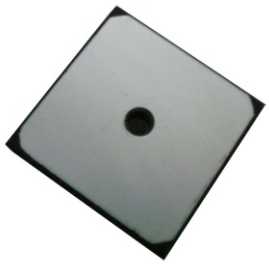
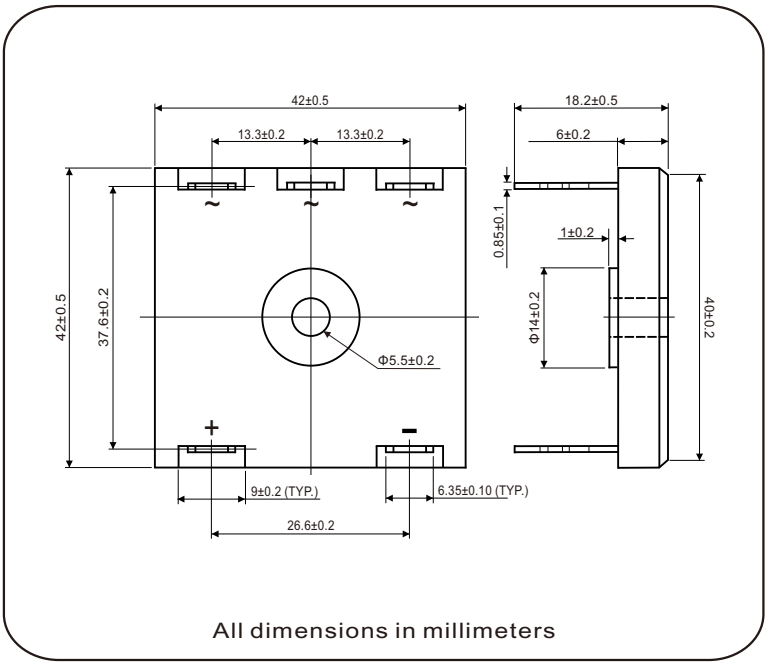
Glass Passivated Triple-Phase Bridge Rectifier, 50A

MTP5006M1 Thru MTP5016M1

Front

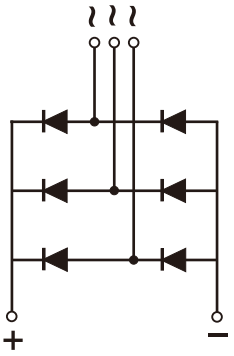


Rear



FEATURES

- UL recognition file number E320098
- Universal 3-way terminals: snap-on, wire wrap-around, or PCB mounting
- Typical IR less than 1.0 μA
- High surge current capability
- Low thermal resistance
- Solder dip 260°C, 40s
- Compliant to RoHS
- Glass passivated chips
- **Unique molding body**



TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: Molded GBPC
Epoxy meets UL 94 V-O flammability rating
Terminals: Nickel plated on faston lugs, solderable per J-STD-002 and JESD22-B102.
Polarity: As marked
Mounting Torque: 20 inches-lbs.max.
Weight: 29g (1.02 ozs)

PRIMARY CHARACTERRISTICS	
$I_{F(AV)}$	50A
V_{RRM}	600V to 1600V
I_{FSM}	550A
I_R	5 μA
V_F	1.1V
$T_{J\,max.}$	150ºC

MAJOR RATINGS AND CHARACTERISTICS (T_A = 25°C unless otherwise noted)								
PARAMETER	SYMBOL	MTP50..M1					UNIT
		06	08	10	12	16	
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	1200	1600	V
Maximum RMS voltage	V_{RMS}	420	560	700	840	1120	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	1200	1600	V
Maximum average forward rectified output current (Fig.1), T_C=85°C	$I_{F(AV)}$	50					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	550					A
Rating (non-repetitive, for t greater than 1 ms and less than 10 ms) for fusing	I^2t	1510					A^2s
RMS isolation voltage from case to leads	V_{ISO}	2500					V
Operating junction storage temperature range	T_J,T_{STG}	-55 to 150					°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	MTP50..M1					UNIT
			06	08	10	12	16	
Maximum instantaneous forward drop per diode	I_F = 25A	V_F	1.1					V
Maximum reverse DC current at rated DC blocking voltage per diod	T_A = 25°C	I_R	5					μA
	T_A = 150°C		1000					
Typical junction capacitance per diode	4V, 1MHz	C_J	300					pF

THERMAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)								
PARAMETER	SYMBOL	MTP50..M1					UNIT
		06	08	10	12	16	
Typical thermal resistance	$R_{\theta JC}$(1)	0.8					°C/W

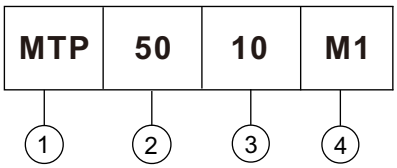
Notes

(1) With heatsink

(2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with M5 screw

ORDERING INFORMATION TABLE

Device code



1 - Module type: 3 phase Bridge

2 - Current rating: $I_{F\ (AV)}$

3 - Voltage code x 10: V_{RRM}

4 - Package outline, M1 for “Molding GBPC”package

Fig.1 Forward Current Derating Curve

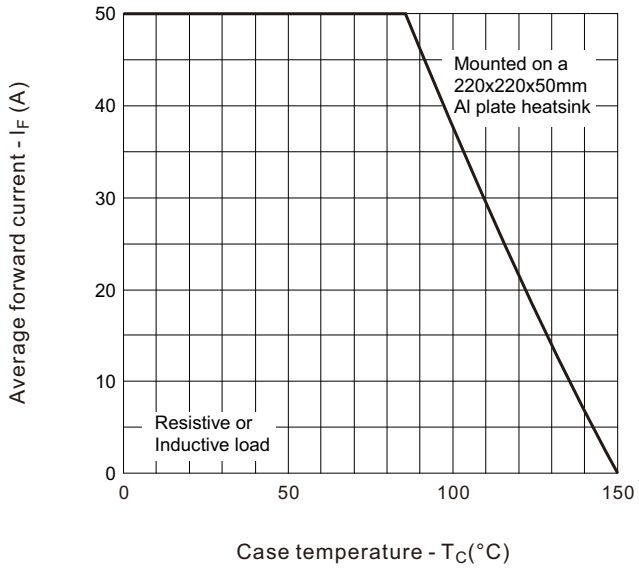


Fig.2 Typical Forward Characteristics

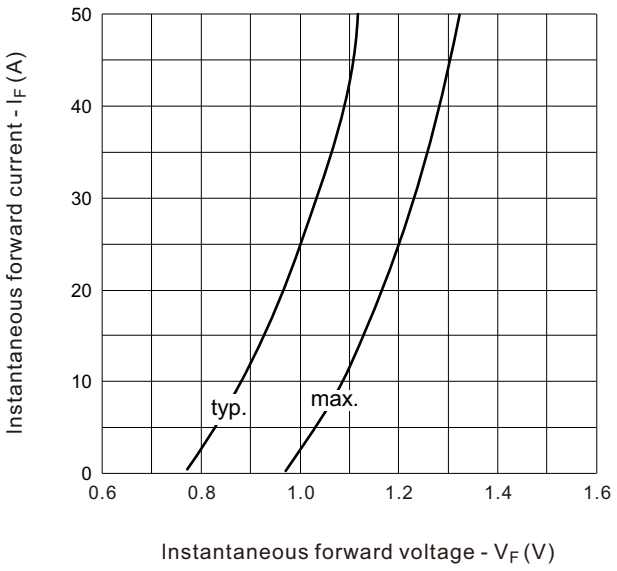


Fig.3 Max Non-Repetitive Peak Surge Current

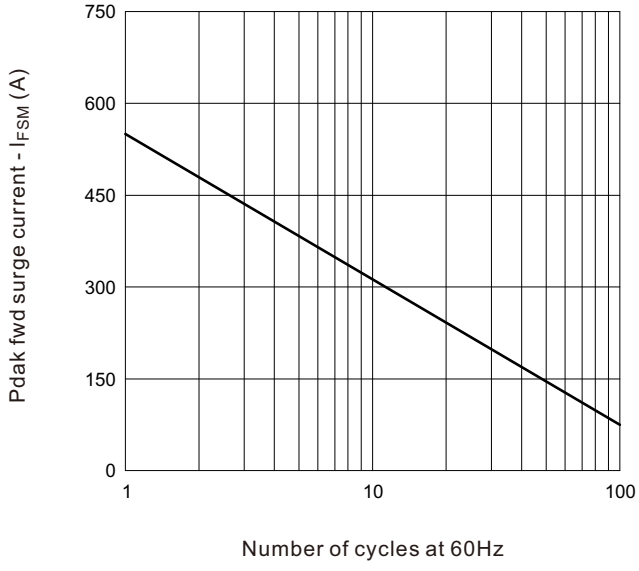


Fig.4 Transient thermal impedance