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## NTE5712 Powerblock Module

### Features:

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

### Applications:

- AC/DC Motor Drives
- DC Supply for PWM Inverter

### Electrical Specifications:

|   |                                     |
|---|-------------------------------------|
| Mean On-State Current, $I_{T(AV)}$<br>(180° Half Sine Wave, 50Hz, Single Side Cooled, $T_C = +85^\circ\text{C}$ , $T_J = +125^\circ\text{C}$ )                          | 55A                                 |
| RMS On-State Current ( $T_J = +125^\circ\text{C}$ ), $I_{T(RMS)}$   | 86A                                 |
| Repetitive Peak Off-State Voltage ( $t_p = 10\text{ms}$ , $V_{DSM} = 1400\text{V}$ , $T_J = +125^\circ\text{C}$ ), $V_{DRM}$  | 1200V                               |
| Repetitive Peak Reverse Voltage ( $t_p = 10\text{ms}$ , $V_{RSM} = 1400\text{V}$ , $T_J = +125^\circ\text{C}$ ), $V_{DRM}$  | 1200V                               |
| Repetitive Peak Current ( $V_{DRM}/V_{RRM} = 1200\text{V}$ , $T_J = +125^\circ\text{C}$ ), $I_{DRM}$ , $I_{RRM}$  | 8mA                                 |
| Surge On-State Current ( $V_R = 720\text{V}$ , 10ms Half Sin Wave, $T_J = +125^\circ\text{C}$ ), $I_{TSM}$  | 1.5KA                               |
| $I^2t$ for Fusing Coordination ( $V_R = 720\text{V}$ , 10ms Half Sin Wave, $T_J = +125^\circ\text{C}$ ), $I^2t$   | $9.35\text{A}^2\text{s} \cdot 10^3$ |
| Threshold Voltage ( $T_J = +125^\circ\text{C}$ ), $V_{TO}$  | 0.85V                               |
| On-State Slope Resistance ( $T_J = +125^\circ\text{C}$ ), $r_T$   | 3.47m $\Omega$                      |
| Peak On-State Voltage ( $I_{TM} = 170\text{A}$ , $T_J = +25^\circ\text{C}$ ), $V_{TM}$  | 1.5V                                |
| Critical Rate of Rise of Off-State Voltage ( $V_{DM} = 804\text{V}$ , $T_J = +125^\circ\text{C}$ ), $dv/dt$   | 800V/ $\mu\text{s}$                 |
| Critical Rate of Rise of On-State Current, $di/dt$<br>( $I_{TM} = 110\text{A}$ , Gate Source 1.5A, $t_r \leq 0.5\mu\text{s}$ , Repetitive, $T_J = +125^\circ\text{C}$ ) | 100A/ $\mu\text{s}$                 |
| Gate Trigger Current ( $V_A = 12\text{V}$ , $I_A = 1\text{A}$ , $T_J = +25^\circ\text{C}$ ), $I_{GT}$   |                                     |
| Minimum   | 30mA                                |
| Maximum   | 100mA                               |
| Gate Trigger Voltage ( $V_A = 12\text{V}$ , $I_A = 1\text{A}$ , $T_J = +25^\circ\text{C}$ ), $V_{GT}$   |                                     |
| Minimum   | 0.8V                                |
| Maximum   | 2.5V                                |
| Holding Current ( $V_A = 12\text{V}$ , $I_A = 1\text{A}$ , $T_J = +25^\circ\text{C}$ ), $I_H$   |                                     |
| Minimum   | 20mA                                |
| Maximum   | 150mA                               |
| Minimum Isolation Voltage 50Hz, RMS, $t = 1\text{min}$ , $I_{ISOL} = 1\text{mA Max}$ ), $V_{ISOL}$  | 2500V                               |
| Storage Temperature Range, $T_{stg}$  | $-40^\circ$ to $+140^\circ\text{C}$ |
| Maximum Thermal Resistance (Single Side Cooled)   |                                     |
| Junction-to-Case, $R_{thJC}$  | 0.53 $^\circ\text{C/W}$             |
| Case-to-Heat Sink, $R_{thCH}$   | 0.20 $^\circ\text{C/W}$             |

