

## NTE6116, NTE6118 & NTE6122 Industrial Rectifier, 2200 Amp

### Features:

- High Voltage
- High Surge Current
- Diffused Junction

### Applications:

- Converters
- Power Supplies
- High Power Drives
- Auxilliary System Supplies for Traction

### Electrical Characteristics: ( $T_J = +180^\circ\text{C}$ unless otherwise specified)

Maximum Repetitive Peak Reverse Voltage,  $V_{RRM}$

|               |       |
|---------------|-------|
| NTE6116 ..... | 600V  |
| NTE6118 ..... | 1200V |
| NTE6122 ..... | 1600V |

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

|               |       |
|---------------|-------|
| NTE6116 ..... | 700V  |
| NTE6118 ..... | 1300V |
| NTE6122 ..... | 1700V |

Maximum Peak Reverse Current,  $I_{RRM}$  ..... 75mA

Maximum Average Forward Current (Half Sine Wave,  $180^\circ$  Conduction),  $I_{F(AV)}$

|                                                       |       |
|-------------------------------------------------------|-------|
| +55°C Heatsink Temperature (Double Side Cooled) ..... | 3000A |
| +85°C Heatsink Temperature (Single Side Cooled) ..... | 1550A |

RMS Current (+25°C Heatsink Temperature, Double Side Cooled),  $I_{F(RMS)}$  ..... 5000A

Maximum Peak One-Cycle Surge (Non-Repetitive), Forward Current (Sinusoidal Halfwave),  $I_{FSM}$

|                                            |        |
|--------------------------------------------|--------|
| t = 10ms, No Voltage Re-Applied .....      | 31000A |
| t = 8.3ms, No Voltage Re-Applied .....     | 32460A |
| t = 10ms, 100% $V_{RRM}$ Re-Applied .....  | 26050A |
| t = 8.3ms, 100% $V_{RRM}$ Re-Applied ..... | 27300A |

Maximum  $I^2t$  for Fusing (Sinusoidal Halfwave),  $I^2t$

|                                            |                         |
|--------------------------------------------|-------------------------|
| t = 10ms, No Voltage Re-Applied .....      | 4810000A <sup>2</sup> s |
| t = 8.3ms, No Voltage Re-Applied .....     | 4390000A <sup>2</sup> s |
| t = 10ms, 100% $V_{RRM}$ Re-Applied .....  | 3400000A <sup>2</sup> s |
| t = 8.3ms, 100% $V_{RRM}$ Re-Applied ..... | 3100000A <sup>2</sup> s |

Low Level Value of Threshold Voltage ( $16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)}$ ),  $V_{F(TO)}$  ..... 0.76V

High Level Value of Threshold Voltage ( $I > \pi \times I_{F(AV)}$ ),  $V_{F(TO)}$  ..... 0.97V

Low Level Value of Forward Slope Resistance ( $16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)}$ ),  $r_{11}$  ..... 0.16Ω

High Level Value of Forward Slope Resistance ( $I > \pi \times I_{F(AV)}$ ),  $r_{12}$  ..... 0.13Ω

Maximum Forward Voltage Drop ( $I_{pk} = 4000A$ ,  $t_p = 10ms$ , Sinusoidal Wave),  $V_{FM}$  ..... 1.41V

Maximum Operating Junction Temperature Range,  $T_J$  .....  $-40^\circ$  to  $+180^\circ\text{C}$

Maximum Storage Temperature Range,  $T_{stg}$  .....  $-55^\circ$  to  $+200^\circ\text{C}$

Maximum Thermal Resistance, Junction-to-Heatsink,  $R_{th(j-hs)}$

|                                        |           |
|----------------------------------------|-----------|
| DC Operation, Single Side Cooled ..... | 0.042°C/W |
| DC Operation, Double Side Cooled ..... | 0.020°C/W |

Mounting Force ( $\pm 10\%$ ), F ..... 22250N (2250Kg)

