

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	9350A ² sec
NTE5720, NTE5721, NTE5722, NTE6230	15800A ² sec
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°C/W
NTE5720, NTE5721, NTE5722, NTE6230	0.14°C/W

NTE5710, NTE5720

AC

+

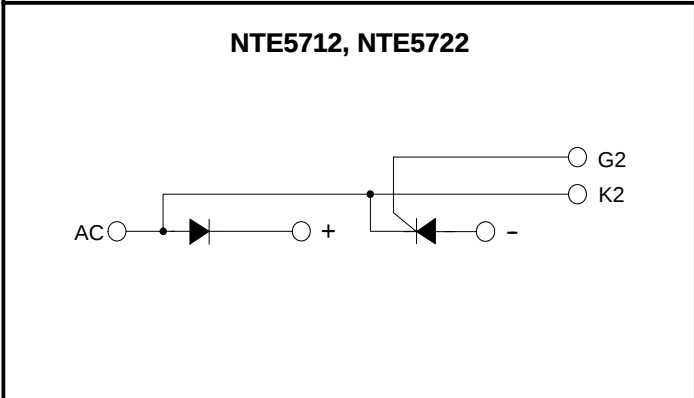
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G2

K2

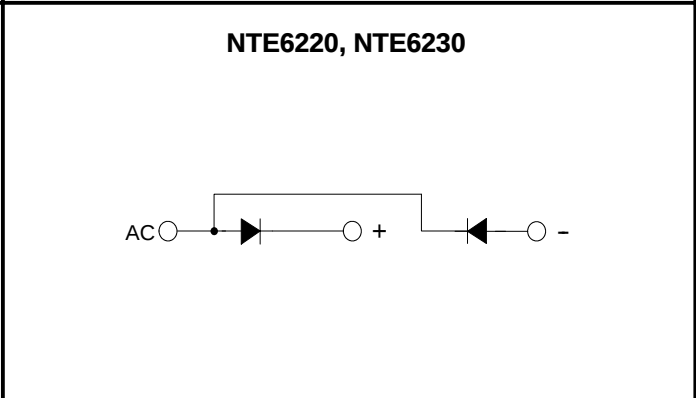
K1

G1



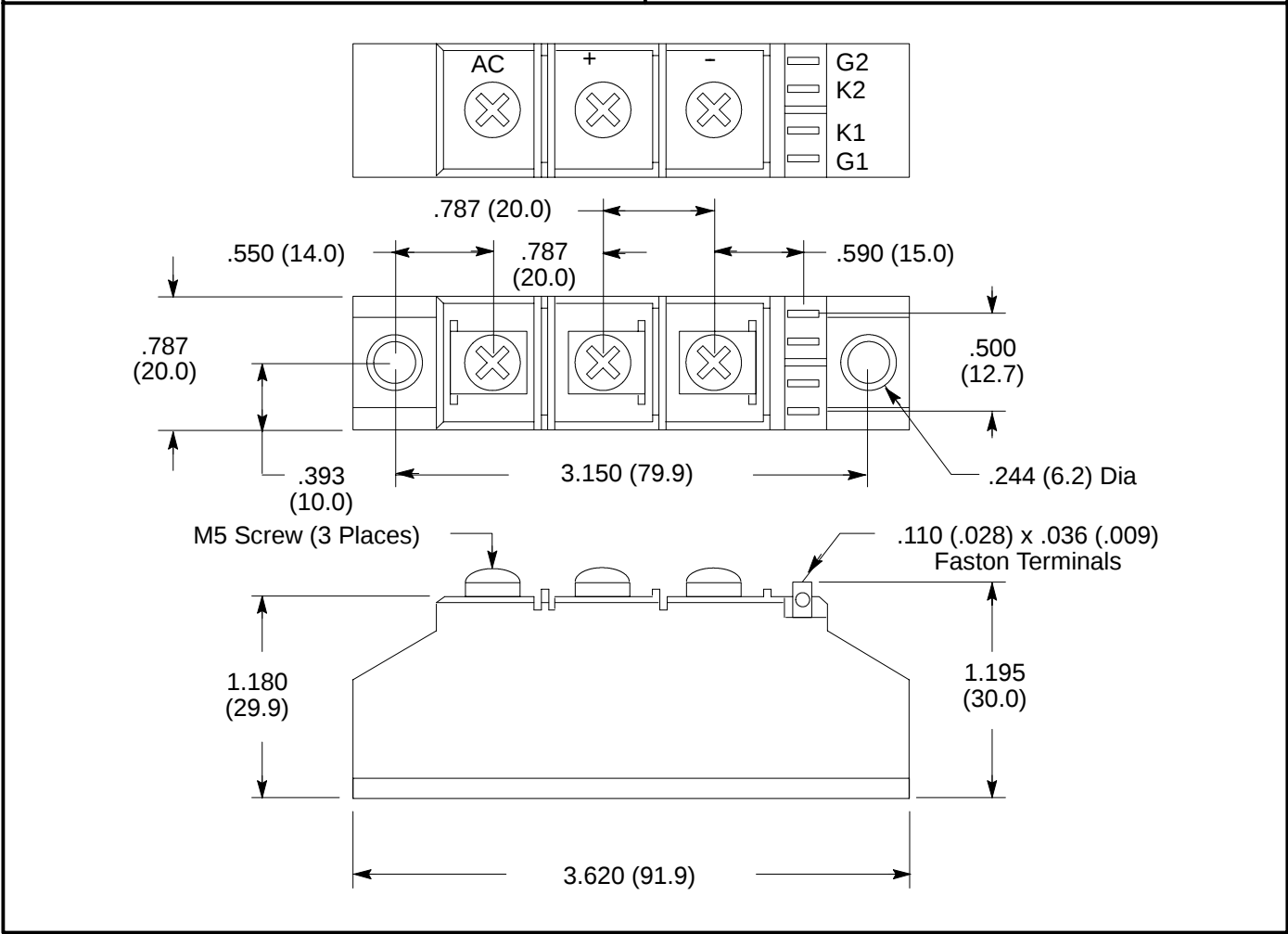
NTE5711, NTE5721

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 negative output terminal, marked with a '-' sign, is connected to the anode of the second diode (NTE5721). The cathode of the second diode is connected to the negative output terminal. 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 fourth 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 voltage source, represented by a circle with 'AC' next to it. A single diode is connected in series with the positive terminal of the AC source. The diode's symbol consists of a triangle pointing towards a vertical line. The output of the diode is connected to a load, represented by a circle with a '+' sign. The other end of the load is connected to the negative terminal of the AC source, which is marked with a '-' sign. A feedback line connects the output terminal back to the input terminal, completing the circuit.

