



ELECTRONICS, INC.  
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## NTE6116, NTE6118 & NTE6122 Industrial Rectifier 2200 Amp, DO200AC

**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° 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° to +180°C
Maximum Storage Temperature Range, $T_{stg}$ .....	-55° to +200°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)

