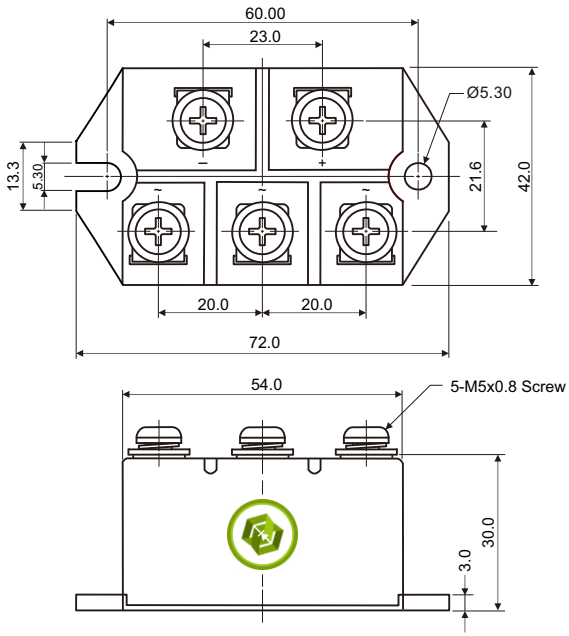
Nell High Power Products

Three-Phase Bridge Rectifier, 75A

MTP7508D Thru MTP7518D
(MTP75-08 Thru MTP75-18)

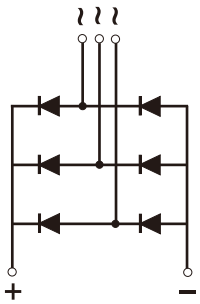


All dimensions in millimeters

FEATURES

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

RoHS COMPLIANT



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**: 170g (6 ozs)

PRIMARY CHARACTERRISTICS	
$I_{F(AV)}$	75A
V_{RRM}	800V to 1800V
I_{FSM}	1000A
I_R	20 μA
V_F	1.3V
$T_{J\ max.}$	150°C

MAJOR RATINGS AND CHARACTERISTICS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	MTP75..D					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	$I_{F(AV)}$	75					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	1000					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	5100					A^2s
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°C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	MTP75..D					UNIT
			08	10	12	16	18	
Maximum instantaneous forward drop per diode	I_F = 75A	V_F	1.2					V
Maximum reverse DC current at rated DC blocking voltage per diod	T_A = 25°C	I_R	20					μA
	T_A = 150°C		4000					

THERMAL AND MECHANICAC (T_A = 25°C unless otherwise noted)

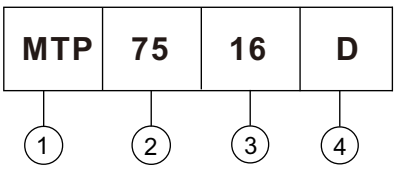
PARAMETER	TEST CONDITIONS	SYMBOL	MTP75..D					UNIT
			08	10	12	16	18	
Typical thermal resistance junction to case	Single-side heat dissipation, sine half wave	$R_{\theta JC}$(1)	0.24					°C/W
Mounting torque ± 10 % — to heatsink M5	A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound.		4					Nm
Mounting torque ± 10 % — to terminal M5			4					
Approximate weight			170					g

Notes

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

(2) M5 screw.

Device code



(MTP7516D=MTP75-16)

1 - Module type: "MTP" for 3Ø Bridge

2 - $I_{F(AV)}$ rating:"75" for 75A

3 - Voltage code:code x 100 = V_{RRM}

4 - Package Outline: D type package

Fig.1 Forward characteristic

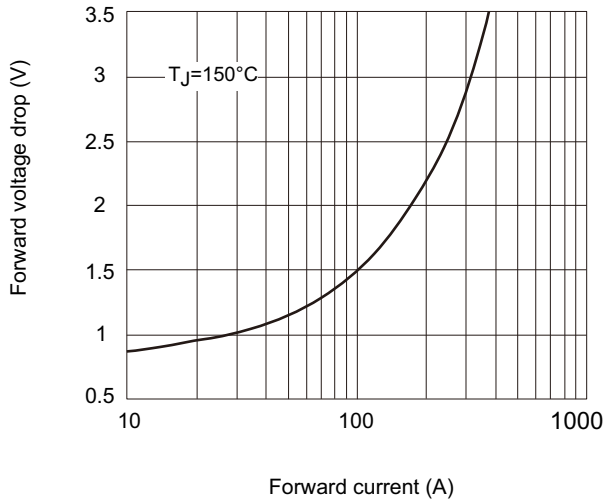


Fig.2 Thermal Impedance (junction to case)

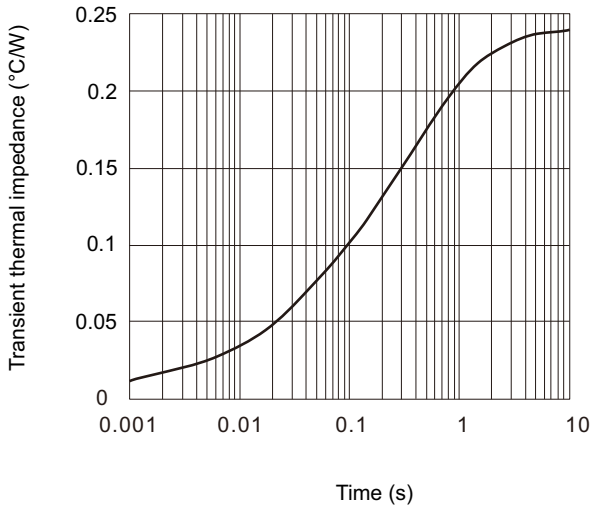


Fig.3 Power dissipation vs. output current

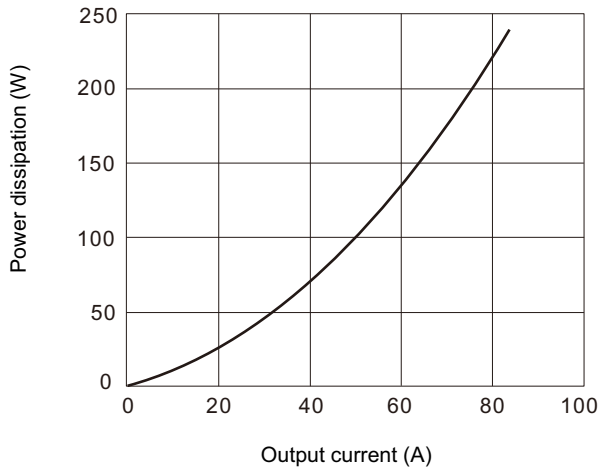


Fig.4 Case temperature vs. output current

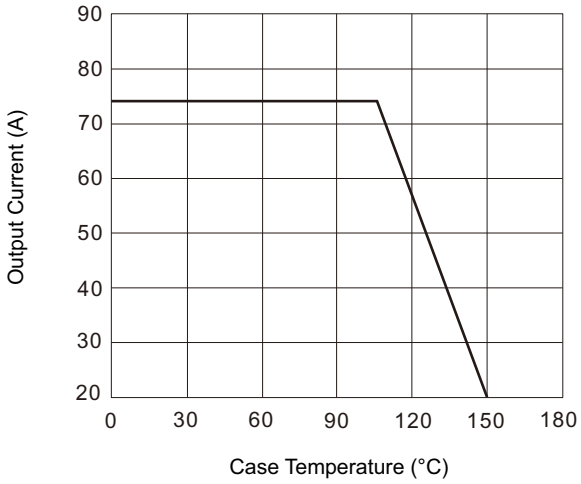


Fig.5 Forward surge current vs. cycle

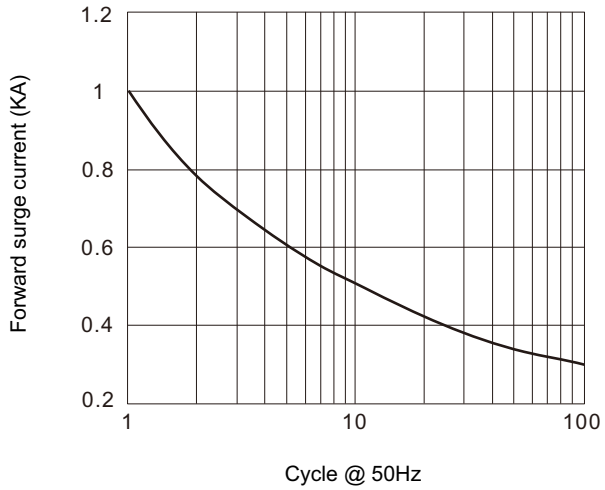


Fig.6 I^2t characteristic