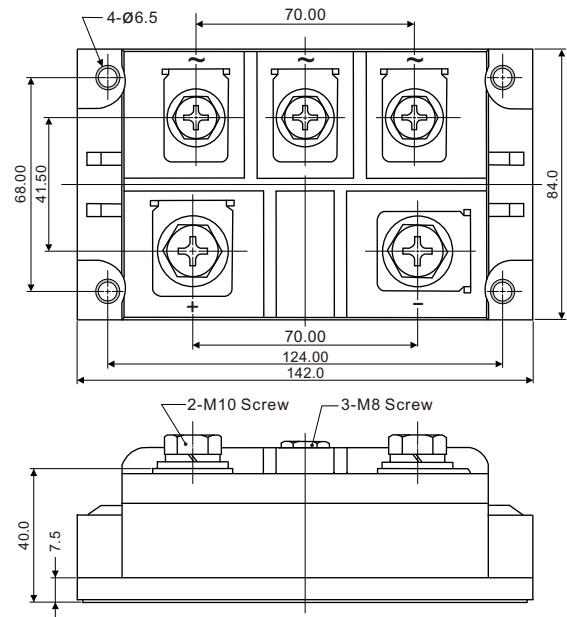


Three-Phase Bridge Rectifier, 500A

MTP50008 Thru MTP50018



All dimensions in millimeters

FEATURES

- UL recognition file number E320098
- Typical IR less than 5.0 μ A
- High surge current capability
- Low thermal resistance
- Compliant to RoHS
- Isolation voltage up to 2500V

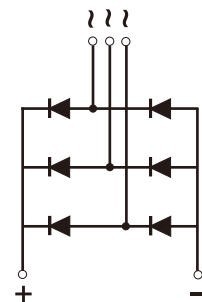


TYPICAL APPLICATIONS

- DC power supplies for apparatus device
- Input rectifying power supplies for PWM converters
- Field supplies for DC motors
- Inverter welders

ADVANTAGE

- International standard package
Epoxy meets UL 94 V-O flammability rating
- Small volume, light weight
- Weight: 1100g (38.8 ozs)



PRIMARY CHARACTERISTICS

$I_{F(AV)}$	500A
V_{RRM}	800V to 1800V
I_{FSM}	8000A
I_R	20 μ A
V_F	1.35V
$T_J \text{ max.}$	150°C

MAJOR RATINGS AND CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	MTP500					UNIT
		08	10	12	16	18	
Maximum repetitive peak reverse voltage	V_{RRM}	800	1000	1200	1600	1800	V
Peak reverse non-repetitive voltage	V_{RSM}	900	1100	1300	1700	1900	V
Maximum DC blocking voltage	V_{DC}	800	1000	1200	1600	1800	V
Maximum average forward rectified output current at $T_C = 100^\circ\text{C}$	$I_{F(AV)}$	500					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	8000					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	265.6					KA^2s
RMS isolation voltage from case to leads	V_{ISO}	2500					V
Operating junction storage temperature range	T_J	-40 to 150					$^\circ\text{C}$
Storage temperature range	T_{STG}	-40 to 125					$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (T _A = 25°C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	MTP500					UNIT
			08	10	12	16	18	
Maximum instantaneous forward drop per diode	I _F = 500A	V _F	1.35					V
Maximum reverse DC current at rated DC blocking voltage per diod	T _A = 25°C	I _R	20					μA
	T _A = 150°C		15					mA

THERMAL AND MECHANICAC (T _A = 25°C unless otherwise noted)									
PARAMETER		TEST CONDITIONS	SYMBOL	MTP500					UNIT
				08	10	12	16	18	
Typical thermal resistance junction to case		Single-side heat dissipation, sine half wave	R _{θJC} ⁽¹⁾	0.05					°C/W
Mounting torque ± 10 %	to heatsink M6	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.	4					Nm	
	to terminal M8		10						
	to terminal M10		12						
Approximate weight				1100					g

Notes

(1) With heatsink, single side heat dissipation, half sine wave.

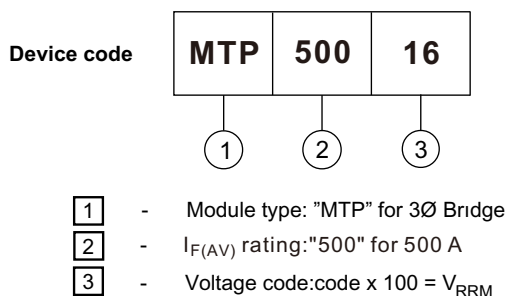


Fig.1 Forward current vs. Forward voltage

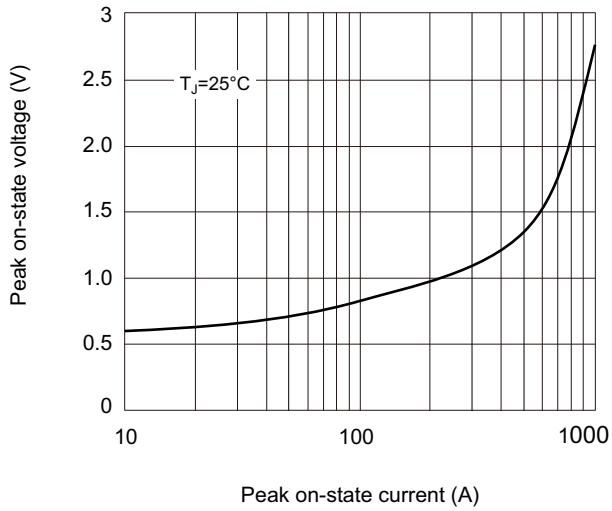


Fig.2 Thermal Impedance (junction to case)

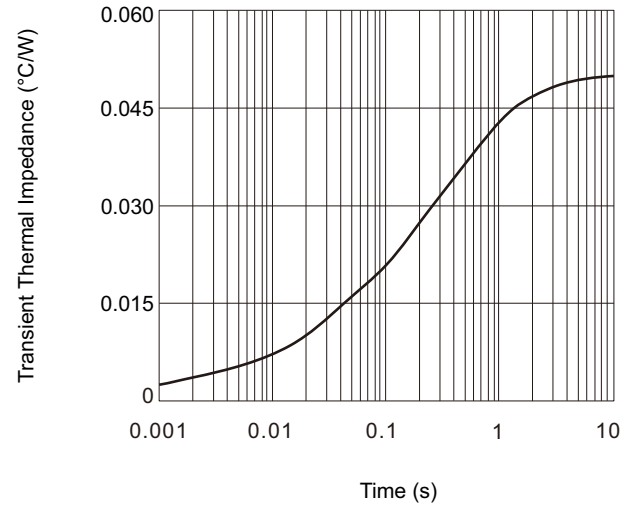


Fig.3 Power Consumption vs. Average Current

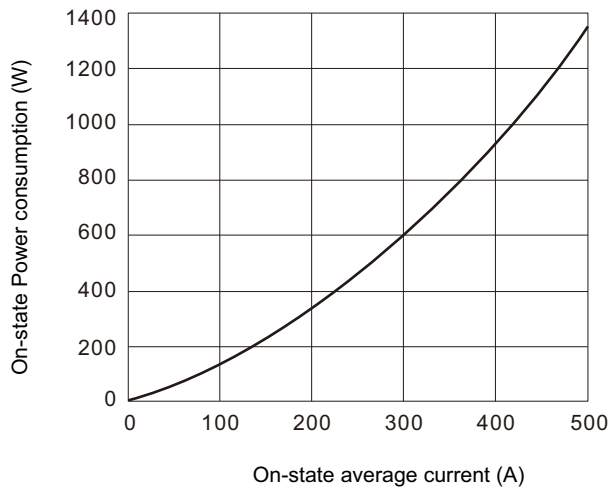


Fig.4 Case Temperature vs. O-state Average Current

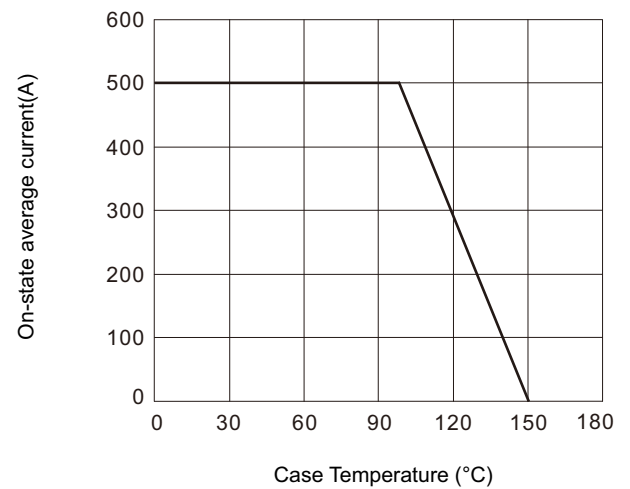


Fig.5 Forward Surge Current vs. Cycle

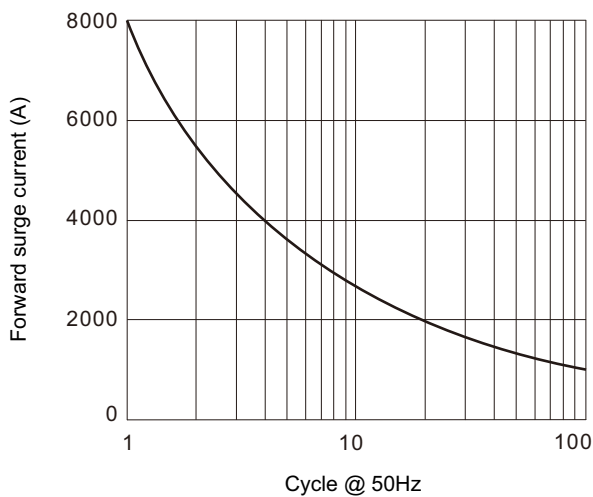


Fig.6 I^2t characteristic

