Ruttonsha International Rectifier Ltd.

THYRISTORS MODULE (NON ISOLATED TYPE)

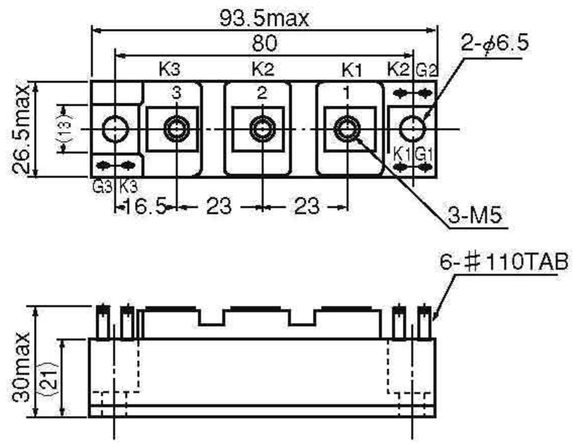
Type : RHTT 80 A 40

Features

- $I_{T(AV)}$ 80A (each device)
- High Surge Current 2280 A
- Easy Construction
- Non-isolated. Mounting base as common Anode terminal

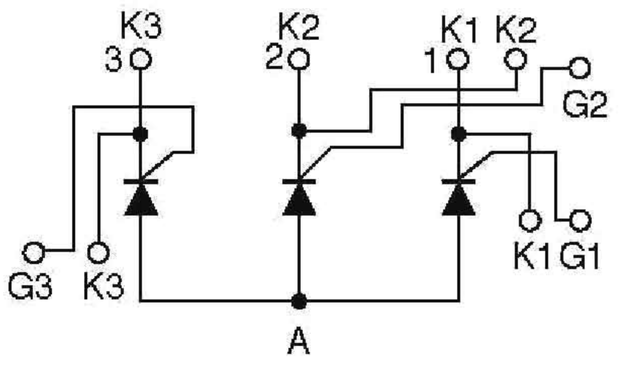
Applications

- Welding power Supply
- Various DC power Supply



Unit : mm

Circuit Diagram



Major Ratings and Characteristics :-

PARAMETERS	RHTT 80 A 40	UNITS
$I_{T(AV)}$ or $I_{F(AV)}$	80	A
@ T_C	116	°C
$I_{T(RMS)}$	125	A
@ T_C	116	°C
I_{TSM} @50Hz	2280	A
I^2t @50Hz	26	KA^2s
V_{DRM} / V_{RRM}	400	V
T_J	- 30 to 150	°C
T_{STG}	- 30 to 125	°C

THYRISTORS MODULE (NON ISOLATED TYPE)

ELECTRICAL SPECIFICATIONS

Type : RHTT 80 A

Voltage Ratings

Type number	Voltage Code	V_{DRM}/V_{RRM}, max repetitive peak and off-state voltage V	V_{RSM},maximum non-repetitive peak voltage V	I_{DRM}/I_{RRM} max. @ T_C = 125 °C mA
RHTT80 A 40	04	400	480	12

On - state Conduction

	Parameter	RHTT80 A 40	Units	Conditions
$I_{T(AV)}$	Max. average on-state current	80	A	Single phase, half wave, 180° conduction
	@ case temperature	116	°C	
$I_{T(RMS)}$	Max RMS on-state current	125	A	Single phase, half wave, 180° conduction, Tc = 116 °C
I_{TSM} or I_{FSM}	Max. peak, half-cycle non-repetitive surge current	2280	A	t = 10ms T_J = 25°C No voltage reapplied
I^2t	Maximum I^2t for fusing	26	KA^2s	t = 10ms T_J = 25°C No voltage reapplied
V_{TM}	Max peak on state voltage	1.20	V	240A Peak T_J = 25°C 180°conduction
di/dt	Max. non-repetitive rate of rise of turned on current	50	A/μs	I_G=200mA, Tj=25°C, V_D=½V_{DRM}, dI_G/dt=1A/μs
I_H	Maximum holding current typ.	100	mA	T_J = 25°C, anode supply = 6V, resistive load, gate open circuit

BLOCKING

I_{RRM} I_{DRM}	Max. peak reverse and off-state leakage current at V_{RRM}, V_{DRM}	12	mA	T_C = 125°C, gate open circuit
dv/dt	Max. critical rate of rise of off-state Voltage	50	V/μs	T_J = 125°C linear to 0.67V_{DRM}, gate open circuit

THERMAL AND MECHANICAL SPECIFICATIONS

T_J	Junction operating temperature range	-30 to 150	°C	
T_{stg}	Storage temp. range	-30 to 125	°C	
R_{thJC}	Max. internal thermal resistance, junction to case	0.35	°C/W	Per module, D.C. operation
T	Mounting torque ±10% Module to heatsink	4.7	Nm	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.
	Busbar to module	2.7	Nm	
Wt	Approximate weight	170	g	

ELECTRICAL SPECIFICATION

TRIGGERING

V_{GT}	Max. gate voltage required to trigger	2.0	V	T_J = 25 °C, anode supply 6 V resistive load
I_{GT}	Max. gate current required to trigger	150	mA	
P_{GM}	Max. peak gate power	10	W	
$P_{G(AV)}$	Max. average gate power	1.0	W	
I_{GM}	Max. peak gate current	3.0	A	
$-V_{GM}$	Max. peak negative gate voltage	5.0	V	

THYRISTORS MODULE (NON ISOLATED TYPE)

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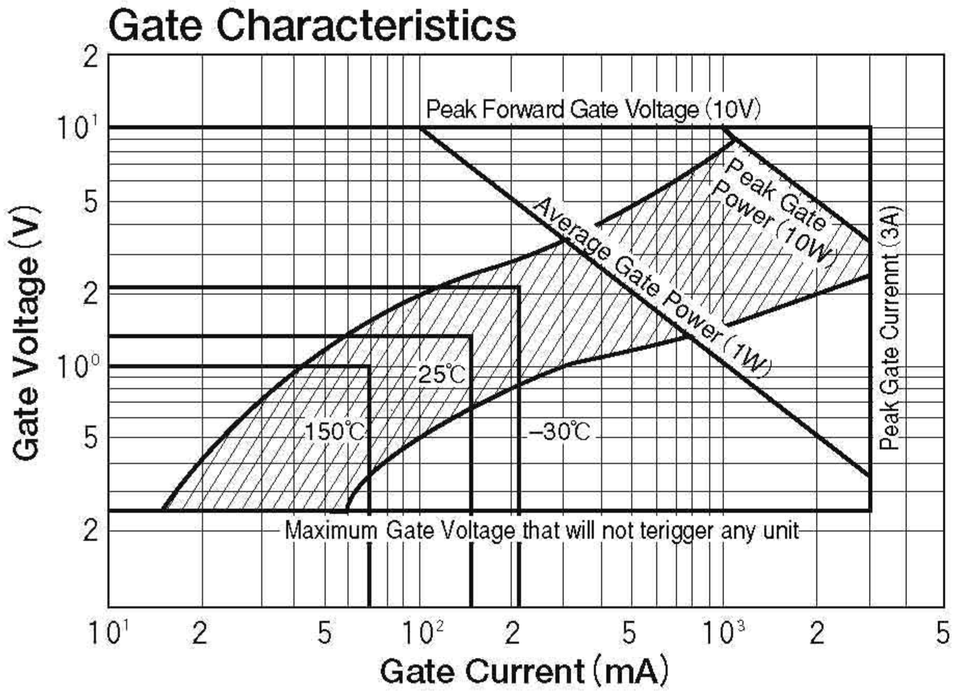
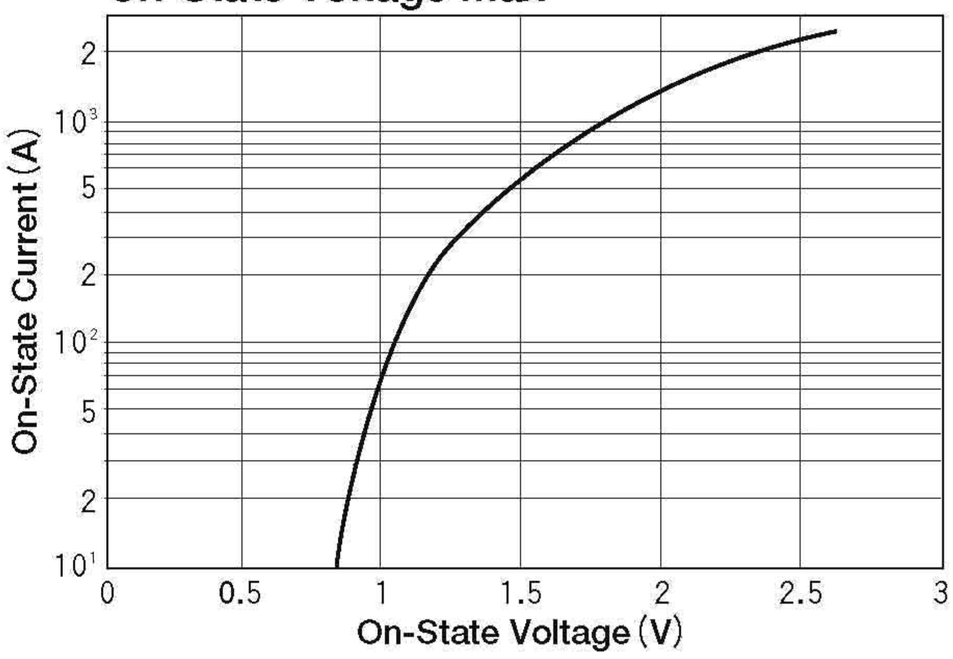
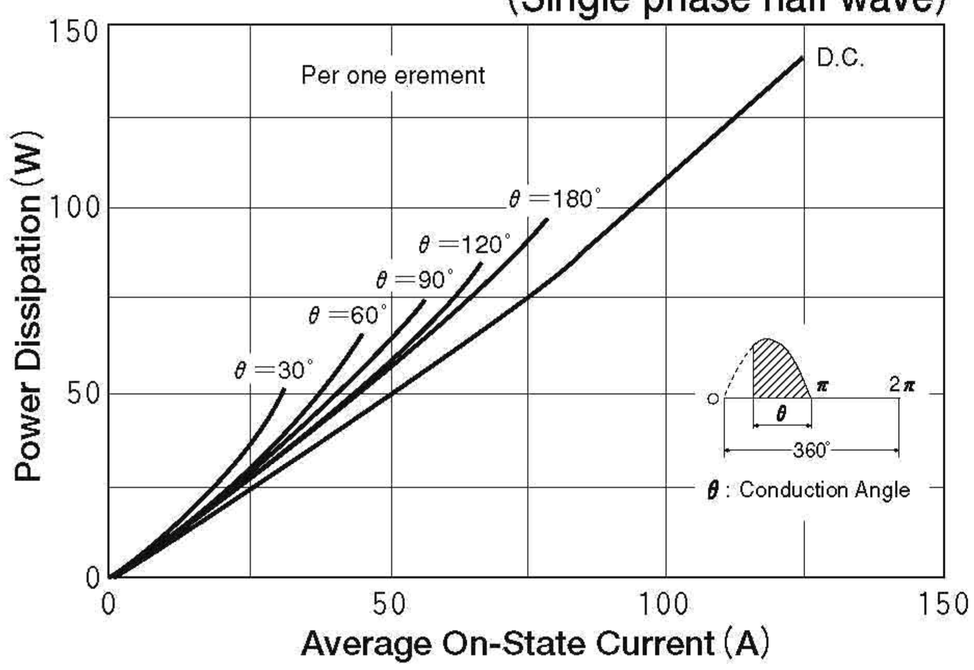
Gate Characteristics



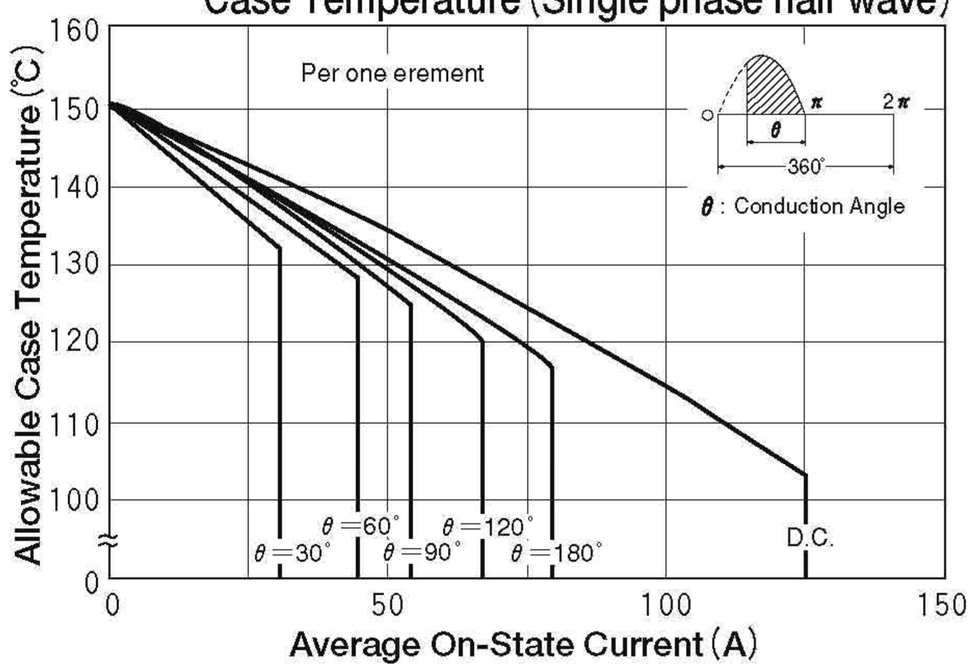
On-State Voltage max



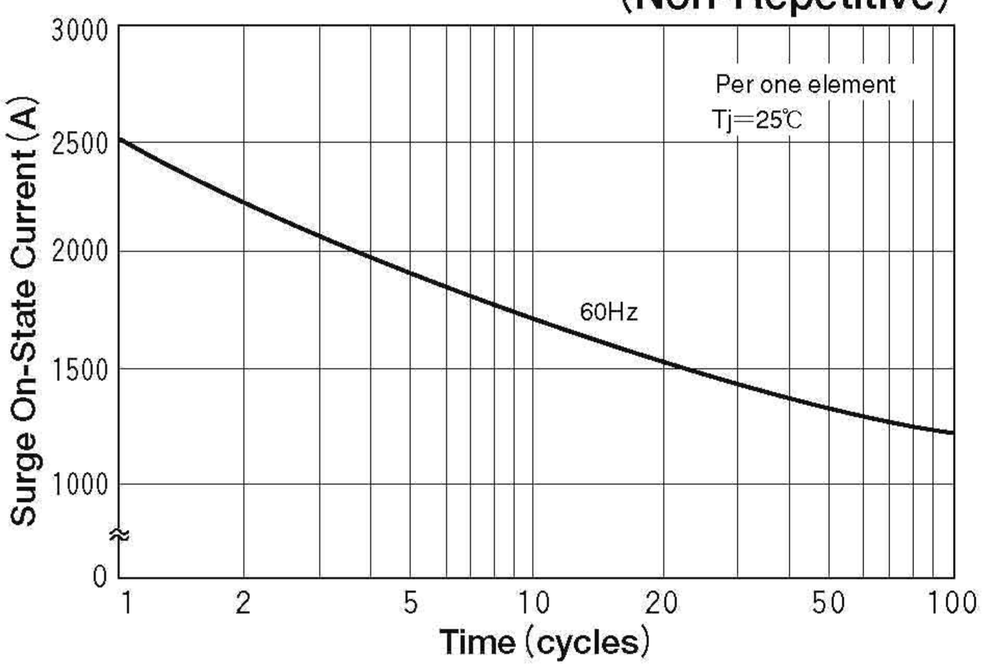
Average On-State Current Vs Power Dissipation (Single phase half wave)



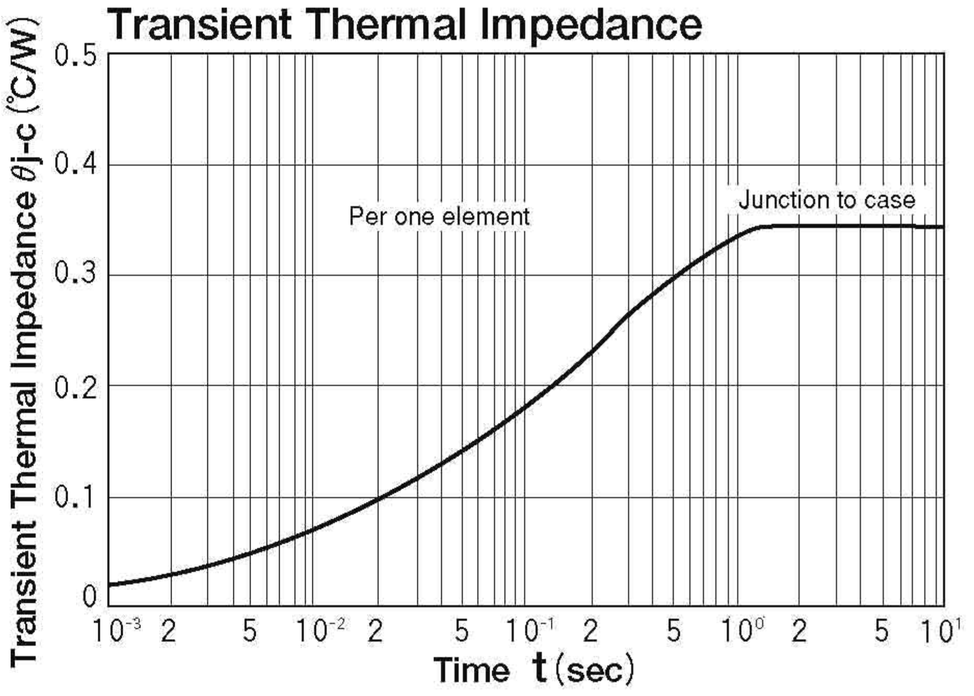
Average On-State Current Vs Maximum Allowable Case Temperature (Single phase half wave)



Surge On-State Current Rating (Non-Repetitive)



Transient Thermal Impedance



Last update : Oct. 2007