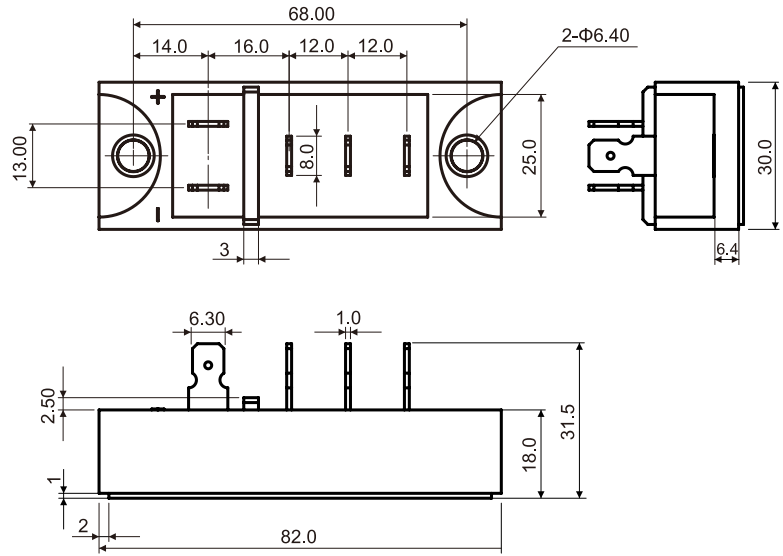


Glass Passivated Three-Phase Bridge Rectifier, 50A

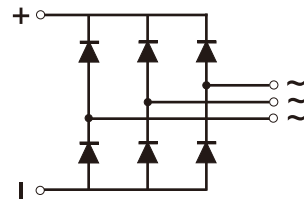
MTP5008X Thru MTP5018X



All dimensions in millimeters

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
- **Weight:** 120g (4.2 ozs)

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	50A
V_{RRM}	800V to 1800V
I_{FSM}	750A
I_R	5 μ A
V_F	1.2V
T_{Jmax}	150°C

Nell High Power Products

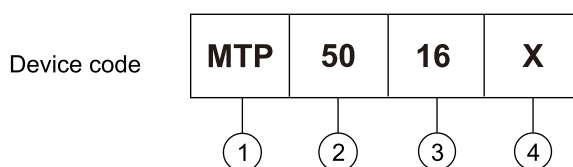
MAJOR RATINGS AND CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	MTP50..X					UNIT
		08	10	12	16	18	
Maximum repetitive peak reverse voltage	V_{RRM}	800	1000	1200	1600	1800	V
Peak reverse non-repetitive voltage	V_{RSM}	900	1100	1300	1700	1900	V
Maximum DC blocking voltage	V_{DC}	800	1000	1200	1600	1800	V
Maximum average forward rectified output current, $T_C = 100^\circ\text{C}$	$I_{F(AV)}$	50					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	750					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	2180					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°C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	MTP50..X					UNIT
			08	10	12	16	18	
Maximum instantaneous forward drop per diode	I _F =50A	V _F	1.2					V
Maximum reverse DC current at rated DC blocking	T _A = 25°C	I _R	5					µA
voltage per diod	T _A = 150°C		2000					

THERMAL AND MECHANICAL (T _A = 25°C unless otherwise noted)								
PARAMETER	TEST CONDITIONS	SYMBOL	MTP50 . . X					UNIT
			08	10	12	16	18	
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	R _{θJC} ⁽¹⁾	0.24					°C/W
Mounting torque to heatsink M6 ± 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.		4					Nm
Approximate weight			120					g

Notes

- (1) With heatsink, single side heat dissipation, half sine wave.
 (2) M6 screw.



- ① - Module type: "MTP" for 3Ø Bridge
- ② - $I_{F(AV)}$ rating: "50" for 50A
- ③ - Voltage code: code x 100 = V_{RRM}
- ④ - Package outline: X type package

Nell High Power Products

Fig.1 Forward characteristic

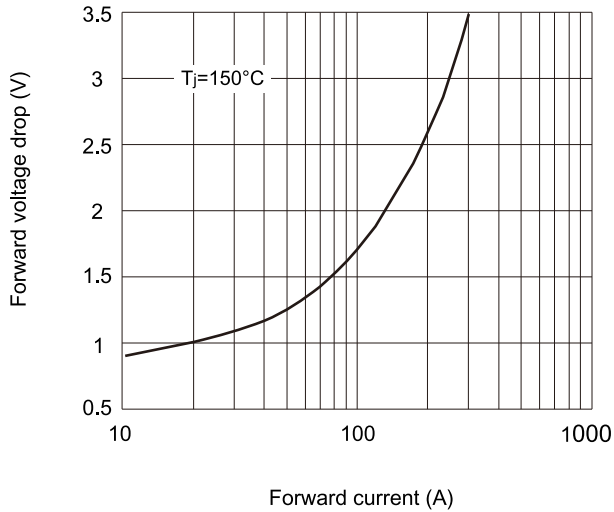


Fig. 2 Thermal Impedance (junction to case)

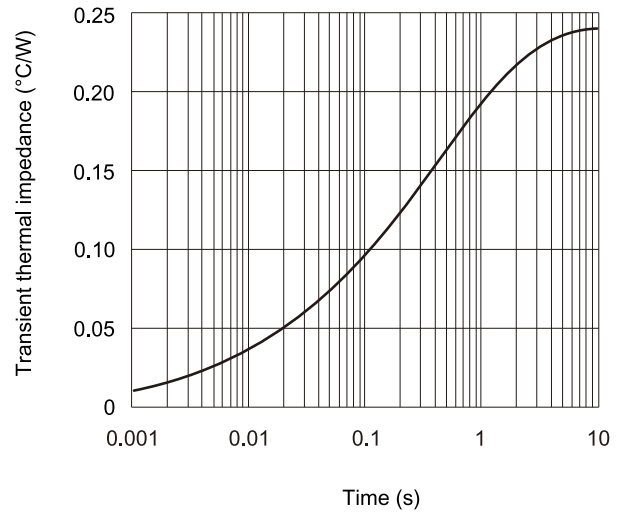


Fig.3 Power dissipation vs. output current

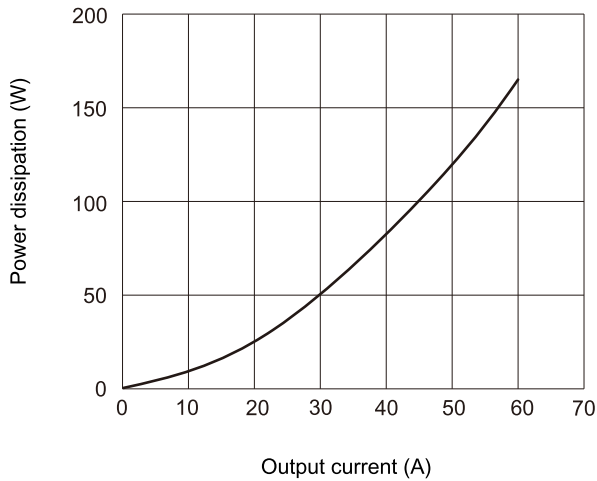


Fig.4 Case temperature vs output current

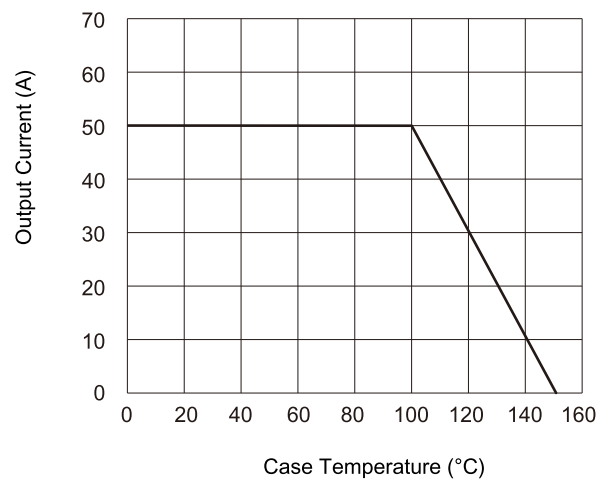


Fig.5 Forward surge current vs. cycle

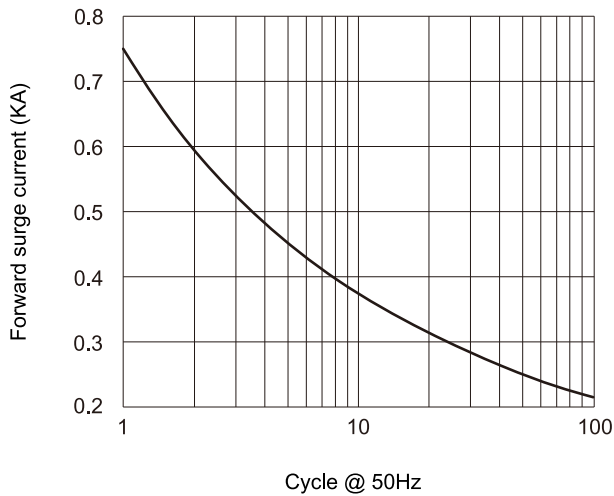


Fig.6 I^2t characteristic

