TRIAC(Through Hole / Non-isolated)

TMG20D80 (Sensitive Gate)

SanRex Triac **TMG20D80** is designed for full wave AC control applications.
It can be used as an ON/OFF function or for phase control operation.

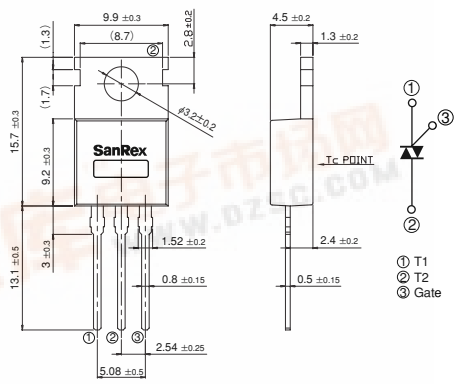
Typical Applications

- Home Appliances : Washing Machines, Vacuum Cleaners, Rice Cookers, Micro Wave Ovens, Hair Dryers, other control applications
- Industrial Use : SMPS, Copier Machines, Motor Controls, Dimmer, SSR, Heater Controls, Vending Machines, other control applications

Features

- $I_{T(RMS)}$=20A
- High Surge Current
- Low Voltage Drop
- Lead-Free Package

TO-220AB2



Identifying Code：T20D8 Unit：mm

■Maximum Ratings

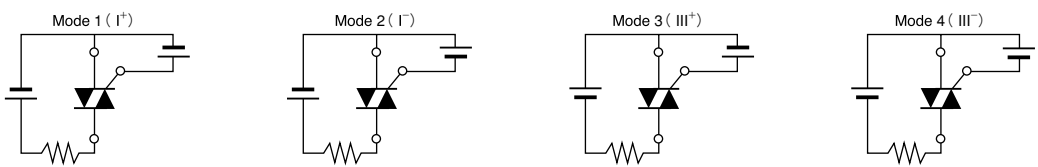
(Tj=25℃ unless otherwise specified)

Symbol	Item	Reference	Ratings	Unit
V_{DRM}	Repetitive Peak Off-State Voltage		800	V
$I_{T(RMS)}$	R.M.S. On-State Current	Tc=103℃	20	A
I_{TSM}	Surge On-State Current	One cycle, 50Hz/60Hz, Peak value non-repetitive	183/200	A
I^2t	I^2t (for fusing)		165	A^2S
P_{GM}	Peak Gate Power Dissipation		5	W
$P_{G(AV)}$	Average Gate Power Dissipation		0.5	W
I_{GM}	Peak Gate Current		2	A
V_{GM}	Peak Gate Voltage		10	V
Tj	Operating Junction Temperature		−40～+125	℃
Tstg	Storage Temperature		−40～+150	℃
	Mass		2	g

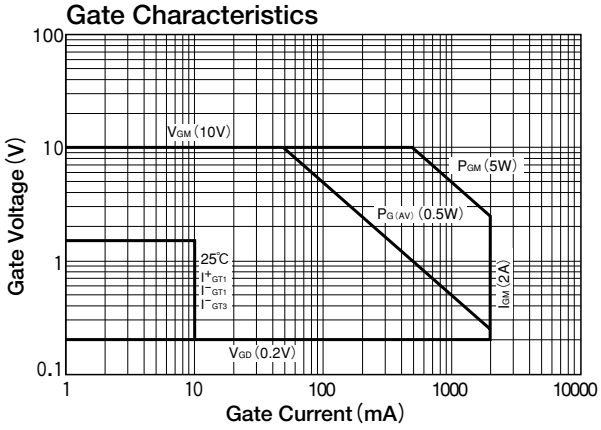
■Electrical Characteristics

Symbol		Item	Reference	Ratings Min.	Ratings Typ.	Ratings Max.	Unit
I_{DRM}		Repetitive Peak Off-State Current	V_D=V_{DRM}, Single phase, half wave, Tj=125℃			2	mA
V_{TM}		Peak On-State Voltage	I_T=30A, Inst. measurement			1.4	V
I_{GT1}^{+}	1	Gate Trigger Current	V_D=6V, R_L=10Ω			10	mA
I_{GT1}^{-}	2	Gate Trigger Current	V_D=6V, R_L=10Ω			10	mA
I_{GT3}^{+}	3	Gate Trigger Current	V_D=6V, R_L=10Ω			—	mA
I_{GT3}^{-}	4	Gate Trigger Current	V_D=6V, R_L=10Ω			10	mA
V_{GT1}^{+}	1	Gate Trigger Voltage	V_D=6V, R_L=10Ω			1.5	V
V_{GT1}^{-}	2	Gate Trigger Voltage	V_D=6V, R_L=10Ω			1.5	V
V_{GT3}^{+}	3	Gate Trigger Voltage	V_D=6V, R_L=10Ω			—	V
V_{GT3}^{-}	4	Gate Trigger Voltage	V_D=6V, R_L=10Ω			1.5	V
V_{GD}		Non-Trigger Gate Voltage	Tj=125℃, V_D=½V_{DRM}	0.2			V
〔dv/dt〕c		Critical Rate of Rise of Off-State Voltage at Commutation	Tj=125℃, 〔di/dt〕c=−8A/ms, V_D=400V	10			V/μs
I_H		Holding Current			25		mA
Rth		Thermal Resistance	Junction to case			1.0	℃/W

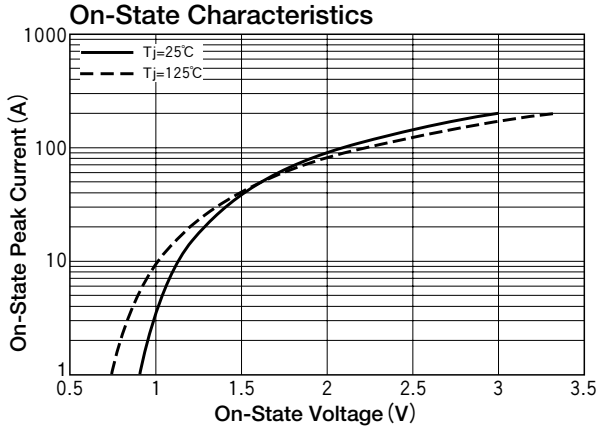
Trigger mode of the triac



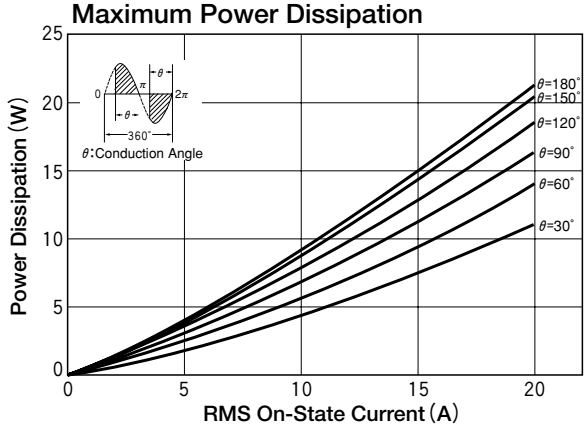
Gate Characteristics



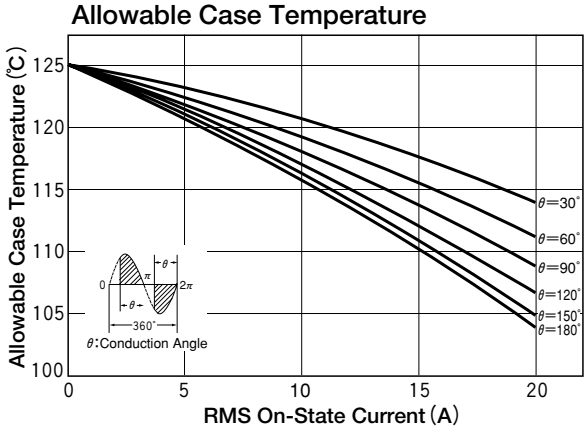
On-State Characteristics



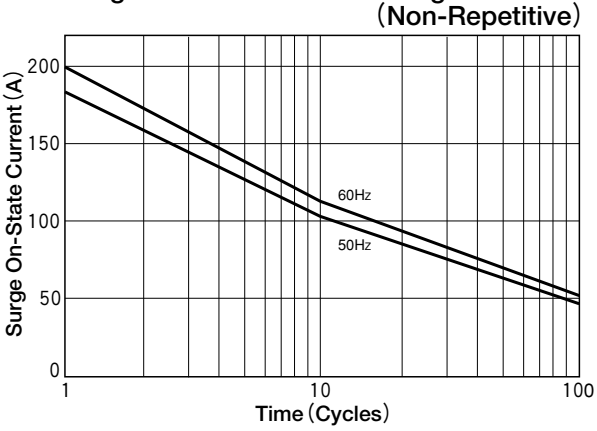
RMS On-State Current vs Maximum Power Dissipation



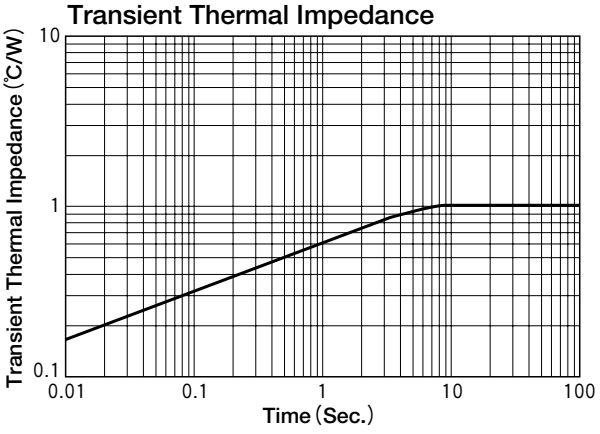
RMS On-State vs Allowable Case Temperature



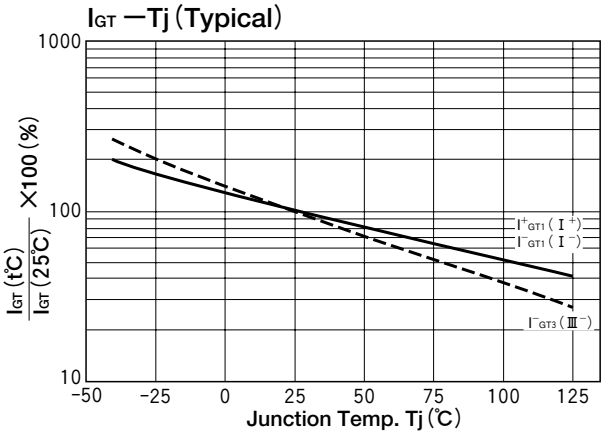
Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



IGT —Tj (Typical)



VGT —Tj (Typical)