

## NTE5740 & NTE5741 Powerblock Modules 3 Phase Bridge Modules

### **Description:**

The NTE5740 and NTE5741 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.

### **Features:**

- Operating Junction Temperature: +150°C Max
- Isolated Mounting Base
- High Reliability

### **Applications:**

- AC, DC Motor Drive
- AVR
- Switching for Three-Phase Rectification

### **Absolute Maximum Ratings:** ( $T_J = +25^\circ\text{C}$ unless otherwise specified)

Repetitive Peak Reverse Voltage,  $V_{RRM}$

|                      |       |
|----------------------|-------|
| <b>NTE5740</b> ..... | 800V  |
| <b>NTE5741</b> ..... | 1600V |

Non-Repetitive Peak Reverse Voltage,  $V_{RSM}$

|                      |       |
|----------------------|-------|
| <b>NTE5740</b> ..... | 900V  |
| <b>NTE5741</b> ..... | 1700V |

Output Current (DC, Three-Phase, Full Wave),  $I_D$

|                                                     |     |
|-----------------------------------------------------|-----|
| <b>NTE5740</b> ( $T_C = +83^\circ\text{C}$ ) .....  | 30A |
| <b>NTE5741</b> ( $T_C = +117^\circ\text{C}$ ) ..... | 30A |

Surge Forward Current (1 Cycle, Peak value, Non-Repetitive),  $I_{FSM}$

|                |      |
|----------------|------|
| <b>NTE5740</b> |      |
| 50Hz .....     | 365A |
| 60Hz .....     | 400A |
| <b>NTE5741</b> |      |
| 50Hz .....     | 270A |
| 60Hz .....     | 300A |

Operating Junction Temperature Range,  $T_J$  .....

Storage Temperature Range,  $T_{stg}$  .....

Isolation Breakdown Voltage (RMS, Main Terminal to Case, 1min),  $V_{ISO}$  .....

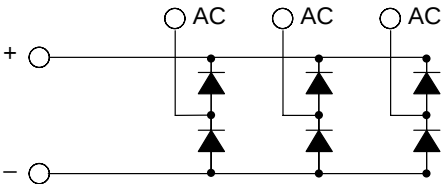
Thermal Resistance, Junction-to-Case,  $R_{thJC}$

|                      |          |
|----------------------|----------|
| <b>NTE5740</b> ..... | 1.0°C/W  |
| <b>NTE5741</b> ..... | 0.42°C/W |

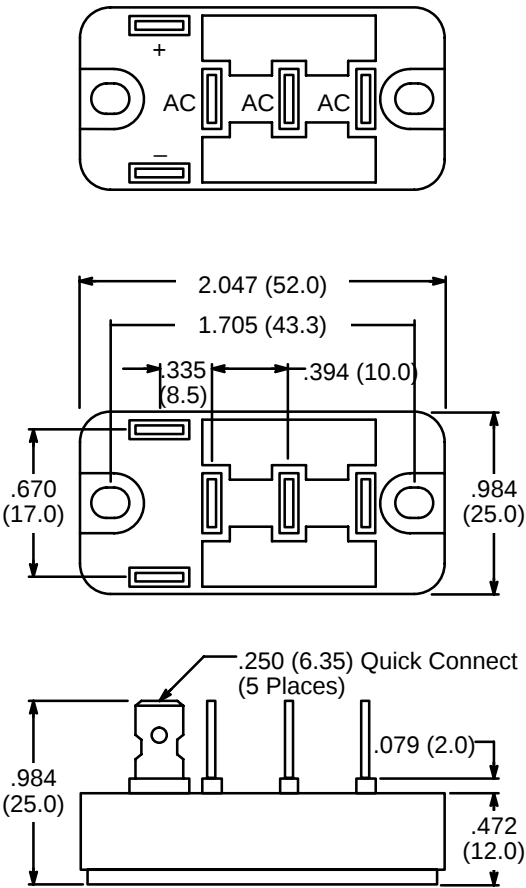
Electrical Characteristics:

| Parameter                                          | Symbol    | Test Conditions                                                            | Rating | Unit |
|----------------------------------------------------|-----------|----------------------------------------------------------------------------|--------|------|
| Maximum Repetitive Peak Reverse Current<br>NTE5740 | $I_{RRM}$ | $T_J = +150^{\circ}\text{C}$ , $V_{RRM} = 800\text{V}$                     | 1.5    | mA   |
| NTE5741                                            |           | $T_J = +150^{\circ}\text{C}$ , $V_{RRM} = 1600\text{V}$                    | 3.0    | mA   |
| Maximum Forward Voltage Drop<br>NTE5740            | $V_{FM}$  | $T_J = +25^{\circ}\text{C}$ , $I_{FM} = 30\text{A}$ ,<br>Inst. Measurement | 1.1    | V    |
| NTE5741                                            |           |                                                                            | 1.3    | V    |

Circuit Diagram



NTE5740



NTE5741

