ELECTRONICS, INC.
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NTE5742 & NTE5743
3 Phase Bridge Rectifier Modules

Description:

The NTE5742 and NTE5743 powerblock modules are designed for three–phase full wave rectification and contain six diodes connected in a three–phase bridge configuration. The mounting base of the module is electrically isolated from the semiconductor elements for simple heatsink construction.

Applications:

- Inverters for AC Motors
- Power Supply Units for DC Motors
- DC Power Supply Units for Battery Chargers
- General Purpose DC Power Supply Units

Absolute Maximum Ratings:

Repetitive Peak Reverse Voltage, V_{RRM}
- **NTE5742** 800V
- **NTE5743** 1600V

Non–Repetitive Peak Reverse Voltage, V_{RSM}
- **NTE5742** 880V
- **NTE5743** 1760V

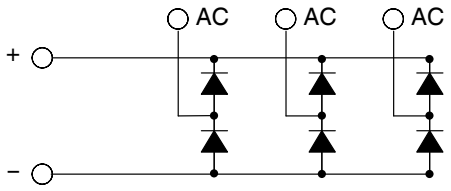
Average Output Current (50/60Hz, Sinewave), I_D
- **NTE5742** (T_C = +101°C) 75A
- **NTE5743** (T_C = +93°C) 75A

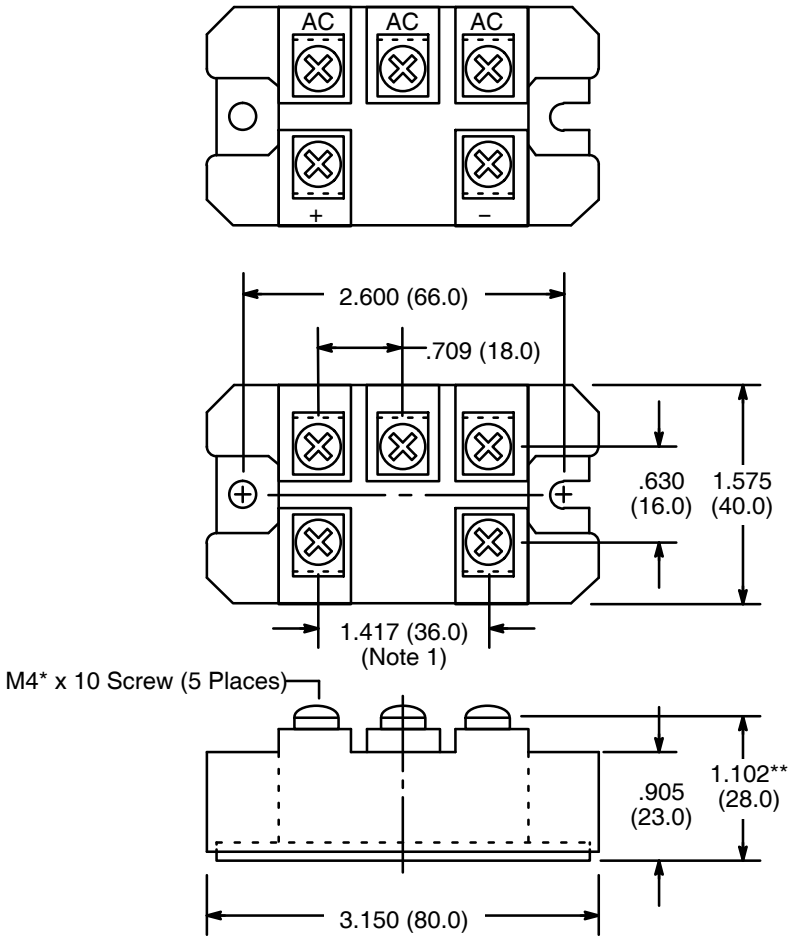
Surge Forward Current (Rated Load Conditions), I_{FSM} 1000A
Maximum I^2t for Fusing (Rated Load Conditions), I^2t . . . . . $4000A^2sec$
Operating Junction Temperature Range, T_J . . . . . –40° to +150°C
Storage Temperature Range, T_{stg} . . . . . –40° to +125°C
Isolation Breakdown Voltage (RMS, Main Terminal to Case, 1sec), V_{ISO} 2500V
Thermal Resistance, Junction–to–Case, R_{thJC}
(50/60Hz Sinewave, Thermal Resistance for Total Loss) . . . . . 0.30°C/W
Thermal Resistance (With Thermal Compound), R_{thCF} . . . . . 0.06°C/W

Electrical Characteristics:

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Repetitive Peak Reverse Current NTE5742	I_{RRM}	T_J = +150°C, V_{RRM} = 800V	10	mA
NTE5743		T_J = +150°C, V_{RRM} = 1600V	8	mA
Maximum Forward Voltage Drop NTE5742	V_{FM}	T_J = +25°C, I_{FM} = 100A	1.15	V
NTE5743		T_J = +25°C, I_{FM} = 75A	1.30	V

Circuit Diagram





*NTE5743 = M5 not M4 **NTE5743 = 1.299 (33)

Note 1. Screws may be closer together at: 1.190 (30.0)