

## NTE6113, NTE6115, & NTE6121 Industrial Rectifier, 1200 Amp

### **Absolute Maximum Ratings:** ( $T_J = +175^{\circ}\text{C}$ unless otherwise specified)

|                                                                                     |                         |
|-------------------------------------------------------------------------------------|-------------------------|
| Repetitive Voltage, $V_{RRM}$                                                       |                         |
| NTE6113 .....                                                                       | 600V                    |
| NTE6115 .....                                                                       | 1200V                   |
| NTE6121 .....                                                                       | 1600V                   |
| Non-Repetitive Voltage, $V_{RSM}$                                                   |                         |
| NTE6113 .....                                                                       | 700V                    |
| NTE6115 .....                                                                       | 1300V                   |
| NTE6121 .....                                                                       | 1700V                   |
| Average Forward Current (Half Sine Wave), $I_{F(AV)}$                               |                         |
| +55°C Heatsink Temperature (Double Side Cooled) .....                               | 1625A                   |
| +100°C Heatsink Temperature (Single Side Cooled) .....                              | 800A                    |
| RMS Current (+25°C Heatsink Temperature, Double Side Cooled), $I_{F(RMS)}$ .....    | 2950A                   |
| DC Forward Current (+25°C Heatsink Temperature, Double Side Cooled), $I_F$ .....    | 2760A                   |
| Peak One-Cycle Surge (Non-Repetitive) of Forward Current (10ms Duration), $I_{FSM}$ |                         |
| 60% $V_{RRM}$ Re-Applied .....                                                      | 15400A                  |
| $V_R \leq 10V$ .....                                                                | 17700A                  |
| Maximum Permissible Surge Energy, $I^2t$                                            |                         |
| 10ms Duration, 60% $V_{RRM}$ Re-Applied .....                                       | 1180000A <sup>2</sup> s |
| 10ms Duration, $V_R \leq 10V$ .....                                                 | 1560000A <sup>2</sup> s |
| 3ms Duration, $V_R \leq 10V$ .....                                                  | 1160000A <sup>2</sup> s |
| Operating Temperature Range, $T_{HS}$ .....                                         | -30° to +175°C          |
| Storage Temperature Range, $T_{stg}$ .....                                          | -40° to +200°C          |
| Typical Thermal Resistance, Junction-to-Heatsink, $R_{th(j-hs)}$                    |                         |
| (For a Device with a Max Forward Volt-Drop)                                         |                         |
| Single Side Cooled .....                                                            | 0.065°C/W               |
| Double Side Cooled .....                                                            | 0.033°C/W               |

### **Electrical Characteristics:** (Maximum Values @ $T_J = +175^{\circ}\text{C}$ unless otherwise specified)

|                                                                |        |
|----------------------------------------------------------------|--------|
| Peak Forward Voltage Drop ( $I_{FM} = 3770A$ ), $V_{FM}$ ..... | 1.93V  |
| Forward Conduction Threshold Voltage, $V_O$ .....              | 0.87V  |
| Forward Conduction Slope Resistance, $r$ .....                 | 0.28mΩ |
| Peak Reverse Current (At $V_{RRM}$ ), $I_{RRM}$ .....          | 30mA   |

