

POWERBLOCK MODULES

THYRISTOR MODULES

$I_T(AV)$ per Device	25A (Note 1)	55A (Note 1)	70A (Note 1)	90A (Note 1)	90A (Note 1)	160A (Note 1)	250A (Note 1)
Circuit Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number
1	5708	5710	5714	5720	5724	5726	5728
2		5711		5721			
3		5712		5722			
V_{RRM}	1600V	1200V	1600V	1200V	1600V	1600V	1600V
V_F (Max)	1.55V @ 75A	1.4V @ 165A	1.48V @ 210A	1.4V @ 270A	1.4V @ 270A	1.7V @ 480A	1.73V @ 750A
T_J	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40° to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +25°C
di/dt ($T_J = +125°C$)	100A/ μ s	100A/ μ s	50A/ μ s	100A/ μ s	100A/ μ s	800A/ μ s	100A/ μ s
dv/dt ($T_J = +125°C$)	500V/ μ s	500V/ μ s	800V/ μ s	500V/ μ s	500V/ μ s	100V/ μ s	800V/ μ s
I_{TSM} (1/2 Cycle, 60Hz)	400A	1500A	1600A	1950A	1950A	5400A	8500A
I^2t ($t = 8.3ms$)	670A ² sec	9350A ² sec	16000A ² sec	15800A ² sec	15800A ² sec	146000A ² sec	360000A ² sec
I_{GT} (Max @ +25°C)	150mA	150mA	100mA	150mA	150mA	150mA	180mA
V_{GT} (Max @ +25°C)	3.0V	3.0V	2.5V	3.0V	3.0V	2.5V	3.0V
$P_{G(AV)}$	500mW	500mW	-	500mW	500mW	-	-
V_{GM} (Max, Reverse)	5V	5V	-	5V	5V	-	-
R_{THJC} (Per Module)	0.40°C/W	0.25°C/W	0.20°C/W	0.14°C/W	0.14°C/W	0.17°C/W	0.04°C/W
V_{ISOL}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	3600V _{RMS}
Diag. No.	422	422	422	422	422	609	610

RECTIFIER MODULES

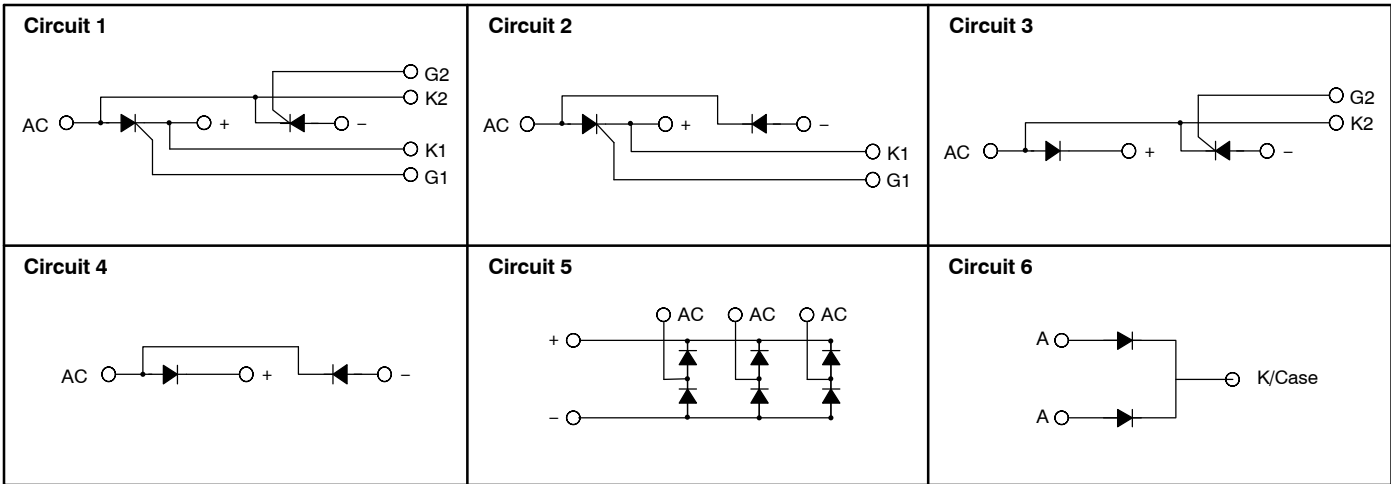
$I_T(AV)$ per Device	55A (Note 1)	60A (Note 1)	90A (Note 1)	100A (Note 2)	190A (Note 2)	200A (Note 3)	250A (Note 2)	320A (Note 2)
Circuit Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number
4	6220	6222	6230	6232	6234		6236	6238
5						6218		
V_{RRM}	1200V	1600V	1200V	1600V	1600V	600V	1600V	1600V
V_F (Max)	1.4V @ 165A	1.4V @ 165A	1.33V @ 270A	1.45V @ 330A	1.38V @ 600A	1.45V @ 200A	1.29V @ 785A	1.28V @ 1004A
T_J	-40° to +125°C	-40° to +125°C	-40° to +125°C	-40° to +150°C	-40° to +150°C	-55° to +150°C	-40° to +150°C	-40° to +150°C
di/dt ($T_J = +125°C$)	100A/ μ s	100A/ μ s	-	-	-	-	-	-
dv/dt	500V/ μ s	500V/ μ s	-	-	-	-	-	-
I_{TSM} (1/2 Cycle, 60Hz)	1500A	1500A	2.3KA	2.6KA	8.0KA	2000A	7345A	10580A
I^2t ($t = 8.3ms$)	9350A ² sec	9350A ² sec	26.9A ² s * 10 ³	34.4A ² s * 10 ³	326A ² s * 10 ³	-	225000A ² sec	466000A ² sec
I_{GT} (Max @ +25°C)	-	150mA	-	-	-	-	-	-
V_{GT} (Max @ +25°C)	-	3.0V	-	-	-	-	-	-
$P_{G(AV)}$	-	500mW	-	-	-	-	-	-
V_{GM} (Max, Reverse)	-	5V	-	-	-	-	-	-
R_{THJC} (Per Module)	0.25°C/W	0.25°C/W	0.47°C/W	0.35°C/W	0.21°C/W	0.30°C/W	0.16°C/W	0.125°C/W
V_{ISOL}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	2500V _{RMS}	-	3000V _{RMS}	3000V _{RMS}
Diag. No.	422	422	422	422	744	752	610	610

3 PHASE BRIDGE MODULES

I_O per Diode	30A	30A	75A	75A	100A	100A
Circuit Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number	NTE Number
5	5740	5741	5742	5743	5744	5745
V_{RRM}	800V	1600V	800V	1600V	800V	1600V
V_F (Max)	1.1V @ 30A	1.3V @ 30A	1.15V @ 75A	1.15V @ 75A	1.15V @ 100A	1.3V @ 100A
T_J	-40°C to +125°C	-40°C to +150°C	-40°C to +150°C	-40°C to +150°C	-40°C to +150°C	-40°C to +150°C
I_{TSM} (1 Cycle, 50Hz)	500A	270A	1000A	1000A	1200A	1200A
R_{THJC}	0.44°C/W	0.42°C/W	0.3°C/W	0.3°C/W	0.22°C/W	0.2°C/W
Diag. No.	757	620	618	618	618	745

Note 1. $T_C = +85°C$ Note 2. $T_C = +100°C$ Note 3. $T_C = +90°C$

DIMENSIONAL OUTLINE DRAWINGS



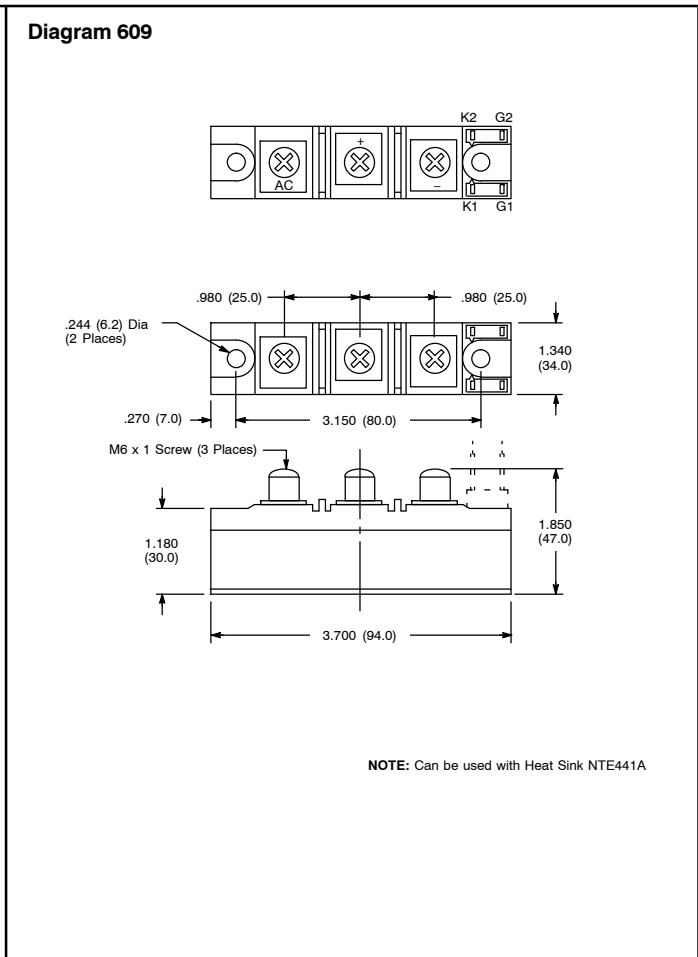
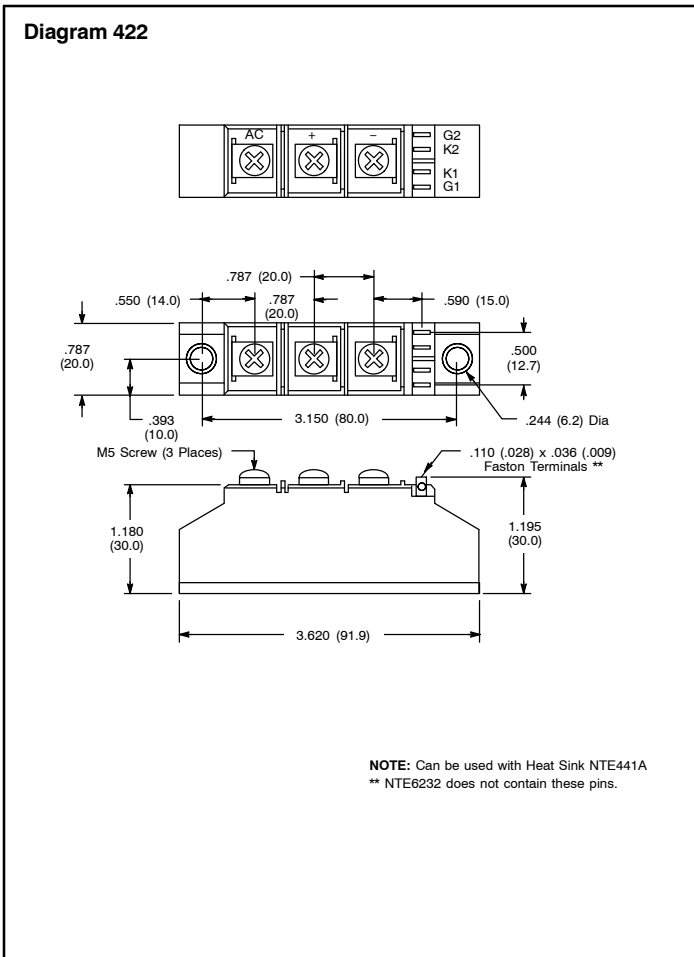
POWERBLOCK NOTES:

MOUNTING: Careful mounting of powerblocks on the heatsink is one of the most important requirements of reliable satisfactory application. The contact surfaces of powerblock and heatsink must be clean, free from contamination and damage. Finish and flatness of heatsink contact surface should be $\leq 10\mu\text{m}$. A thin and uniform film of interface thermal compound should be applied to contact surface of powerblock and heatsink. Fixing bolts have to be uniformly tightened with the specified mounting torque. Cross sections of busbars or cables have to be dimensioned so that heating up

the powerblock will be avoided. This applies in particular for series connected fuses.

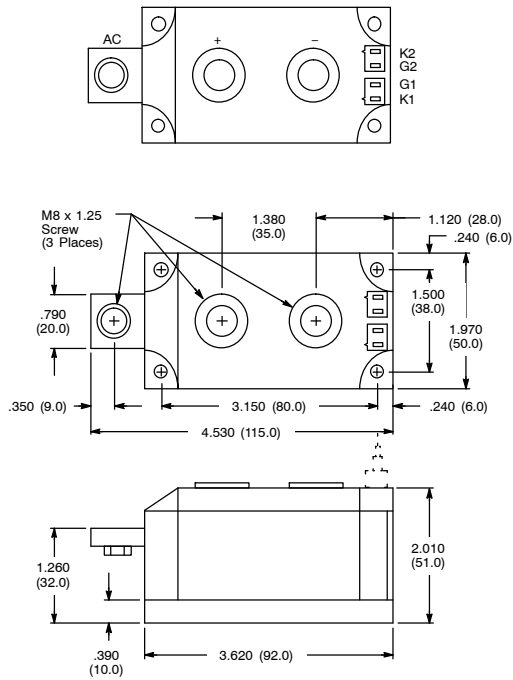
MAINTENANCE: Powerblocks are maintenance-free. The assembly group should, however, be cleaned from time to time to ensure the insulation capability, the heat dissipation and thus the availability of the power converter.

WARNING: Beryllium oxide is used in the powerblock assembly for insulation. Do not destroy the powerblock case because the beryllium oxide dust resulting from such action is hazardous if inhaled.



DIMENSIONAL OUTLINE DRAWINGS

Diagram 610



NOTE: Can be used with Heat Sink NTE441A

Diagram 618

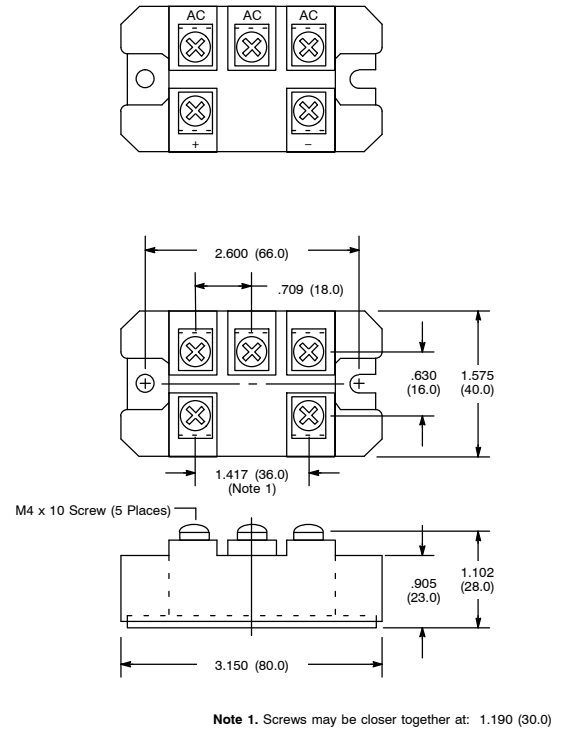


Diagram 619

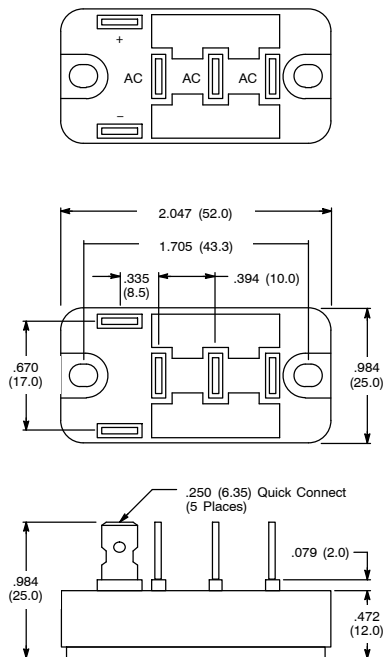
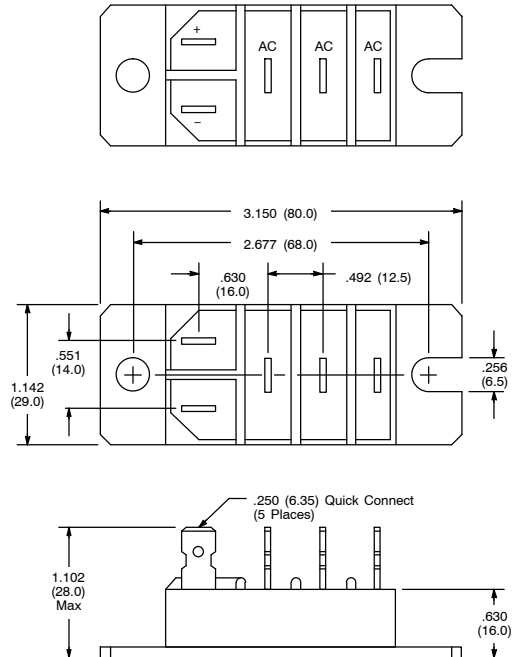


Diagram 620



DIMENSIONAL OUTLINE DRAWINGS

Diagram 744

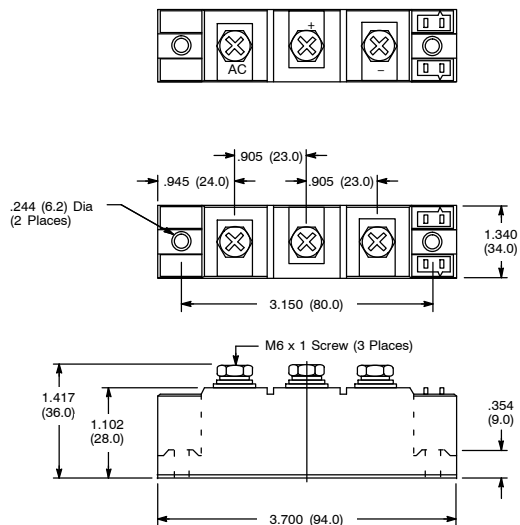


Diagram 745

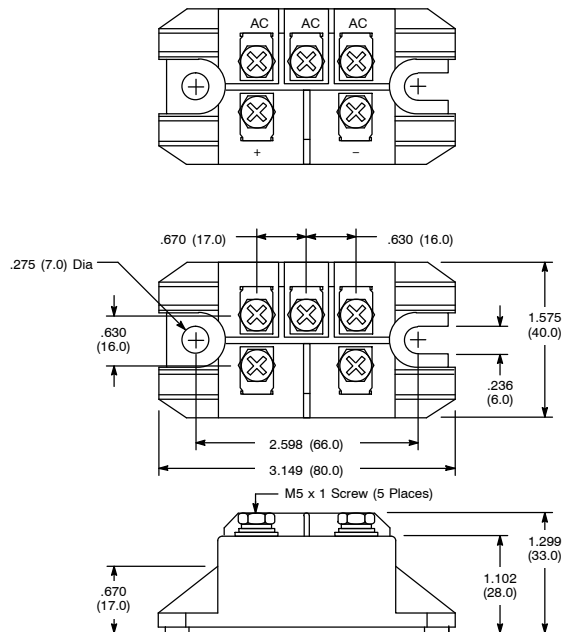


Diagram 752

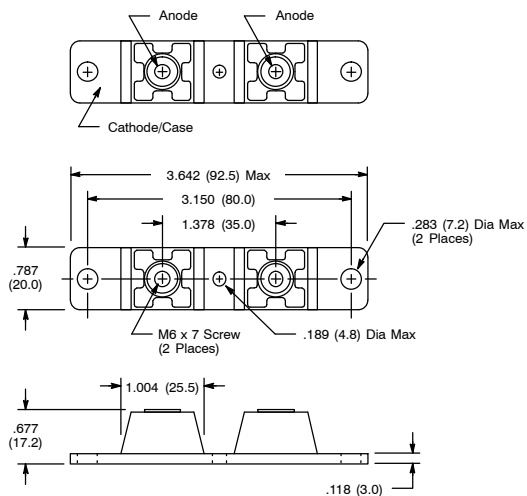


Diagram 757

