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NTE5745

3 Phase Bridge Rectifier Module

Description:

The NTE5745 is a powerblock module 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:

- Isolated Mounting Base
- Pressure Contact Technology with Increased Power Cycling Capability
- Space and Weight Savings

Applications:

- Inverter
- Inductive Heating
- Chopper

Electrical Characteristics: ($T_J = +150^{\circ}\text{C}$ unless otherwise specified)

Maximum DC Output Current ($T_C = +100^{\circ}\text{C}$, Three-phase, full wave rectifying circuit), $I_O \dots 100\text{A}$
Repetitive Peak Reverse Voltage ($V_{RSM} = 1800\text{V}$, $t_p = 10\text{ms}$), $V_{RRM} \dots 1600\text{V}$
Maximum Repetitive Peak Current ($V_{RRM} = 1600\text{V}$), $I_{RRM} \dots 8\text{mA}$
Maximum Surge Forward Current ($V_R = 0.6V_{RRM}$, 10ms Half sine wave), $I_{FSM} \dots 1200\text{A}$
Maximum I^2t for Fusing ($V_R = 0.6V_{RRM}$, 10ms Half sine wave), $I^2t \dots 7.2\text{A}^2\text{s} * 10^3$
Maximum Threshold Voltage, $V_{FO} \dots 0.8\text{V}$
Maximum Forward Slope Resistance, $r_F \dots 4.5\text{m}\Omega$
Maximum Peak Forward Voltage ($J = +25^{\circ}\text{C}$, $I_{FM} = 100\text{A}$), $V_{FM} \dots 1.3\text{V}$
Storage Temperature Range, $T_{stg} \dots -40^{\circ}$ to $+125^{\circ}\text{C}$
Isolation Breakdown Voltage (50Hz, RMS, $t = 1\text{min}$, $I_{ISO} = 1\text{mA max}$), $V_{ISO} \dots 2500\text{V}$
Thermal Resistance, Junction-to-Case (Single Side Cooled), $R_{thJC} \dots 0.2^{\circ}\text{C/W}$
Thermal Resistance, Case-to-Heatsink (Single Side Cooled), $R_{thCH} \dots 0.07^{\circ}\text{C/W}$

Circuit Diagram

