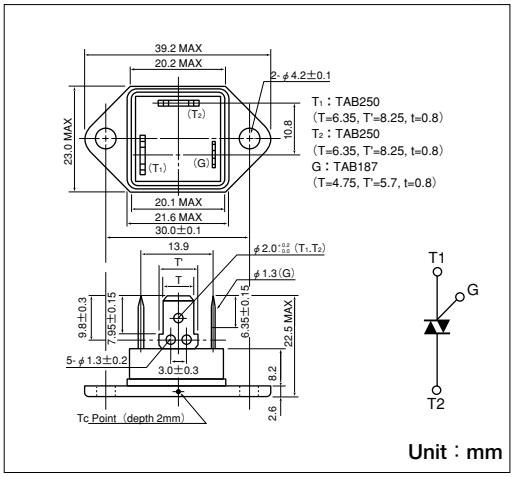
TRIAC（ISOLATED MOLD TYPE）

TG40E60

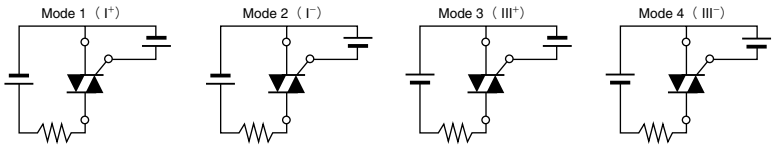
UL:E76102（M）

TG40E is isolated mold triac suitable for wide range of applications like copier, micro wave ovens, solid state switches, motor control, light control and heater control.

- $I_{T(AV)}$ 40A
- High surge capability 420A
- Isolated Nounting（AC2500V）
- Tab Terminals



Trigger mode of the triac



■Maximum Ratings

（Tj=25℃ unless otherwise specified）

Symbol	Item	Ratings	Unit
		TG40E60	
V_{DRM}	Repetitive Peak Off-State Voltage	600	V

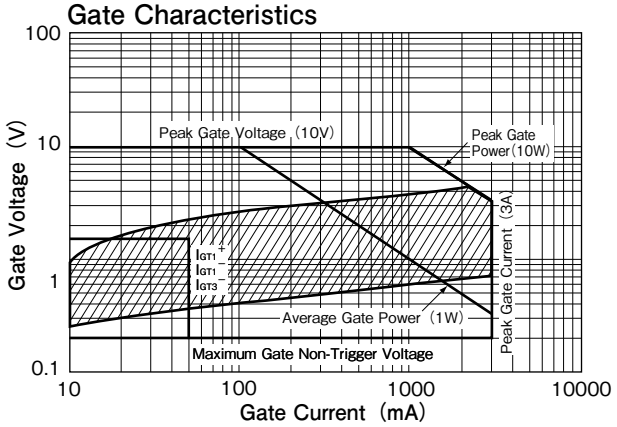
Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S. On-State Current	Tc=64℃	40	A
I_{TSM}	Surge On-State Current	One cycle, 50/60Hz, peak value, non-repetitive	380/420	A
I^2t	I^2t	Value for one cycle of surge current	730	A^2s
P_{GM}	Peak Gate Power Dissipation		10	W
$P_{G(AV)}$	Average Gate Power 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=½V_{DRM}, di_G/dt=1A/μs	50	A/μs
Tj	Operating Junction Temperature		−40～+125	℃
Tstg	Storage Temperature		−40～+150	℃
V_{ISO}	Isolation Breakdown Voltage（R.M.S.）	A.C.1 minute	2500	V
	Mounting Torque（M4）	Recommended Value 1.0～1.4N·m（10～14kgf·cm）	1.5（15）	N·m (kgf·cm)
	Mass	Typical value	23	g

■Electrical Characteristics

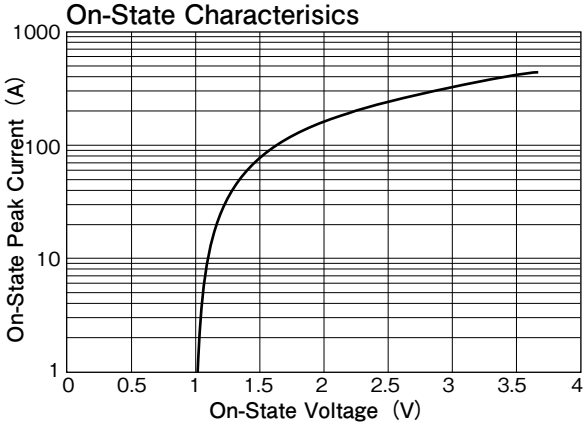
（Tj=25℃ unless otherwise specified）

Symbol		Item	Conditions	Ratings			Unit
				Min.	Typ.	Max.	
I_{DRM}		Repetitive Peak Off-State Current	Tj=125℃, V_D=V_{DRM}			5	mA
V_{TM}		Peak On-State Voltage	I_T=60A			1.4	V
I^+_{GT1}	1	Gate Trigger Current	V_D=6V, I_T=1A			50	mA
I^-_{GT1}	2					50	mA
I^+_{GT3}	3			—	—	—	mA
I^-_{GT3}	4					50	mA
V^+_{GT1}	1	Gate Trigger Voltage	V_D=6V, I_T=1A			1.5	V
V^-_{GT1}	2					1.5	V
V^+_{GT3}	3			—	—	—	V
V^-_{GT3}	4					1.5	V
V_{GD}		Non-Trigger Gate Voltage	Tj=125℃, V_D=½V_{DRM}	0.2			V
dv/dt		Critical Rate of Rise of Off-State Voltage	Tj=125℃, V_D=⅔V_{DRM}, Exponential wave.	500			V/μs
〔dv/dt〕c		Critical Rate of Rise of Off-State Voltage at commutation	Tj=125℃, V_D=⅔V_{DRM}, 〔di/dt〕c=10A/ms	6			V/μs
I_H		Holding Current			30		mA
Rth(j-c)		Thermal Impedance	Junction to case			1.3	℃/W

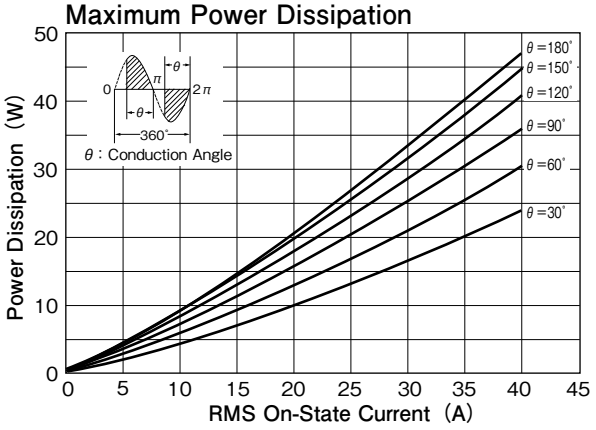
Gate Characteristics



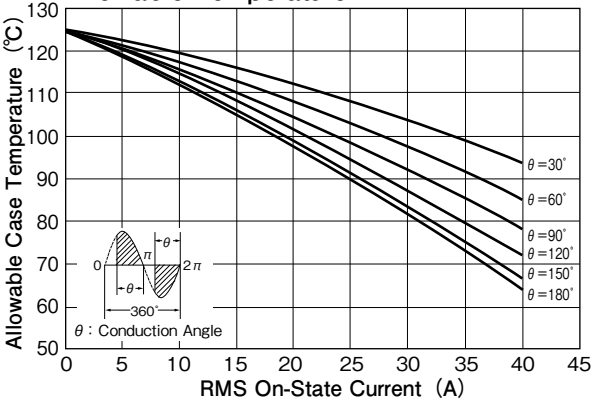
On-State Characterisics



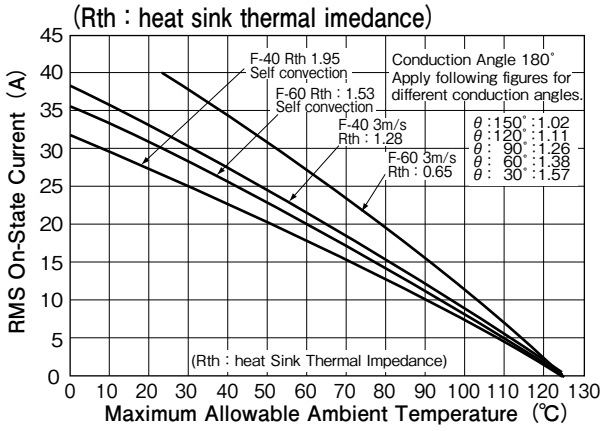
RMS On-State Current vs. Maximum Power Dissipation



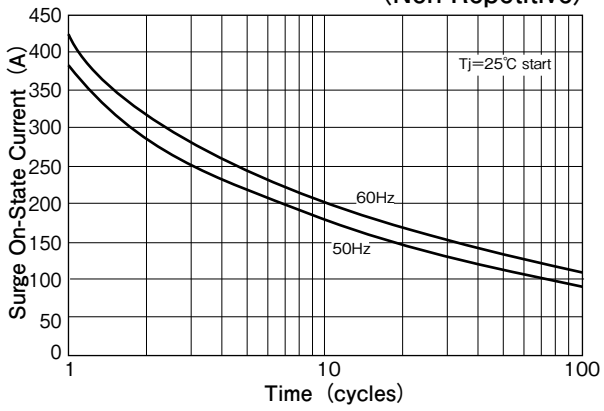
RMS On-State Current vs. Allowable Temperature



Ambient temperature vs. RMS On-State Current (Rth : heat sink thermal imedance)



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance