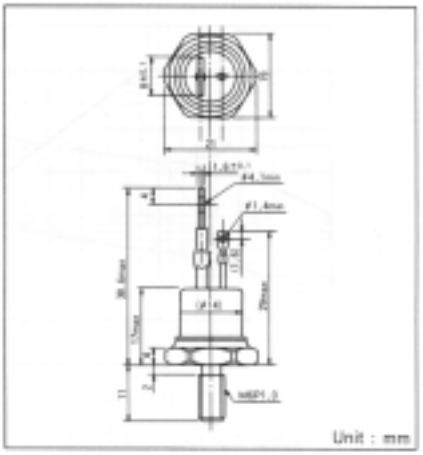
TRIAC
SSG45C

For general A.C. power control applications such as A.C. switches, light controls, speed controls and heater controls etc.

- General A.C. power use
- $I_{T(RMS)}$ = 45A
- High coltage up to 1200V
- High surge current of 550A
- Package types; stud



■Maximum Ratings

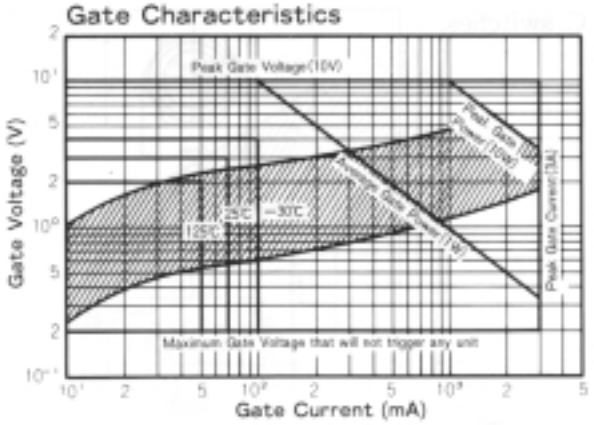
Symbol	Item	SSG45C40	SSG45C60	SSG45C80	SSG45C100	SSG45C120	Unit
V_{DRM}	Repetitive Peak Off-State Voltage	400	600	800	1000	1200	V

Symbol	Item	Conditions	Ratings	Unit
$I_{T(RMS)}$	R.M.S On-State Current	Tc = 82°C	45	A
I_{TSM}	Surge On-State Current	One cycle, 50/60Hz, peak, non-repetitive	500/550	A
I^2t	I^2t	Value for one cycle of surge current	1260	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, Tj = 25°C, V_D = 1/2 V_{DRM}, dI_G/dt = 1A/μs	50	A/μs
Tj	Operating Junction Temperature		−30～+125	°C
Tstg	Storage Temperature		−30～+125	°C
	Mounting Torque	Recommended Value 20kgf·cm	25	kgf·cm
	Mass	Excluding nut & washer. 2.6g. and wrapping material 4g	22.5	g

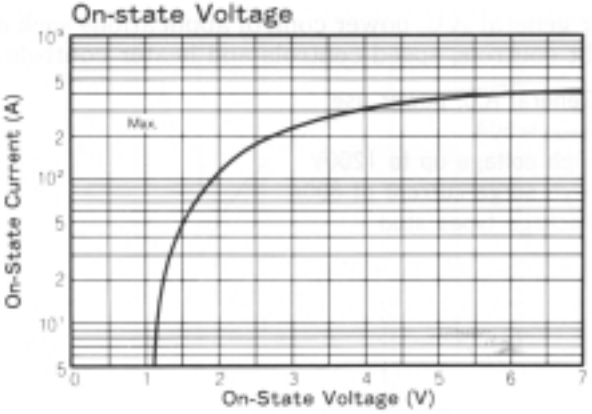
■Electrical Characteristics

Symbol		Item	Conditions	Ratings	Unit
I_{DRM}		Repetitive Peak Off-State Current, max.	at V_{DRM}, single phase, half wave, Tj = 125°C	6	mA
V_{TM}		Peak On-State Voltage, max.	I_T = 65A Tj = 25°C Inst. measurement	1.6	V
I_{GT1}^+	1	Gate Trigger Current, max.	Tj = 25°C, I_T = 1A, V_D = 6V	70	mA
I_{GT1}^-	2		Tj = 25°C, I_T = 1A, V_D = 6V	70	
I_{GT3}^+	3			–	
I_{GT3}^-	4		Tj = 25°C, I_T = 1A, V_D = 6V	70	
V_{GT1}^+	1	Gate Trigger Voltage, max.	Tj = 25°C, I_T = 1A, V_D = 6V	3	V
V_{GT1}^-	2		Tj = 25°C, I_T = 1A, V_D = 6V	3	
V_{GT3}^+	3			–	
V_{GT3}^-	4		Tj = 25°C, I_T = 1A, V_D = 6V	3	
V_{GD}		Non-Trigger Gate Voltage, min.	Tj = 125°C, V_D = 1/2 V_{DRM}	0.2	V
tgt		Turn On Time, max	I_T = 45A, I_G = 100mA, V_D = 1/2 V_{DRM}, Tj = 25°C dI_G/dt = 1A/μs	10	μs
dv/dt		Critical Rate of Rise of On-State Voltage, min.	Tj = 125°C, V_D = 2/3 V_{DRM}, Exponential wave.	100	V/μs
(dv/dt) c		Critical Rate of Rise off-State Voltage at commutation, min	Tj = 125°C, (di/dt) c = 15A/ms, V_D = 2/3 V_{DRM}	20	V/μs
I_H		Holding Current, typ.	Tj = 25°C	50	mA
Rth(j-c)		Thermal Impedance, max.	Junction to case	0.65	°C/W

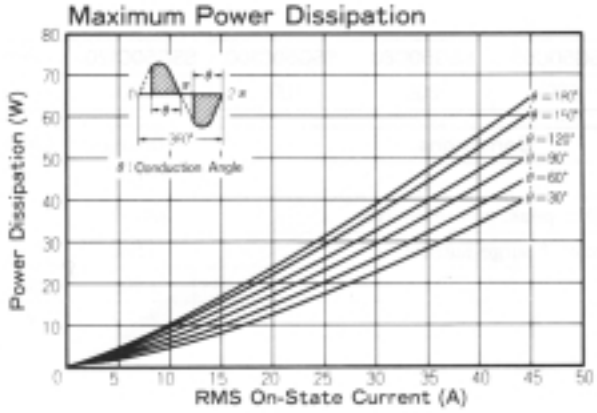
Gate Characteristics



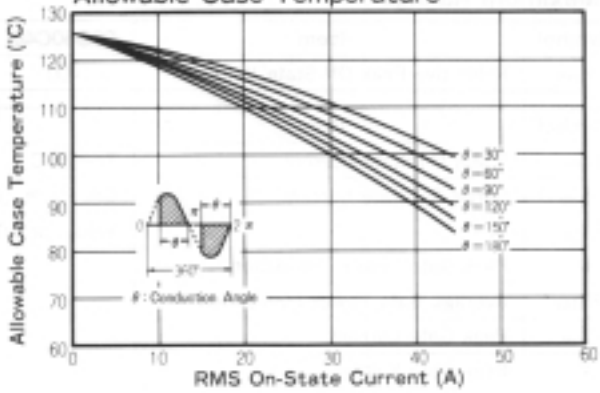
On-state Voltage



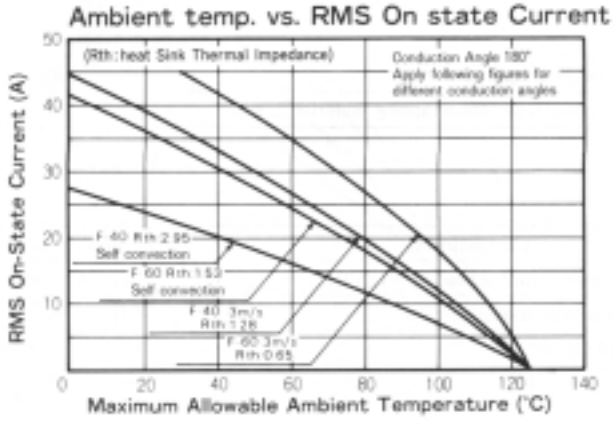
On state Current vs. Maximum Power Dissipation



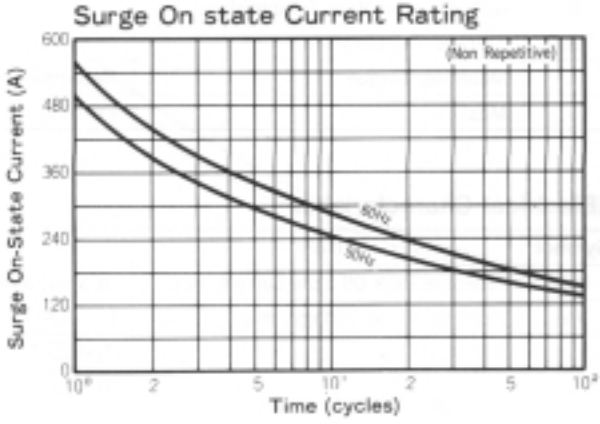
On state Current vs. Allowable Case Temperature



Ambient temp. vs. RMS On state Current



Surge On state Current Rating



Transient Thermal Impedance