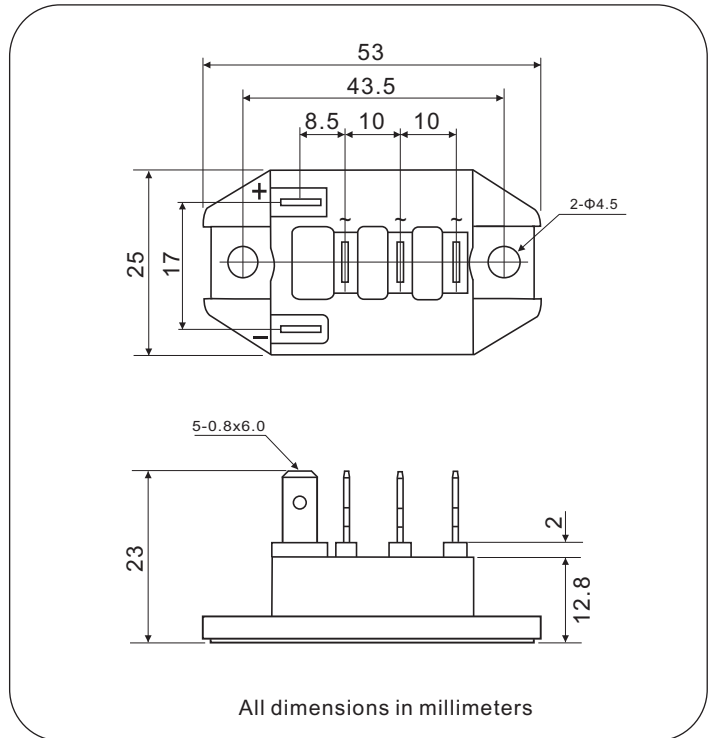


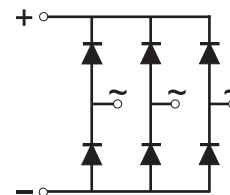
# Glass Passivated Three-Phase Bridge Rectifier, 30A

## MTP3008 Thru MTP3012



### FEATURES

- UL recognition file number E320098
- Typical IR less than 2.0  $\mu$ 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	
$I_{F(AV)}$	30A
$V_{RRM}$	800V to 1200V
$I_{FSM}$	500A
$I_R$	20 $\mu$ A
$V_F$	1.1V
$T_{Jmax.}$	150°C

## Nell High Power Products

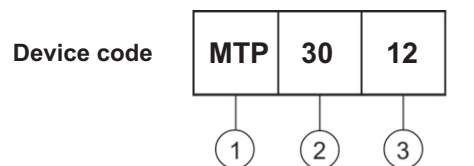
MAJOR RATINGS AND CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	MTP30			UNIT
		08	10	12	
Maximum repetitive peak reverse voltage	$V_{RRM}$	800	1000	1200	V
Peak reverse non-repetitive voltage	$V_{RSM}$	900	1100	1300	V
Maximum DC blocking voltage	$V_{DC}$	800	1000	1200	V
Maximum average forward rectified output current	$I_{F(AV)}$	30			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	$I^2t$	1200			A <sup>2</sup> s
RMS isolation voltage from case to leads	$V_{ISO}$	2500			V
Operating junction storage temperature range	$T_J$	-40 to 150			°C
Storage temperature range	$T_{STG}$	-40 to 125			°C

ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MTP30			UNIT
			08	10	12	
Maximum instantaneous forward drop per diode	$I_F = 30\text{A}$	$V_F$	1.1			V
Maximum reverse DC current at rated DC blocking voltage per diode	$T_A = 25^\circ\text{C}$	$I_R$	20			$\mu\text{A}$
	$T_A = 150^\circ\text{C}$		2000			

THERMAL AND MECHANICAL ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS	SYMBOL	MTP30			UNIT
			08	10	12	
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	$R_{\theta JC}^{(1)}$	0.44			°C/W
Mounting torque to heatsink M6 $\pm 10\%$	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.		4			Nm
Approximate weight			120			g

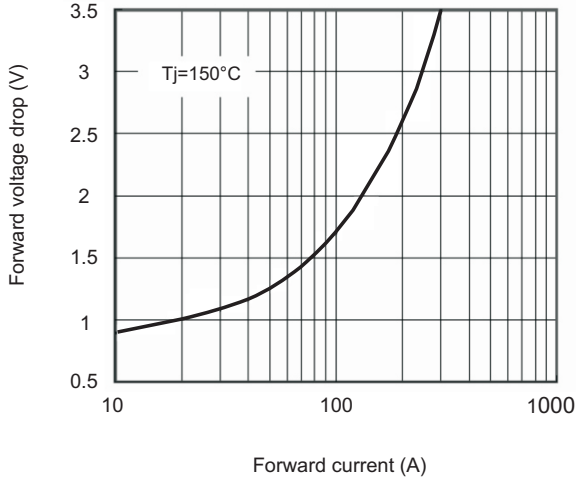
### Notes

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

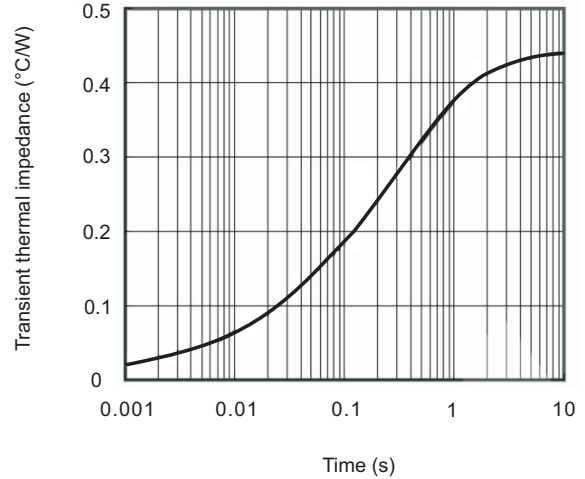


- ① - Module type: "MTP" for 3Ø Bridge
- ② -  $I_{F(AV)}$  rating: "30" for 30A
- ③ - Voltage code: code x 100 =  $V_{RRM}$

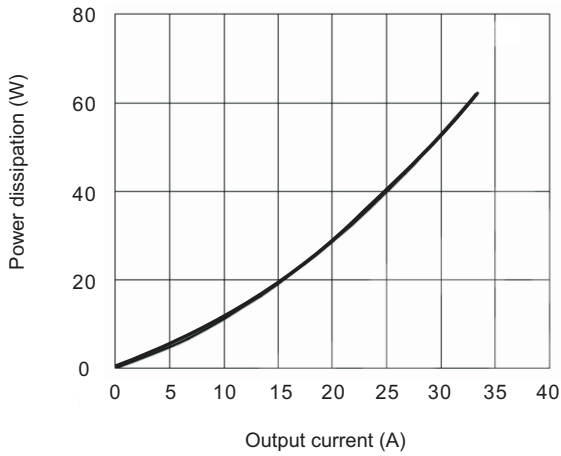
**Fig.1 Forward characteristic**



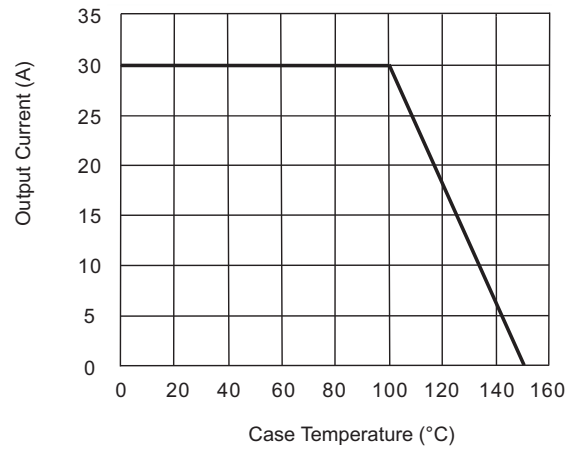
**Fig.2 Thermal Impedance (junction to case)**



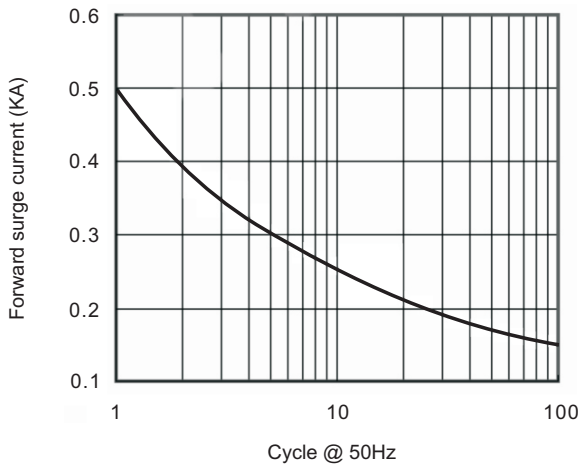
**Fig.3 Power dissipation vs. output current**



**Fig.4 Case temperature vs output current**



**Fig.5 Forward surge current vs. cycle**



**Fig.6 I<sup>2</sup>t characteristic**

