



ELECTRONICS, INC.  
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## NTE6110, NTE6112, & NTE6120 Industrial Rectifier 500 Amp, DO200AA

**Absolute Maximum Ratings:** ( $T_J = +190^\circ\text{C}$  unless otherwise specified)

Repetitive Voltage, $V_{RRM}$	
NTE6110 .....	600V
NTE6112 .....	1200V
NTE6120 .....	1600V
Non-Repetitive Voltage, $V_{RSM}$	
NTE6110 .....	700V
NTE6112 .....	1300V
NTE6120 .....	1700V
Average Forward Current, $I_{F(AV)}$ .....	
500A	
RMS Current (+25°C Heatsink Temperature, Double Side Cooled), $I_{F(RMS)}$ .....	
1420A	
DC Forward Current (+25°C Heatsink Temperature, Double Side Cooled), $I_F$ .....	
1240A	
Peak One-Cycle Surge (Non-Repetitive) of Forward Current (8.3ms Duration), $I_{FSM}$	
60% $V_{RRM}$ Re-Applied .....	7950A
$V_R \leq 10V$ .....	8745A
Maximum Permissible Surge Energy, $I^2t$	
8.3ms Duration, 60% $V_{RRM}$ Re-Applied .....	272570A <sup>2</sup> s
8.3ms Duration, $V_R \leq 10V$ .....	329800A <sup>2</sup> s
3ms Duration, $V_R \leq 10V$ .....	245000A <sup>2</sup> s
Operating Temperature Range, $T_{hs}$ .....	
-30° to +190°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 .....	0.18°C/W
Double Side Cooled .....	0.09°C/W

**Electrical Characteristics:** (Maximum Values @  $T_J = +190^\circ\text{C}$  unless otherwise specified)

Peak Forward Voltage Drop ( $I_{FM} = 500A$ ), $V_{FM}$ .....	1.4V
Forward Conduction Threshold Voltage, $V_O$ .....	0.8V
Forward Conduction Slope Resistance, $r$ .....	0.55mΩ
Peak Reverse Current (At $V_{RRM}$ ), $I_{RRM}$ .....	15mA

