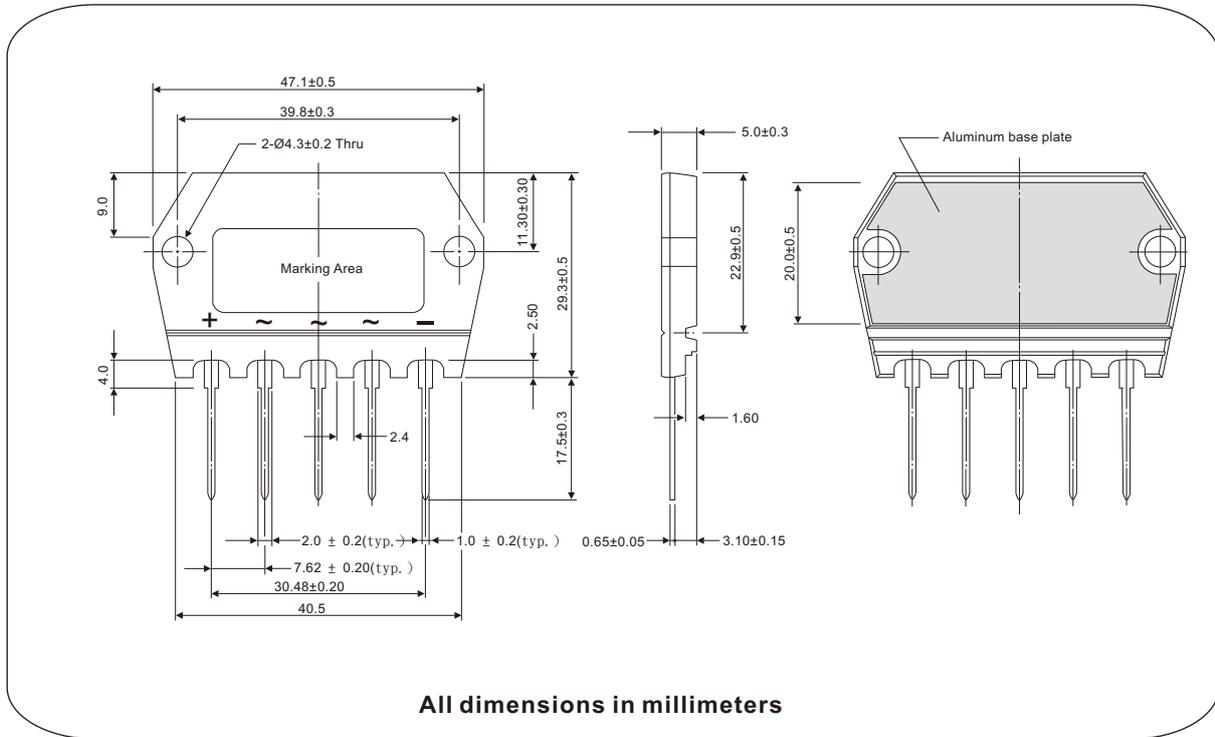


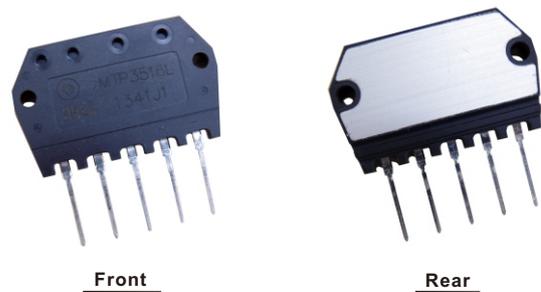
Glass Passivated Three-Phase Bridge Rectifier, 50A

MTP5012H Thru MTP5020H



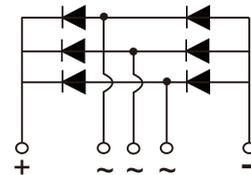
FEATURES

- UL recognition file number E320098
- Typical IR less than 2.0 μ A
- High surge current capability
- Low thermal resistance
- Compliant to RoHS
- Isolation voltage up to 2500V



TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for big power supply, field supply for DC motor, industrial automation applications.



ADVANTAGE

- International standard package
Epoxy meets UL 94 V-O flammability rating
- Small volume, light weight
- Small thermal resistance
- High heat-conduction rate
- Low temperature rise
- High temperature soldering guaranteed :
260°C/10 second, 2.3kg tension force
- Weight: 12g (0.42 ozs)

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	50A
V_{RRM}	1200V to 2000V
I_{FSM}	590A
I_R	10 μ A
V_F	1.10V
$T_{J\ max.}$	150°C

MAJOR RATINGS AND CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MTP50..H				UNIT
		12	16	18	20	
Maximum repetitive peak reverse voltage	V_{RRM}	1200	1600	1800	2000	V
Peak reverse non-repetitive voltage	V_{RSM}	1300	1700	1900	2100	V
Maximum DC blocking voltage	V_{DC}	1200	1600	1800	2000	V
Maximum average forward rectified output current, $T_C = 85^\circ\text{C}$	$I_{F(AV)}$	50				A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	590				A
Rating (non-repetitive, for t greater than 1 ms and less than 10 ms) for fusing	I^2t	1740				A^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 150				$^\circ\text{C}$

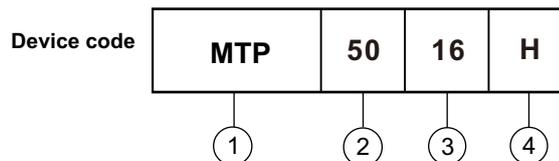
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	MTP50..H				UNIT
			12	16	18	20	
Maximum instantaneous forward drop per diode	$I_F = 50\text{A}$	V_F	1.20				V
Maximum reverse DC current at rated DC blocking voltage per diode	$T_A = 25^\circ\text{C}$	I_R	10				μA
	$T_A = 150^\circ\text{C}$		1000				

THERMAL AND MECHANICAL ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	TEST CONDITIONS	SYMBOL	MTP25..H				UNIT
			12	16	18	20	
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	$R_{th(j-c)}^{(1)}$	0.60				$^\circ\text{C}/\text{W}$
Mounting torque to heatsink M4 $\pm 10\%$	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.		2.0				N·m
Approximate weight			18				g

Notes

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

Ordering Information Tabel



- ① - Product type : "MTP" Package, 3Ø Bridge (Three-phase bridge)
- ② - $I_{F(AV)}$ rating : "50" for 50A
- ③ - Voltage code : code x 100 = V_{RRM}
- ④ - H: SIP (Single-in-line) package with Aluminum base plate (heat sink)

Fig.1 Forward current derating curve

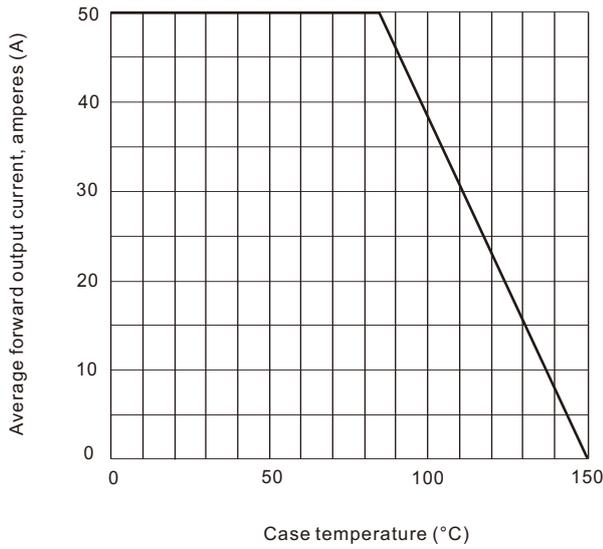


Fig.2 Forward characteristics

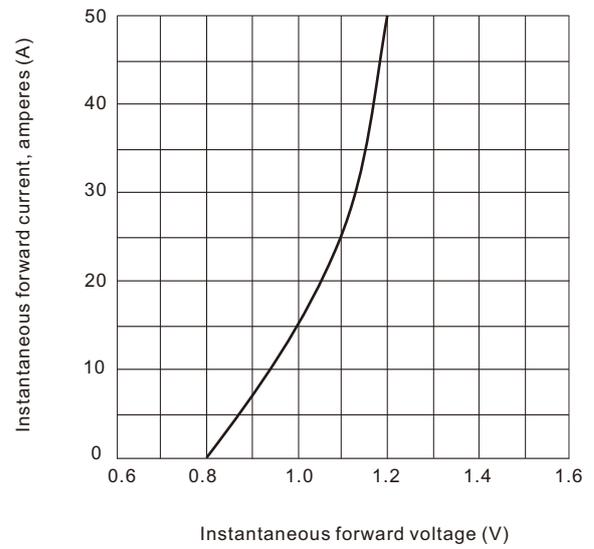


Fig.3 Transient thermal impedance

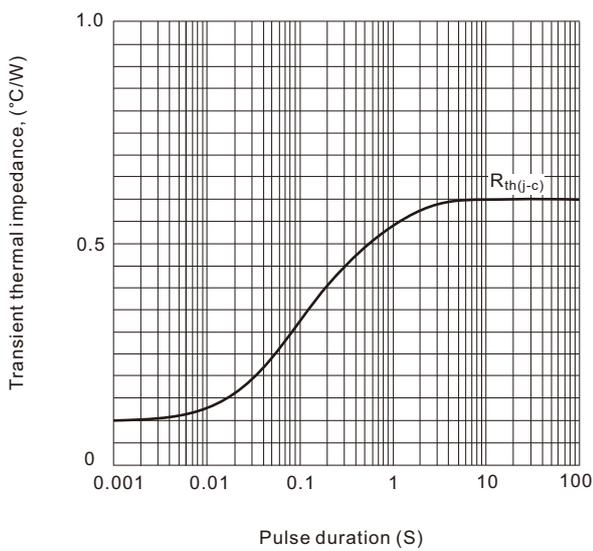


Fig.4 Max Non-repetitive forward surge current

