

# NR Series

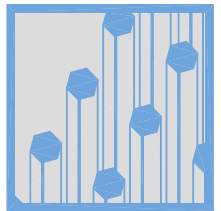
Natural Convection Heat Sink  
with Mounting Tabs

**ALPHA**

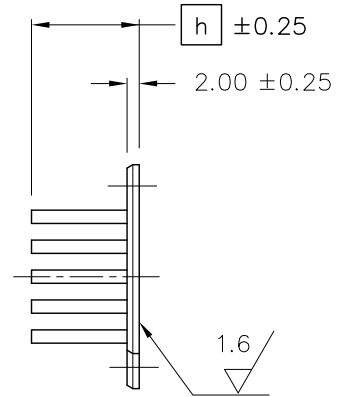
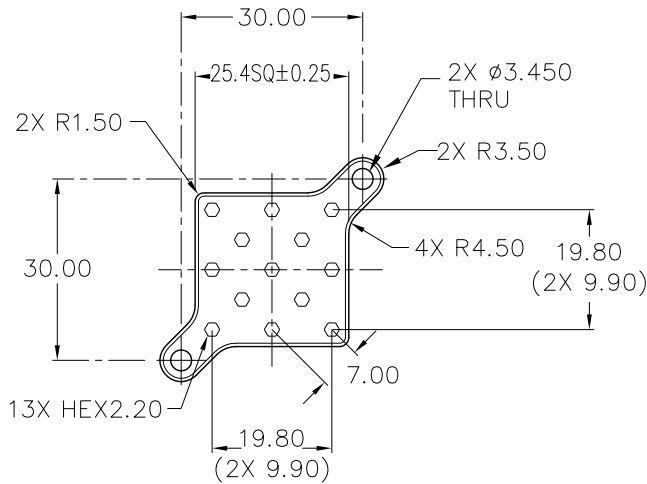
# ALPHA

Natural Convection Heat Sink  
with Mounting Tabs

# NR25



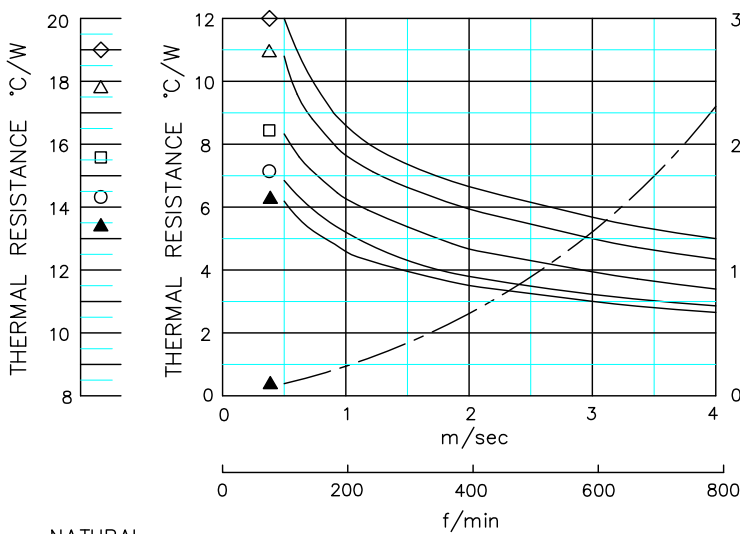
DIM



MODEL	HEIGHT [h]	WEIGHT (grams)
NR25-8B	8	4.8
NR25-10B	10	5.1
NR25-15B	15	5.9
NR25-20B	20	6.6
NR25-25B	25	7.3

MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

DATA

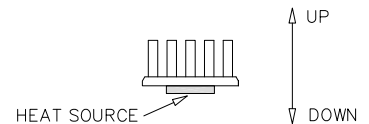


NATURAL  
CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ NR25-8B      △ NR25-10B
- NR25-15B    ○ NR25-20B
- ▲ NR25-25B

- DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE \_\_\_\_\_  
PRESSURE DROP - - - - -
- NATURAL CONVECTION  
DUMMY HEATER SIZE: 12.7 SQ  
DISSIPATED POWER: 3.5(W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

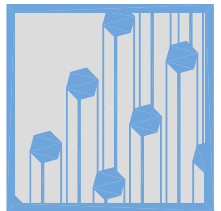
- BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
REFER TO TECHNICAL INFORMATION.

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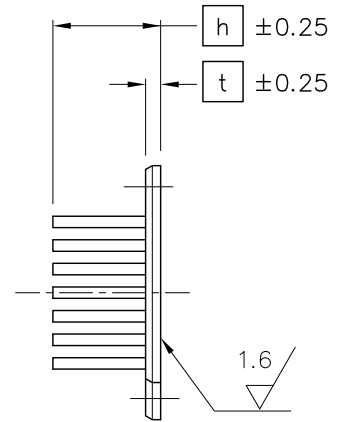
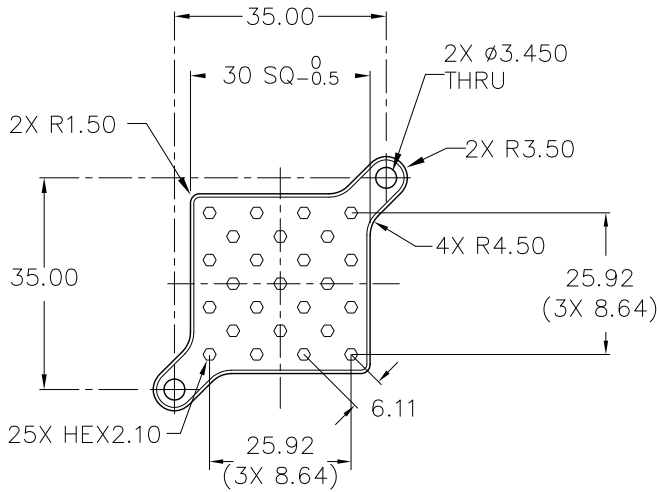
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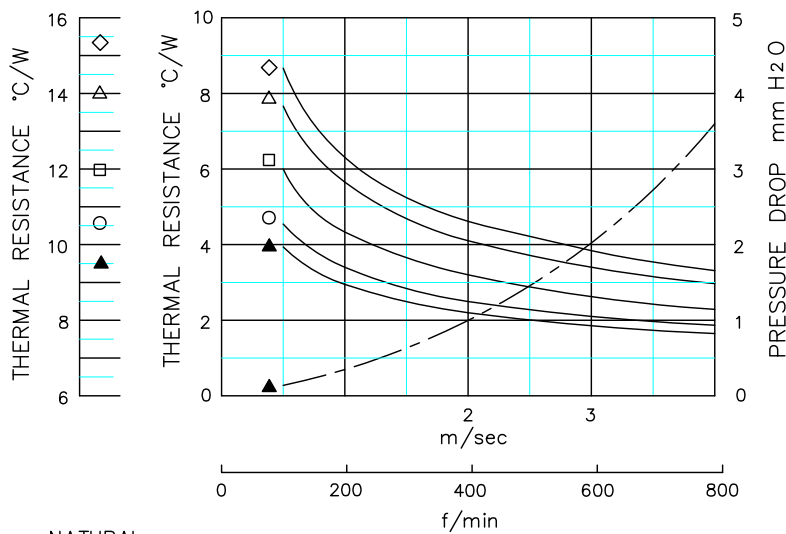
### DIM



MODEL	HEIGHT $h$	THICKNESS $t$	WEIGHT (grams)
NR30-8B	8	2.50	6.8
NR30-10B	10		8.5
NR30-15B	15		9.8
NR30-20B	20		11.1
NR30-25B	25		12.4
NR30- $h$ B	$h < 10$	2.00	-
	$10 \leq h$	2.50	-

MATERIAL : A 6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA

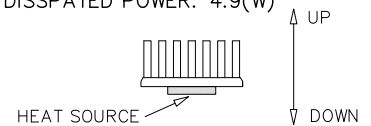


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

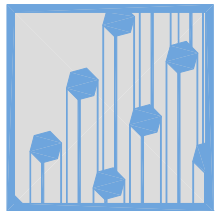
- ◇ NR30-8B      △ NR30-10B
- NR30-15B    ○ NR30-20B
- ▲ NR30-25B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ———  
 PRESURE DROP - - - - -
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSPATED POWER: 4.9(W)

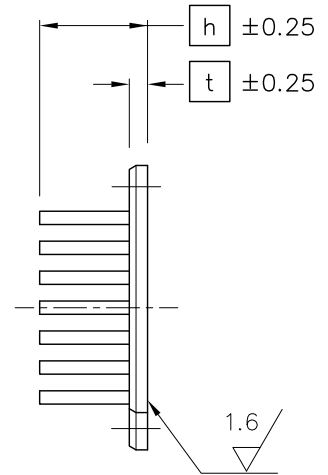
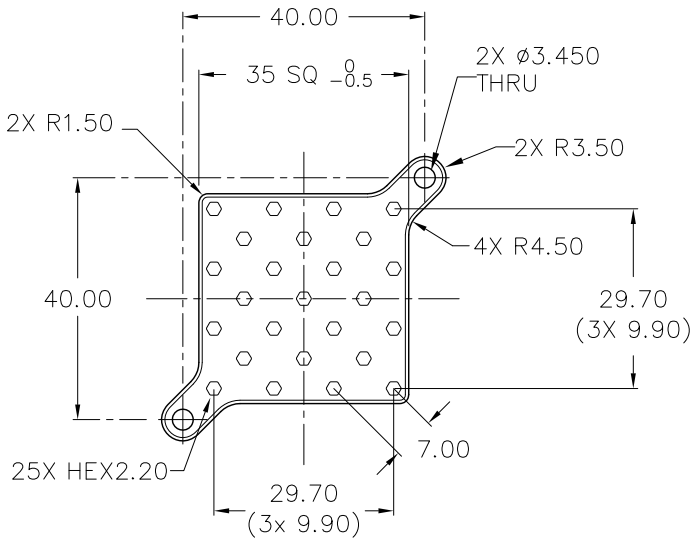


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

- BASED ON ALPHA'S STANDARD TEST PROCEDURE.  
 REFER TO TECHNICAL INFORMATION.



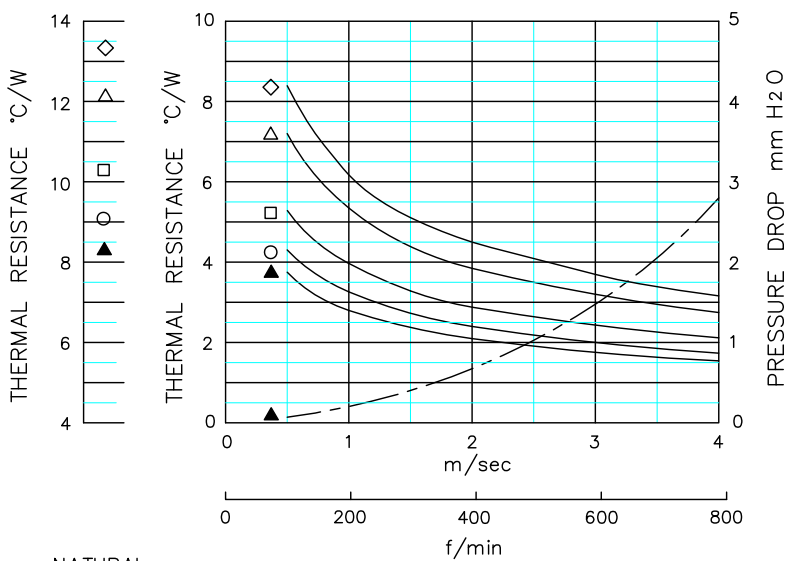
### DIM



MODEL	HEIGHT $h$	THICKNESS $t$	WEIGHT (grams)
NR35-8B	8	2.00	8.7
NR35-10B	10	3.00	12.5
NR35-15B	15		13.9
NR35-20B	20		15.3
NR35-25B	25		16.7
NR35- $h$ B	$h < 10$	2.50	-
	$10 \leq h$	3.00	-

MATERIAL : A 6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA

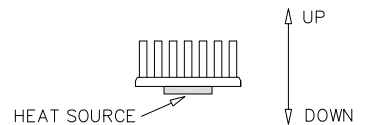


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ NR35-8B      △ NR35-10B
- NR35-15B    ○ NR35-20B
- ▲ NR35-25B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ———  
 PRESSURE DROP - - - - -
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 5.7(W)



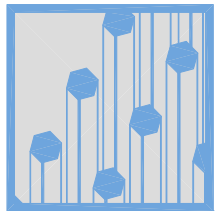
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

- BASED ON ALPHA'S STANDARD TEST PROCEDURE.
- REFER TO TECHNICAL INFORMATION.

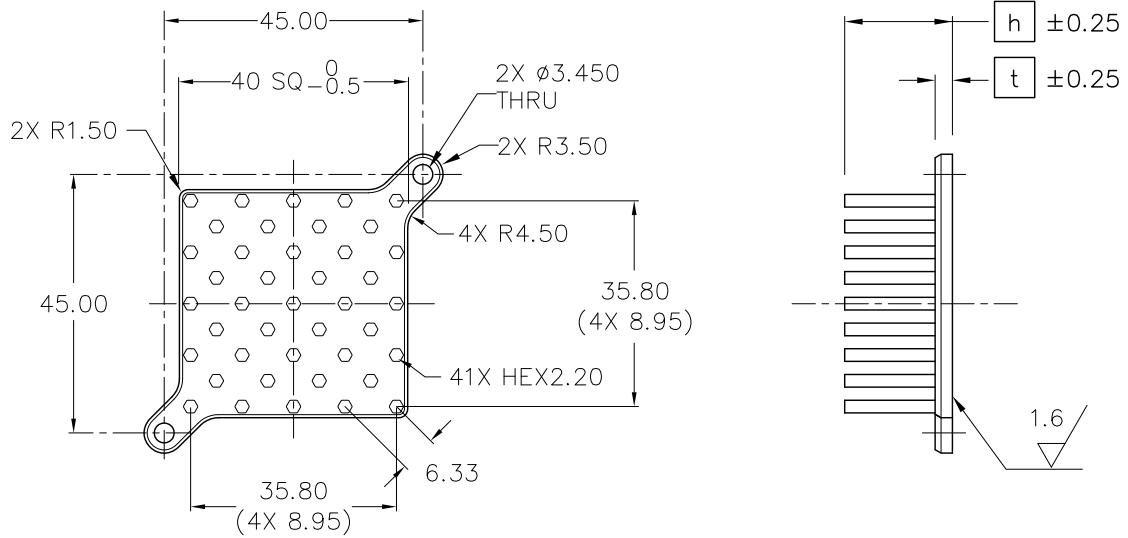
# ALPHA

## Natural Convection Heat Sink with Mounting Tabs

# NR 40



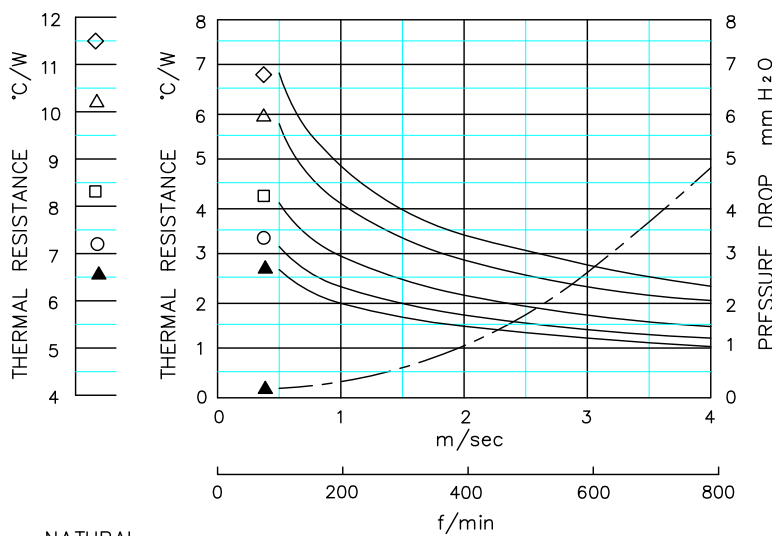
DIM



MODEL	HEIGHT $h$	THICKNESS $t$	WEIGHT (grams)
NR40-8B	8	3.00	13.8
NR40-10B	10		16.7
NR40-15B	15		19.0
NR40-20B	20		21.4
NR40-25B	25		23.7
NR40- $h$ B	$h < 10$	2.50	-
	$10 \leq h$	3.00	-

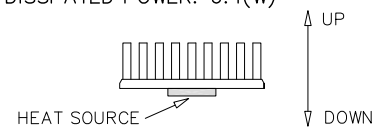
MATERIAL : A 6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

DATA



- ◇ NR40-8B      △ NR40-10B
- NR40-15B    ○ NR40-20B
- ▲ NR40-25B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE ———  
 PRESURE DROP - - - - -
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 6.4(W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

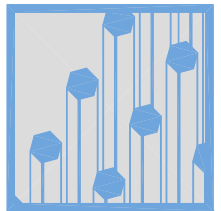
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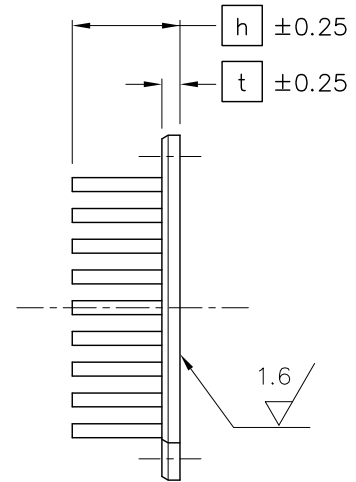
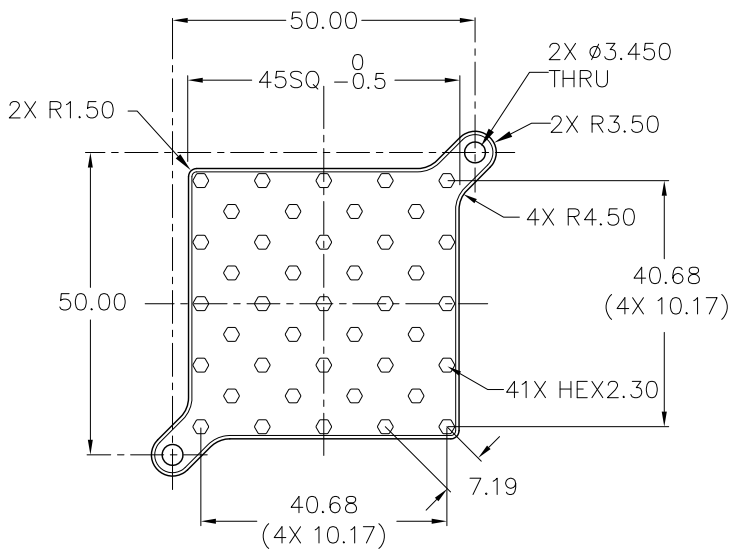
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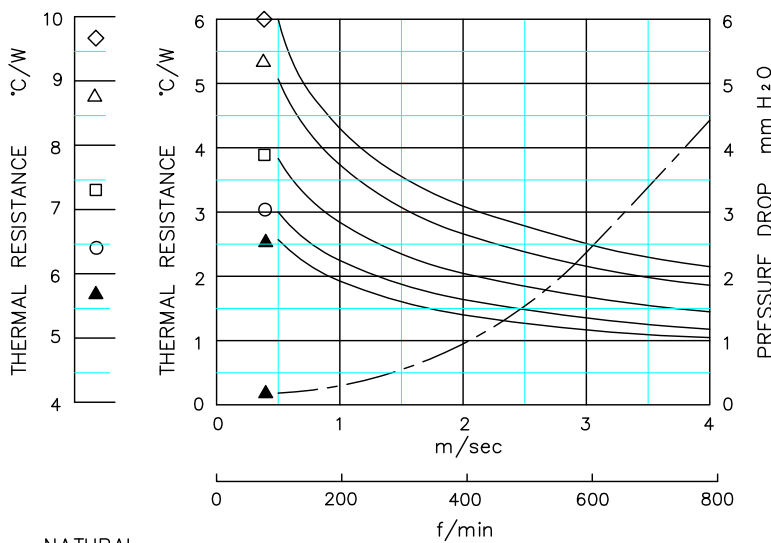
### DIM



MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
NR45-8B	8	3.00	16.8
NR45-10B	10		20.4
NR45-15B	15		23.0
NR45-20B	20		25.5
NR45-25B	25		28.0
NR45-[h]B	[h] < 10	2.50	-
	10 ≤ [h]	3.00	-

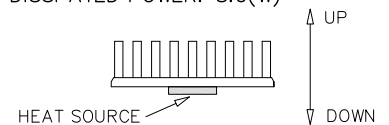
MATERIAL : A 6063  
FINISH : BLACK ANODIZE  
DIMENSIONS : mm

### DATA



◇ NR45-8B      △ NR45-10B  
□ NR45-15B    ○ NR45-20B  
▲ NR45-25B

- DUCTED CONDITION  
DUMMY HEATER SIZE: 12.7 SQ  
THERMAL RESISTANCE ———  
PRESSURE DROP - - - - -
- NATURAL CONVECTION  
DUMMY HEATER SIZE: 12.7 SQ  
DISSIPATED POWER: 8.0(W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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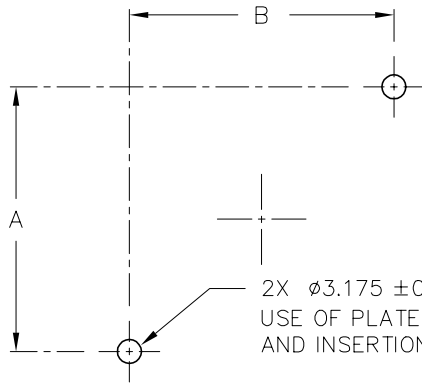
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REF



## PCB HOLE LAYOUT



LPDR25, UBR25 AND NR25	30.0	30.0
LPDR30, UBR30 AND NR30	35.0	35.0
LPDR35, UBR35 AND NR35	40.0	40.0
LPDR40, UBR40 AND NR40	45.0	45.0
LPDR45, UBR45 AND NR45	50.0	50.0
MODEL	A	B

PUSH-IN-PIN CATALOG: <http://www.micforg.co.jp/dxf/PIP-3175.pdf>