



ELECTRONICS, INC.
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NTE5744 & NTE5745 Powerblock Modules 3 Phase Bridge Modules

Description:

The NTE5744 and NTE5745 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}

NTE5744 800V

NTE5745 1600V

Non-Repetitive Peak Reverse Voltage, V_{RSM}

NTE5744 880V

NTE5745 1760V

Average Output Current (50/60Hz, Sinewave), I_D

NTE5744 ($T_C = +103^\circ\text{C}$) 100A

NTE5745 ($T_C = +97^\circ\text{C}$) 100A

Surge Forward Current (Rated Load Conditions), I_{FSM} 1200A

Maximum I^2t for Fusing (Rated Load Conditions), I^2t 6000A²sec

Operating Junction Temperature Range, T_J -40° to $+150^\circ\text{C}$

Storage Temperature Range, T_{stg} -40° to $+125^\circ\text{C}$

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) 0.22°C/W

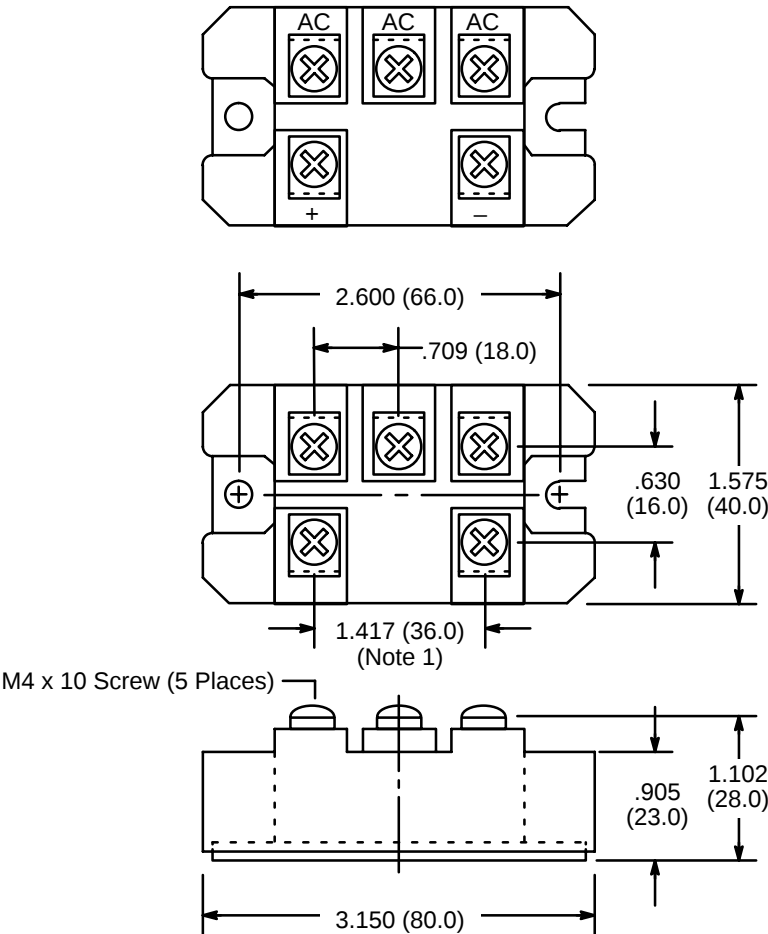
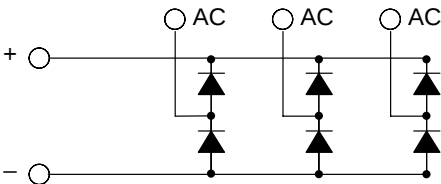
Thermal Resistance (With Thermal Compound), R_{thCF} 0.06°C/W



Electrical Characteristics:

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Repetitive Peak Reverse Current NTE5744	I_{RRM}	$T_J = +150^{\circ}\text{C}, V_{RRM} = 800\text{V}$	10	mA
NTE5745		$T_J = +150^{\circ}\text{C}, V_{RRM} = 1600\text{V}$	20	mA
Maximum Forward Voltage Drop NTE5744	V_{FM}	$T_J = +25^{\circ}\text{C}, I_{FM} = 100\text{A}$	1.15	V
NTE5745			1.25	V

Circuit Diagram



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