _{GT3} ⁻					50	mA
V _{GT1} ⁺	Gate Trigger Voltage	V _D = 6V, I _T = 1A			1.5	V
V _{GT1} ⁻					1.5	V
V _{GT3} ⁺					-	V
V _{GT3} ⁻					1.5	V
V _{GD}	Non-Trigger Gate Voltage	T _j = 125°C, V _D = 1/2V _{DRM}	0.2			V
dv/dt	Critical Rate of Rise of Off-State Voltage	T _j = 125°C, V _D = 1/2V _{DRM} , Exponential wave	500			V/F s
(dv/dt) _c	Critical Rate of Rise of Commutation Voltage	T _j = 125°C, V _D = 2/3V _{DRM} , (di/dt) _c = 10 A/ms	6			V/F s
I _H	Holding Current			30		mA
R _{th(j-c)}	Thermal Resistance	Junction to case			1.3	°C/W



T₁: TAB250 (T=6.35, T'=8.25, t=0.8)
T₂: TAB250 (T=6.35, T'=8.25, t=0.8)
G: TAB187 (T=4.75, T'=5.7, t=0.8)

* Dimensions in millimeters