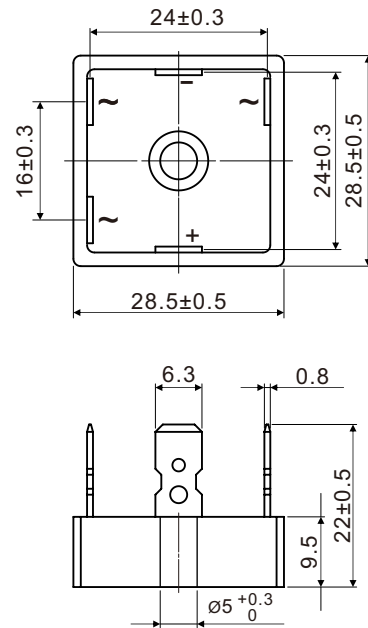


Glass Passivated Triple-Phase Bridge Rectifier, 50A

MTP5006A1 Thru MTP5016A1



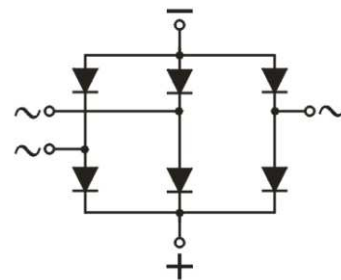
All dimensions in millimeters

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

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: GBPC

Epoxy meets UL 94 V-O flammability rating

Terminals: Gold plated on faston lugs or gold plated on wire leads, solderable per J-STD-002 and JESD22-B102.

Polarity: As marked

Mounting Torque: 20 inches-lbs. max.

Weight: 21g (0.74 ozs)

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	50A
V_{RRM}	600V to 1600V
I_{FSM}	500A
I_R	5 μA
V_F	1.2V
$T_{J \text{ max.}}$	150°C

MAJOR RATINGS AND CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MTP50..A1					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)	$I_{F(AV)}$	50					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	500					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	1000					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					$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	MTP50..A1					UNIT
			06	08	10	12	16	
Maximum instantaneous forward drop per diode	$I_F = 25\text{A}$	V_F	1.2					V
Maximum reverse DC current at rated DC blocking voltage per diod	$T_A = 25^\circ\text{C}$	I_R	5					μA
	$T_A = 150^\circ\text{C}$		1000					
Typical junction capacitance per diode	4V, 1MHz	C_J	300					pF

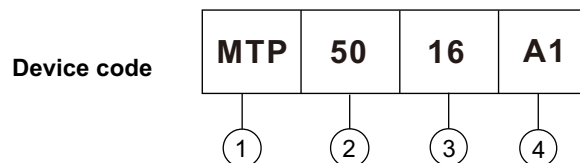
THERMAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	MTP50..A1					UNIT
		06	08	10	12	16	
Typical thermal resistance	$R_{\theta JC}^{(1)}$	1.0					$^\circ\text{C/W}$

Notes

- (1) With heatsink
- (2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with #10 screw

ORDERING INFORMATION TABLE



- ① - Module type: 3 phase Bridge
- ② - Current rating: $I_{F(AV)}$
- ③ - Voltage code x 100 : V_{RRM}
- ④ - Package outline,A1 for "GBPC"package

Fig.1 Forward Current Derating Curve

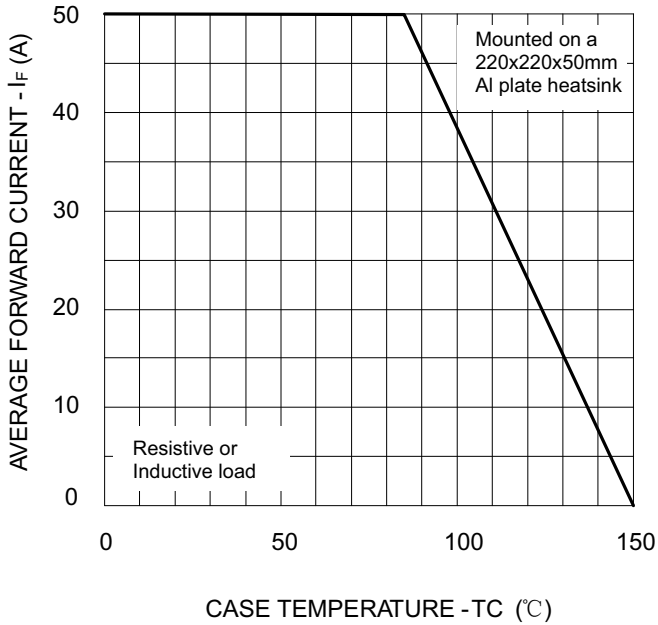


Fig.2 Typical Forward Characteristics

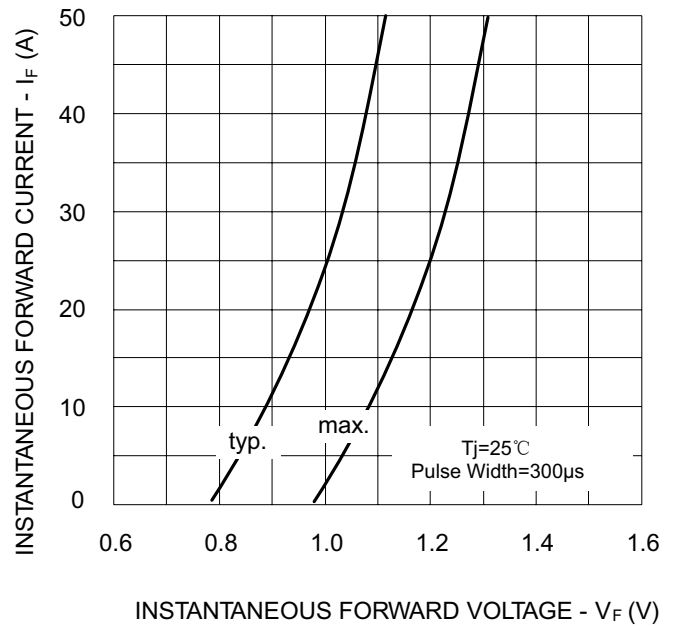


Fig.3 Max Non-Repetitive Peak Surge Current

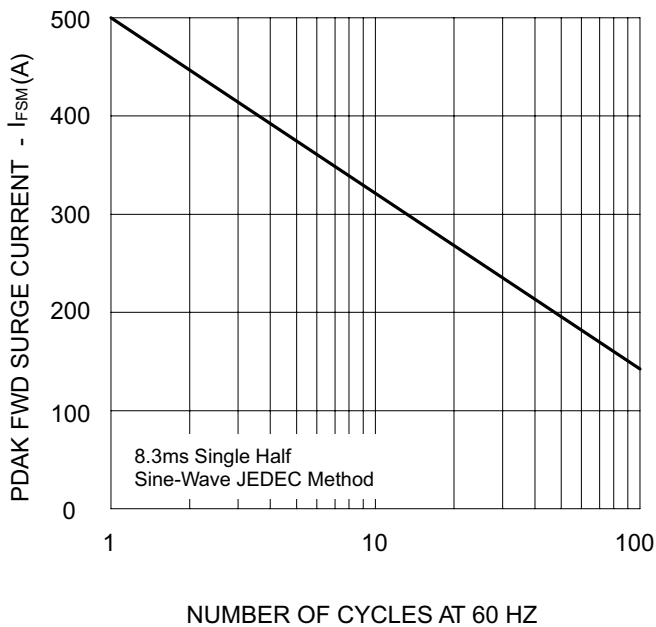


Fig.4 Transient thermal impedance

