



ELECTRONICS, INC.

44 FARRAND STREET  
BLOOMFIELD, NJ 07003  
(973) 748-5089  
<http://www.nteinc.com>

## NTE6110, NTE6112, & NTE6120 Industrial Rectifier, 500 Amp

### 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

