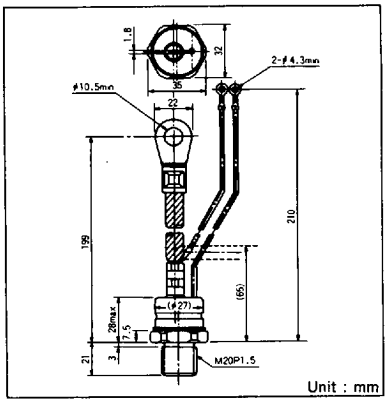
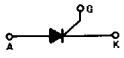
THYRISTOR
SC150C

For general phase control applications such as speed controls, light controls and welders etc.

- General power use
- I_T = 150A, $I_{T(RMS)}$ = 230A
- High voltage up to 1200V
- High surge current of 3000A
- Stud type





■Maximum Ratings

Symbol	Item	SC150C-40	SC150C-60	SC150C-80	SC150C-100	SC150C-120	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	400	600	800	1000	1200	V
V_{RSM}	Non-Repetitive Peak Reverse Voltage	480	720	960	1100	1300	V
V_{DRM}	Repetitive Peak Off-State Voltage	400	600	800	1000	1200	V

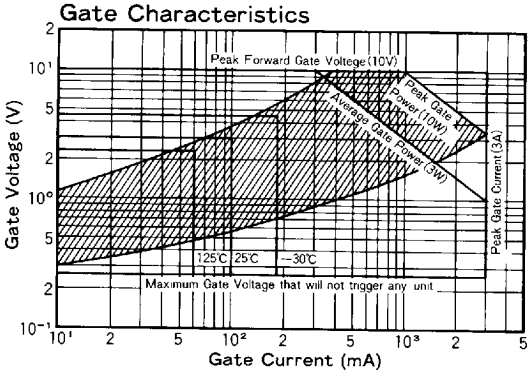
Symbol	Item	Conditions		Ratings	Unit
$I_{T(AV)}$	Average On-State Current	Single phase, half wave, 180° conduction, Tc : 84°C		150	A
$I_{T(RMS)}$	R.M.S On-State Current	Single phase, half wave, 180° conduction, Tc : 84°C		230	A
I_{TSM}	Surge On-State Current	1/2 cycle, 50Hz/60Hz, peak value, non-repetitive		2,700/3,000	A
I^2t	I^2t	Value for one cycle of surge current		37,500	A^2S
P_{GM}	Peak Gate Power Dissipation			10	W
$P_{G(AV)}$	Average Gate Power Dissipation			1	W
I_{FGM}	Peak Gate Current			3	A
V_{FGM}	Peak Gate Voltage(Forwad)			10	V
V_{RGM}	Peak Gate Voltage(Reverse)			5	V
di/dt	Critical Rate of Rise of On-State Current	SC150C-40~60	I_G=100mA, Tj=25°C, V_D=1/2 V_{DRM}, dI_G/dt=0.1A/μs	50	A/μs
		SC150C-80~120		200	
Tj	Operating Junction Temperature			−30~+125	°C
Tstg	Storage Temperature			−30~+125	°C
	Mounting Torque	Recommended Value 240kgf•cm		300	kgf•cm
	Mass	Excluding nut, washer and wrapping material		215	g

■Electrical Characteristics

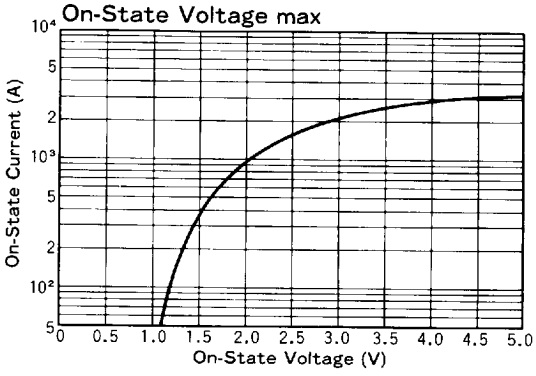
Symbol	Item	Conditions		Ratings	Unit
I_{DRM}	Repetitive Peak Off-State Current, max.	at V_{DRM}, single phase, half wave, Tj=125°C		15	mA
I_{RRM}	Repetitive Peak Reverse Current, max.	at V_{DRM}, single phase, half wave, Tj=125°C		15	mA
V_{TM}	Peak On-State Voltage, max.	On-State Current 470A, Tj=25°C Inst. measurement		1.6	V
I_{GT}/V_{GT}	Gate Trigger Current/Voltage, max.	Tj=25°C, I_T=1A, V_D=6V		100/3	mA/V
V_{GD}	Non-Trigger Gate, Voltage, min.	Tj=125°C, V_D=1/2 V_{DRM}		0.25	V
tgt	Turn On Time, max	I_T=150A, I_G=100mA, Tj=25°C, V_D=2/3 V_{DRM}, dI_G/dt=0.1A/μs		10	μs
dv/dt	Critical Rate of Rise of On-State Voltage, min.	SC150C-40~60	Tj=125°C, V_D=2/3 V_{DRM}	100	V/μs
		SC150C-80~120	Tj=125°C, V_D=2/3 V_{DRM}	200	
I_H	Holding Current, typ.	Tj=25°C		100	mA
Rth(j-c)	Thermal Impedance, max.	Junction to case		0.17	°C/W

***mark : Thyristor and Diodo part. No mark : Thyristor part**

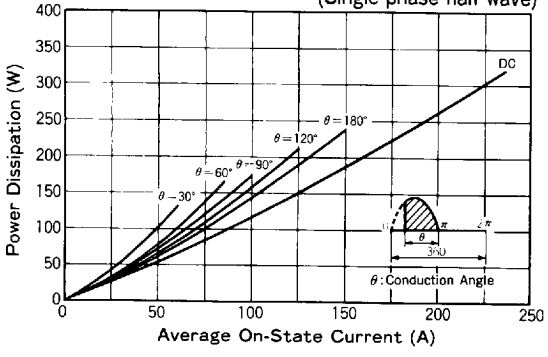
Gate Characteristics



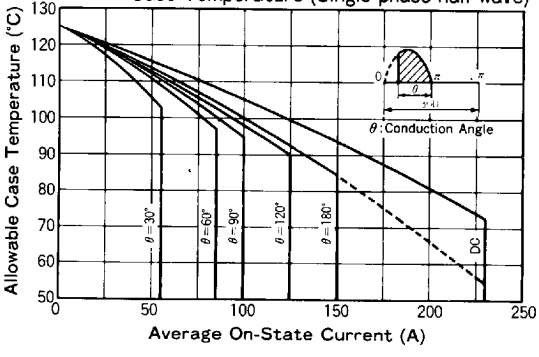
On-State Voltage max



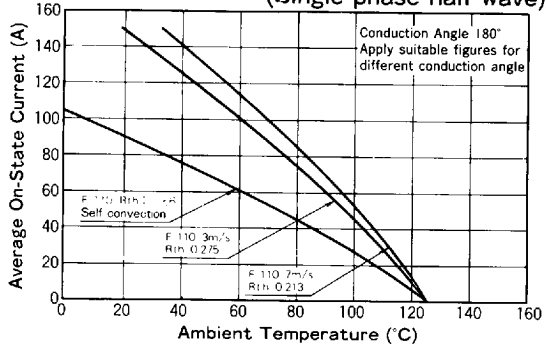
Average On-State Current Vs Power Dissipation (Single phase half wave)



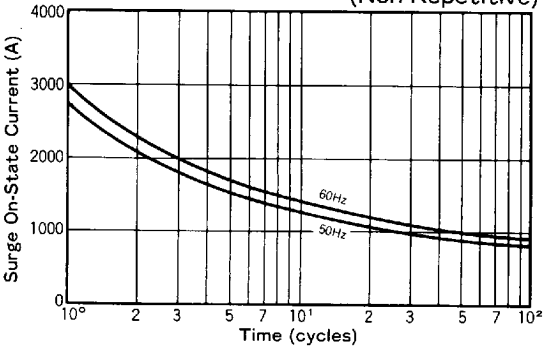
Average On-State Current Vs Maximum Allowable Case Temperature (Single phase half wave)



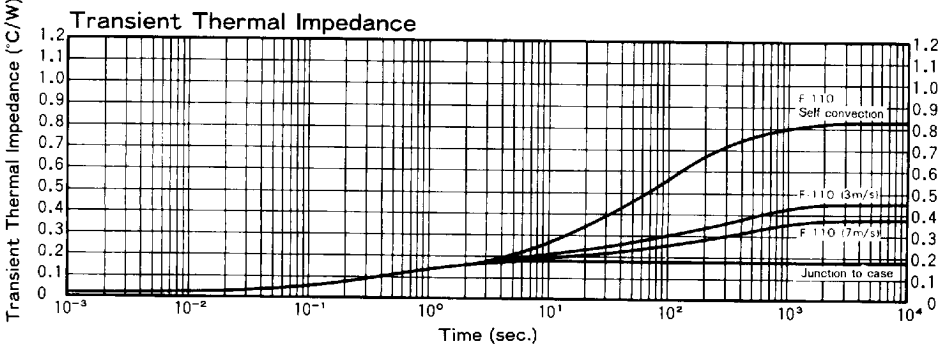
Ambient Temperature Average On-State (Single phase half wave)



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



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