

Three Phase Bridge + Thyristor

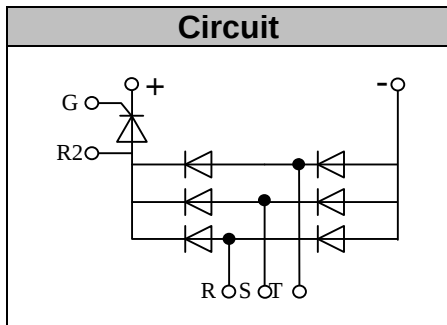
VRRM / VDRM	800 to 1800V
IFAV / ITAV	150A

Features

- Blocking voltage: 800 to 1800V
- Three Phase Bridge and a Thyristor
- Low Forward Voltage

Applications

- Inverter for AC or DC motor control
- Current stabilized power supply
- Switching power supply
- UL recognized applied for file no. E230084



Module Type

TYPE	VRRM/ VDRM	VRSM
MT150DT08L2	800V	900V
MT150DT12L2	1200V	1300V
MT150DT16L2	1600V	1700V
MT150DT18L2	1800V	1900V

Diode

Maximum Ratings

Symbol	Item	Conditions	Values	Units
Id	Output Current(D.C.)	Tc=93 Three phase full wave	150	A
IFSM	Surge forward current	t=10mS Tvj =45	1500	A
i²t	Circuit Fusing Consideration		11250	A²s
Visol	Isolation Breakdown Voltage(R.M.S)	a.c.50HZ;r.m.s.;1min	3000	V
Tvj	Operating Junction Temperature		-40 to +150	
Tstg	Storage Temperature		-40 to +125	
Mt	Mounting Torque	To terminals(M4)	2±15%	Nm
Mt		To terminals(M6)	5 15%	Nm
Ms		To heatsink(M6)	5 15%	Nm
Weight		Module Approximately	320	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Units
Rth(j-c)	Thermal Impedance, max.	Junction to Case(TOTAL)	0.14	/W
Rth(c-s)	Thermal Impedance, max.	Case to Heat sink	0.07	/W

Electrical Characteristics

Symbol	Item	Conditions	Values	Units
V _{FM}	Forward Voltage Drop, max.	T=25 IF =150A	1.30	V
I _{RRM}	Repetitive Peak Reverse Current, max.	T _{vj} =25 V _{RD} =V _{RRM} T _{vj} =150 V _{RD} =V _{RRM}	2 10	mA mA

Thyristor Maximum Ratings

Symbol	Item	Conditions	Values	Units
I_{TAV}	Average On-State Current	$T_c=93^\circ\text{C}$, Single Phase half wave 180° conduction	150	A
I_{TSM}	Surge On-State Current	TVJ=45		

Electrical and Thermal Characteristics

Performance Curves

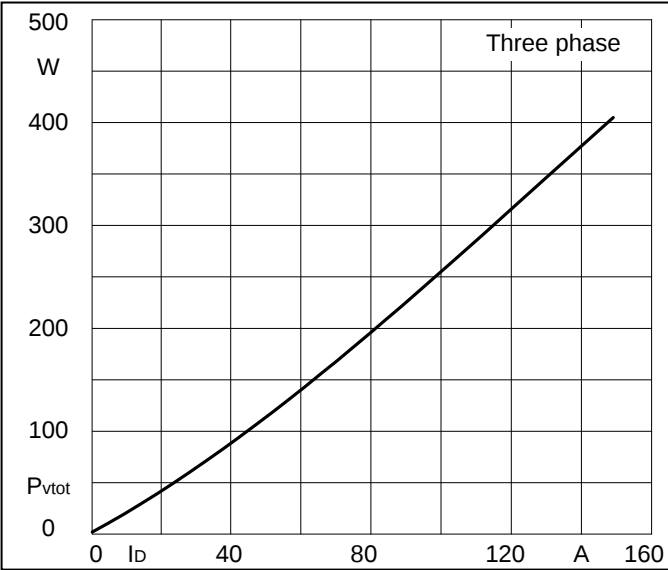


Fig1. Power dissipation

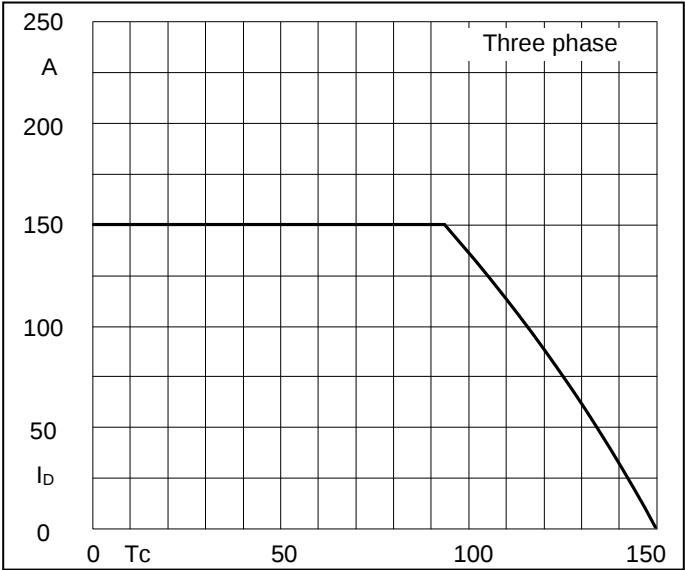


Fig2. Forward Current Derating Curve

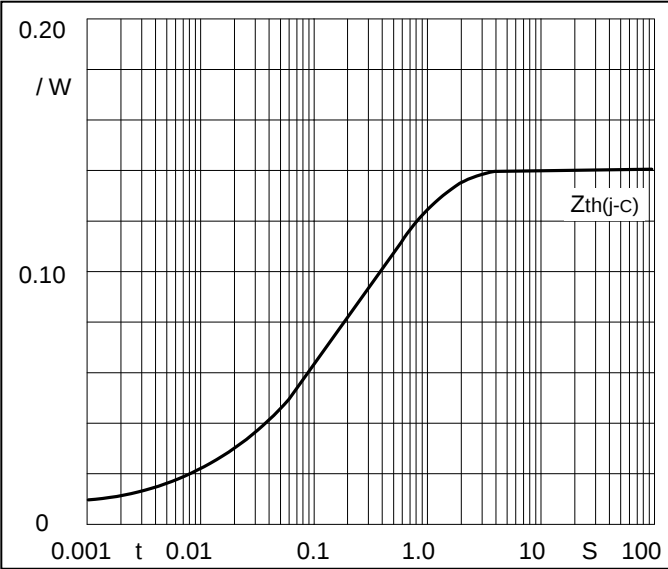


Fig3. Transient thermal impedance

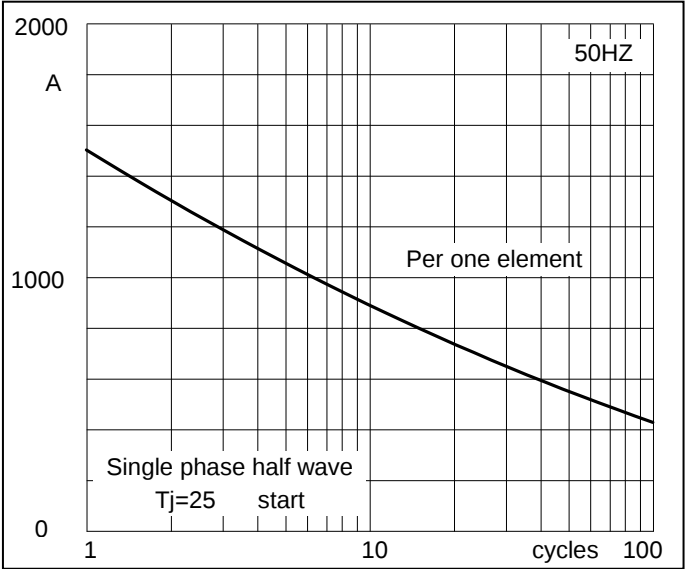


Fig4. Max Non-Repetitive Forward Surge Current

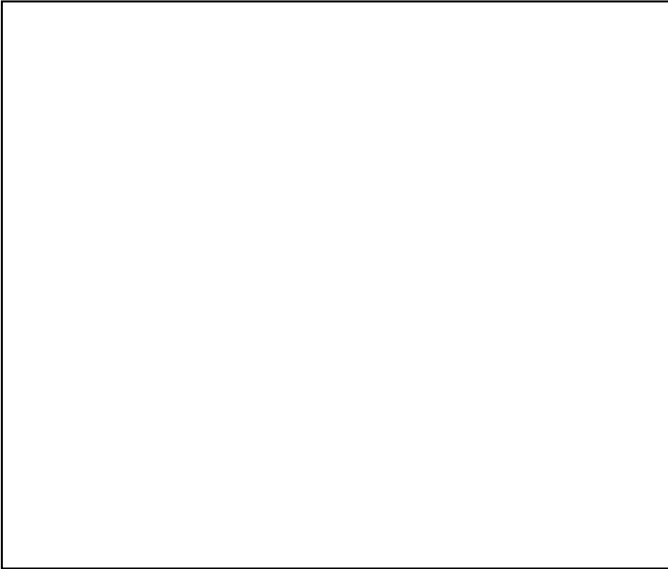


Fig5. Forward Characteristics

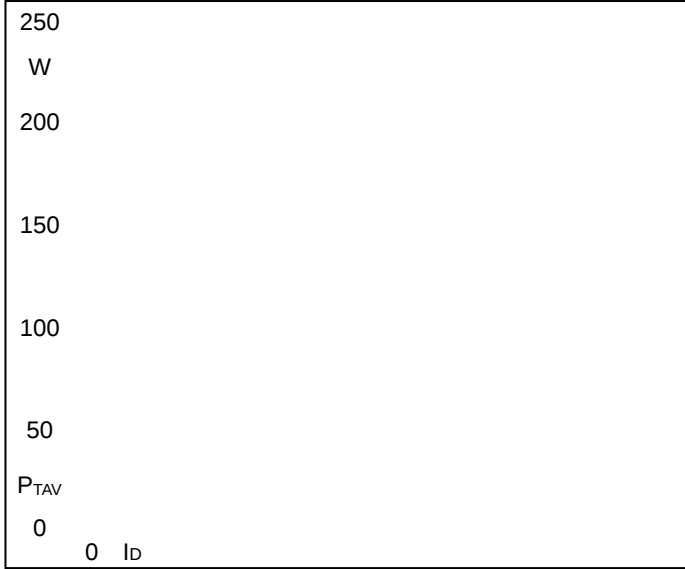


Fig6. SCR Power dissipation

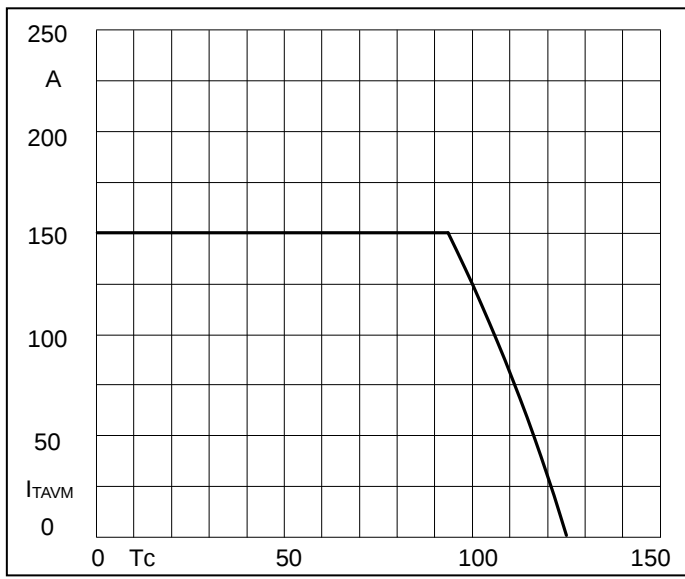


Fig7. SCR Forward Current Derating Curve

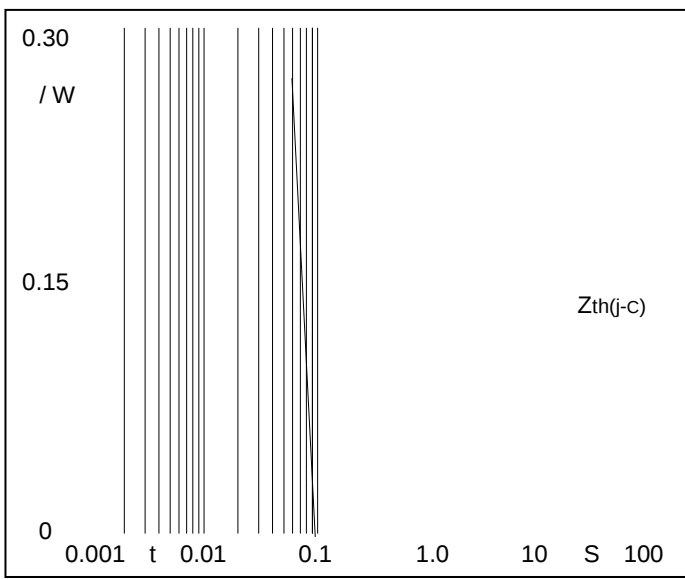


Fig8. SCR Transient thermal impedance

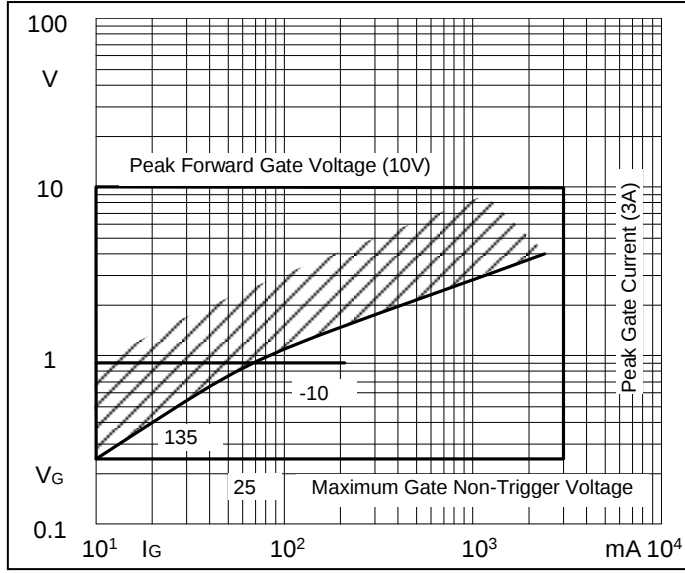


Fig9. Gate trigger Characteristics



Package Outline A



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