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## NTE5741 Powerblock Module 3 Phase Bridge Module

**Description:**

The NTE5741 powerblock module is designed for three-phase full wave rectification and contains 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:**

- International Standard Package
- Low Forward Voltage Drop
- Isolation Voltage: 2500V

**Applications:**

- DC Power Suppliers for Apparatus Device
- Input Rectifying Power Supply for PWM Converters
- Inverter Welders

**Absolute Maximum Ratings:**

Repetitive Peak Reverse Voltage, $V_{RRM}$ .....	1600V
Non-Repetitive Peak Reverse Voltage, $V_{RSM}$ .....	1700V
Output Current (Three-Phase, Whole Wave Rectifying Current, $T_C = +100^\circ\text{C}$ ), $I_D$ .....	30A
Surge Forward Current ( $t = 10\text{ms}$ , 50Hz, sin, $T_{JM} = +150^\circ\text{C}$ ), $I_{FSM}$ .....	500A
$I^2t$ value ( $V_R = 960\text{V}$ , $T_{JM} = +150^\circ\text{C}$ ), $I^2t$ .....	1200A <sup>2</sup> s
Isolation Breakdown Voltage (AC, 1min), $V_{ISO}$ .....	2500V
Operating Junction Temperature Range, $T_J$ .....	-40° to +125°C
Rated Junction Temperature, $T_{JM}$ .....	+150°C
Storage Temperature Range, $T_{stg}$ .....	-40° to +125°C
Thermal Resistance, Junction-to-Case, $R_{thJC}$ (Single-Side Heat Dissipation, Sine Half Wave) .....	0.44°C/W
Mounting Torque, $M_d$	
Copper Plate, M6 .....	4 N•m
Connection Terminal, M4 .....	3 N•m

**Electrical Characteristics:**

Parameter	Symbol	Test Conditions	Rating	Unit
Maximum Repetitive Peak Reverse Current	$I_{RRM}$	$T_J = +150^\circ\text{C}$ , $V_{RRM} = 1600\text{V}$ , Sine Half Wave	2.0	mA
Maximum Forward Voltage Drop	$V_{FM}$	$T_J = +25^\circ\text{C}$ , $I_{FM} = 30\text{A}$	1.1	V

### Circuit Diagram

