

NTE5710 thru NTE5712 NTE5720 thru NTE5722 NTE6220 & NTE6230 Powerblock Modules

Description:

NTE series powerblock modules come in an industry standard package, offering four circuits that can be used singly or as power control building blocks. All models feature highly efficient thermal management for greatly extended cycle life.

Features:

- D Industry Standard Package and Circuits
- D Power Control Building Blocks

Electrical Specifications:

Average Output Current Per Device ($T_C = +85^\circ\text{C}$), $I_{T(AV)}$

NTE5710, NTE5711, NTE5712, NTE6220 55A

NTE5720, NTE5721, NTE5722, NTE6230 90A

Repetitive Peak Reverse Voltage (AC Line), V_{RRM} 1200V (480V)

Maximum Voltage Drop, V_F

NTE5710, NTE5711, NTE5712, NTE6220 ($I_F = 165\text{A}$) 1.4V

NTE5720, NTE5721, NTE5722, NTE6230 ($I_F = 270\text{A}$) 1.4V

Critical Rate of Rise of On-State Current ($T_J = +125^\circ\text{C}$), di/dt 100A/ μs

Critical Rate of Rise of Off-State Voltage ($T_J = +125^\circ\text{C}$), dv/dt 500V/ μs

Maximum Non-Repetitive Surge Current (1/2 Cycle, 60Hz), I_{TSM}

NTE5710, NTE5711, NTE5712, NTE6220 1500A

NTE5720, NTE5721, NTE5722, NTE6230 1950A

Maximum I^2t for Fusing ($t = 8.3\text{ms}$), I^2t

NTE5710, NTE5711, NTE5712, NTE6220 9350A²sec

NTE5720, NTE5721, NTE5722, NTE6230 15800A²sec

Maximum Required Gate Current to Trigger ($+25^\circ\text{C}$), I_{GT} 150mA

Maximum Required Gate Voltage to Trigger ($+25^\circ\text{C}$), V_{GT} 3.0V

Average Gate Power, $P_{G(AV)}$ 500mW

Maximum Peak Gate Voltage (Reverse), V_{GM} 5.0V

Isolation Voltage, V_{ISOL} 2500V_{RMS}

Operating Junction Temperature Range, T_J -40° to $+125^\circ\text{C}$

Maximum Thermal Resistance Per Module, Junction to Baseplate, $R_{\theta JC}$

NTE5710, NTE5711, NTE5712, NTE6220 0.25 $^\circ\text{C/W}$

NTE5720, NTE5721, NTE5722, NTE6230 0.14 $^\circ\text{C/W}$

NTE5710, NTE5720

AC

+

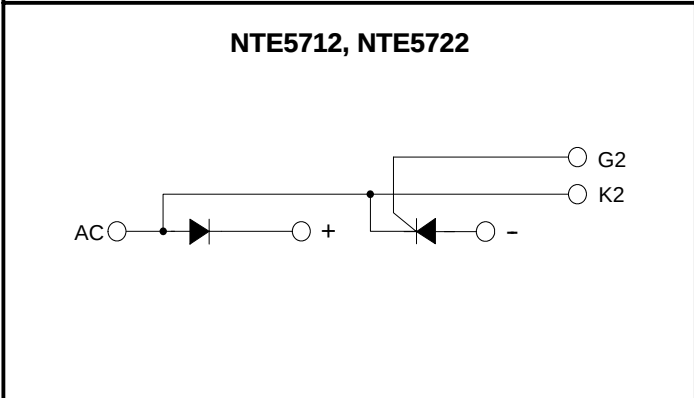
-

G2

K2

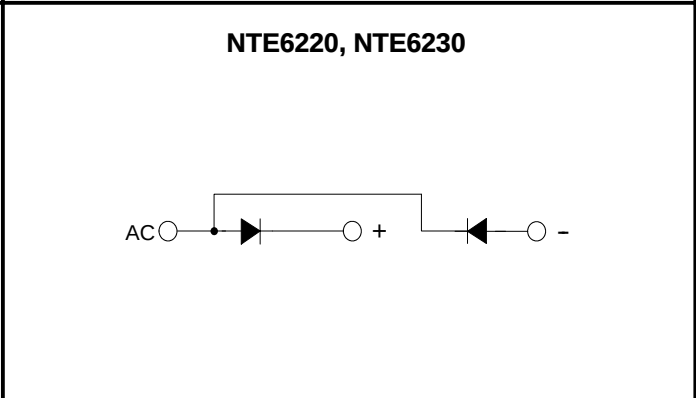
K1

G1



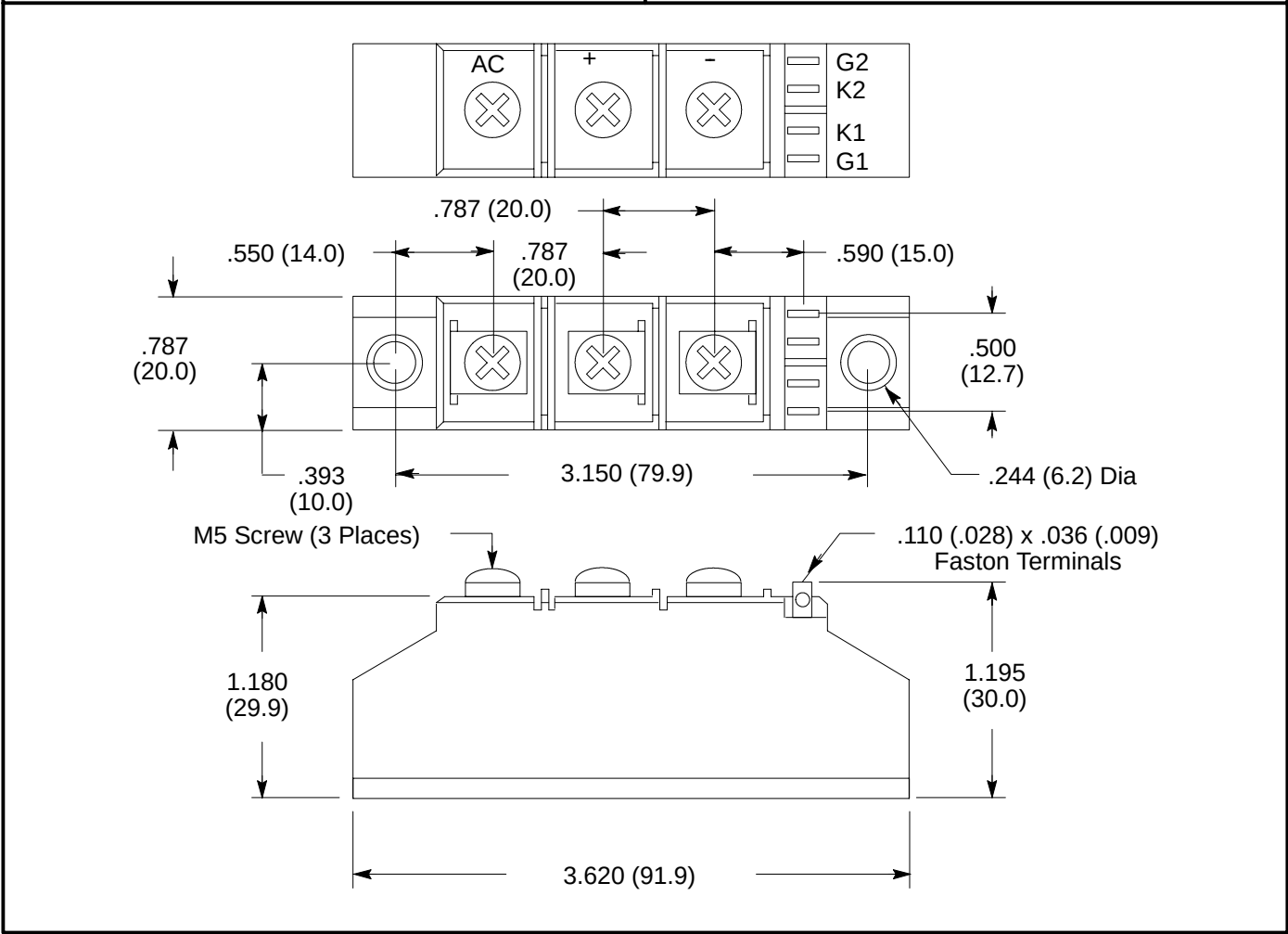
NTE5711, NTE5721

The diagram illustrates a half-wave rectifier circuit. An AC input source, labeled 'AC', is connected to the anode of the first diode (NTE5711). The cathode of this diode is connected to the positive output terminal, marked with a '+' sign. The other terminal of the first diode is connected to the anode of the second diode (NTE5721). The cathode of the second diode is connected to the negative output terminal, marked with a '-' sign. The output terminals are also labeled 'K1' and 'G1'.



NTE5712, NTE5722

The diagram shows an AC input connected to a diode. The output of this diode is connected to a terminal labeled '+'. Another diode is connected to the same input line, with its output connected to a terminal labeled '-'. A third terminal, labeled 'G2', is connected to the input line before the first diode. A terminal labeled 'K2' is connected to the input line after the first diode.



NTE6220, NTE6230

The diagram shows a half-wave rectifier circuit. It starts with an AC input source, represented by a circle with 'AC' next to it. A single diode is connected in series, with its anode towards the AC source and its cathode towards the output. The output terminals are marked with a '+' sign and a '-' sign, indicating the polarity of the rectified output. The diode is represented by a triangle pointing towards the output, with a vertical line at its base.

