



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

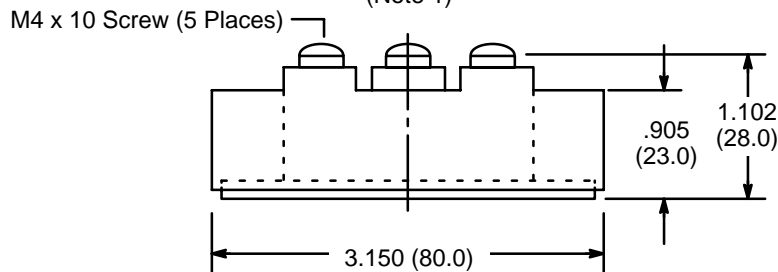
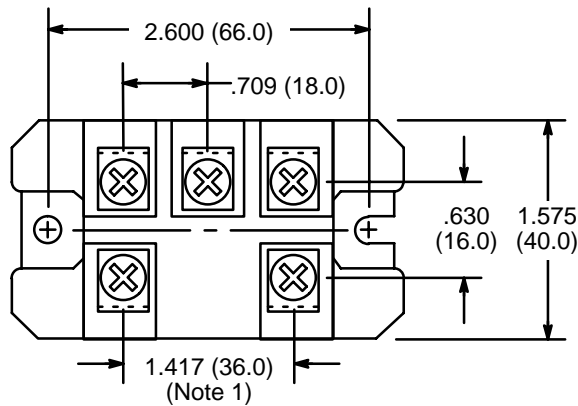
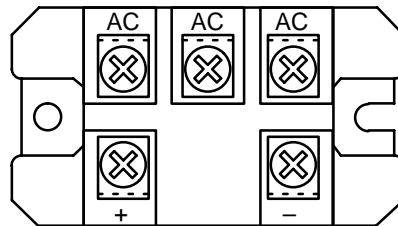
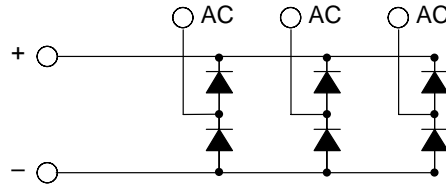
Absolute Maximum Ratings:

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 ($T_C = +101^\circ\text{C}$)	75A
NTE5743 ($T_C = +93^\circ\text{C}$)	75A
Surge Forward Current (Rated Load Conditions), I_{FSM}	1000A
Maximum I^2t for Fusing (Rated Load Conditions), I^2t	4000A ² sec
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}	$T_J = +150^{\circ}\text{C}, V_{RRM} = 800\text{V}$	10	mA
NTE5743		$T_J = +150^{\circ}\text{C}, V_{RRM} = 1600\text{V}$	15	mA
Maximum Forward Voltage Drop NTE5742	V_{FM}	$T_J = +25^{\circ}\text{C}, I_{FM} = 100\text{A}$	1.15	V
NTE5743		$T_J = +25^{\circ}\text{C}, I_{FM} = 75\text{A}$	1.30	V

Circuit Diagram



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