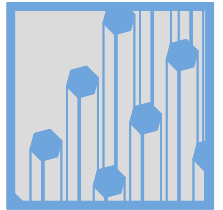




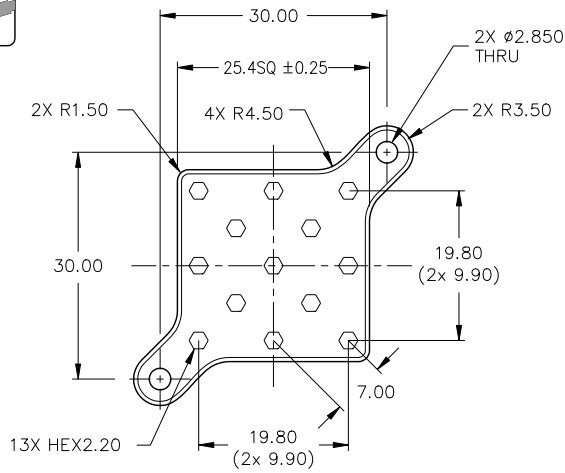
NR Series

Natural Convection Heat Sink
with Mounting Tabs

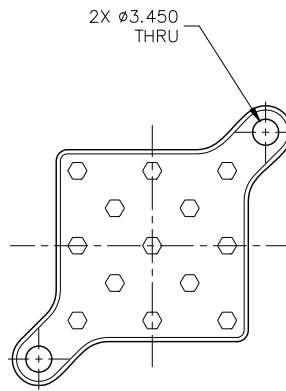
ALPHA



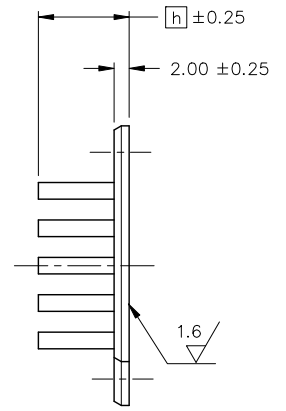
DIM



NR25-XXBC
FOR $\phi 2.500 \pm 0.05$ PCB HOLES



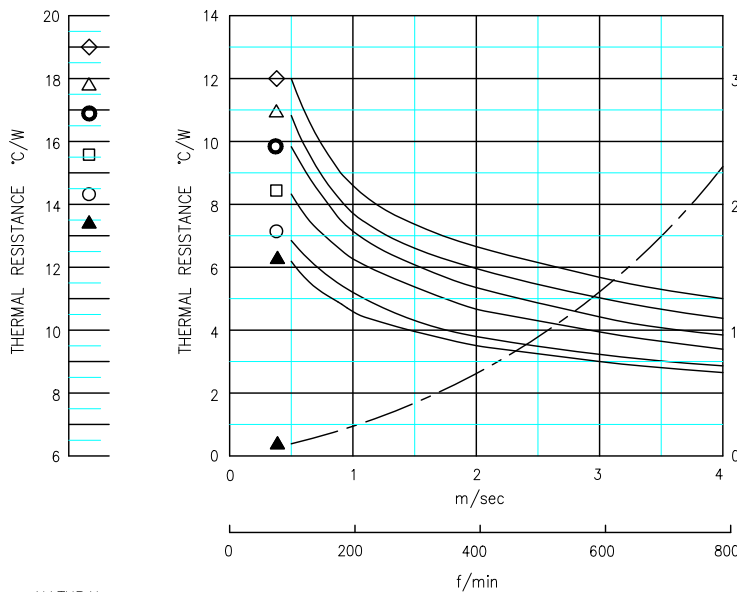
NR25-XXB
FOR $\phi 3.175 \pm 0.05$ PCB HOLES



MODEL	HEIGHT [h]	WEIGHT (grams)
NR25-8BC, NR25-8B	8	4.8
NR25-10BC, NR25-10B	10	5.1
NR25-12BC, NR25-12B	12	5.4
NR25-15BC, NR25-15B	15	5.9
NR25-20BC, NR25-20B	20	6.6
NR25-25BC, NR25-25B	25	7.3

MATERIAL : A6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

DATA

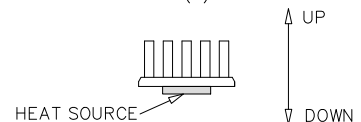


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ NR25-8BC, NR25-8B
- △ NR25-10BC, NR25-10B
- NR25-12BC, NR25-12B
- NR25-15BC, NR25-15B
- NR25-20BC, NR25-20B
- ▲ NR25-25BC, 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)

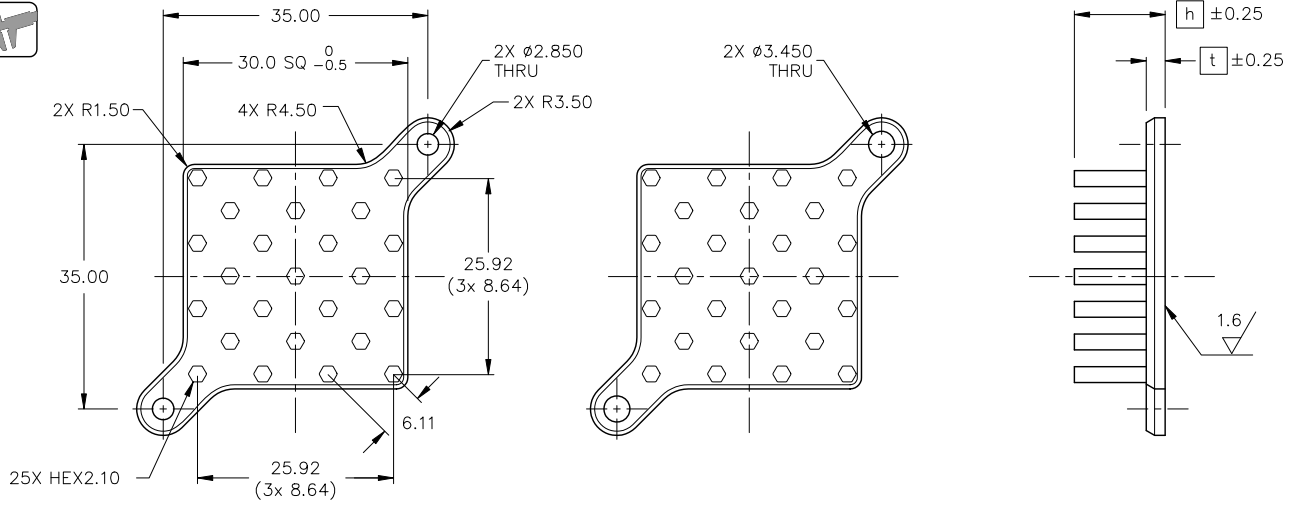


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



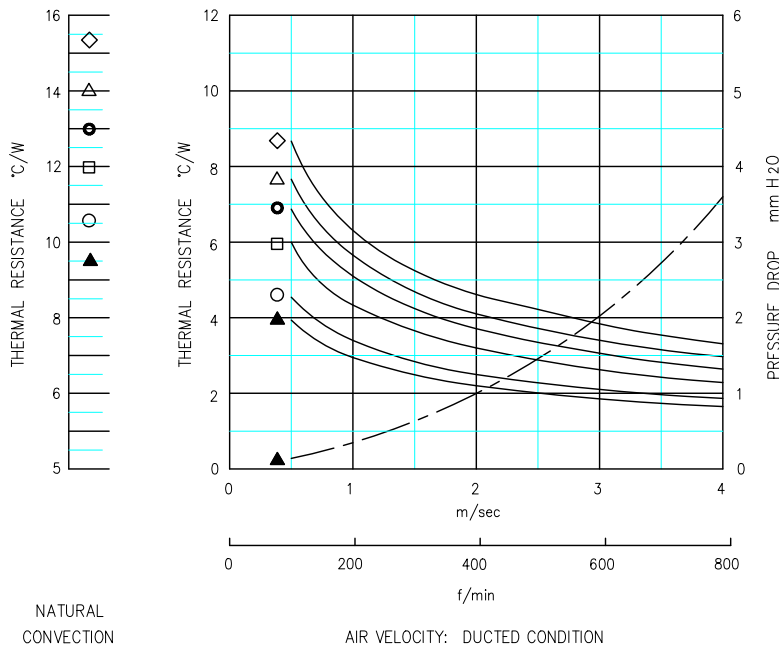
NR30-XXBC
FOR Ø2.500 ±0.05 PCB HOLES

NR30-XXB
FOR Ø3.175 ±0.05 PCB HOLES

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
NR30-8BC, NR30-8B	8	2.50	6.8
NR30-10BC, NR30-10B	10		8.5
NR30-12BC, NR30-12B	12		9.0
NR30-15BC, NR30-15B	15		9.8
NR30-20BC, NR30-20B	20		11.1
NR30-25BC, NR30-25B	25		12.4
NR30-[h]BC, NR30-[h]B	$h \leq 8$ $8 < h$	2.00 2.50	-

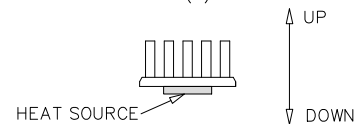
MATERIAL : A6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

DATA



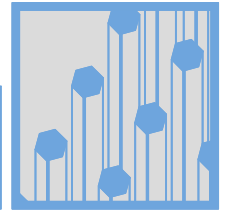
- ◇ NR30-8BC, NR30-8B
- △ NR30-10BC, NR30-10B
- NR30-12BC, NR30-12B
- NR30-15BC, NR30-15B
- NR30-20BC, NR30-20B
- ▲ NR30-25BC, NR30-25B

- DUCTED CONDITION
DUMMY HEATER SIZE: 12.7 SQ
THERMAL RESISTANCE (solid line)
PRESURE DROP (dashed line)
- NATURAL CONVECTION
DUMMY HEATER SIZE: 12.7 SQ
DISSIPATED POWER: 4.9 (W)

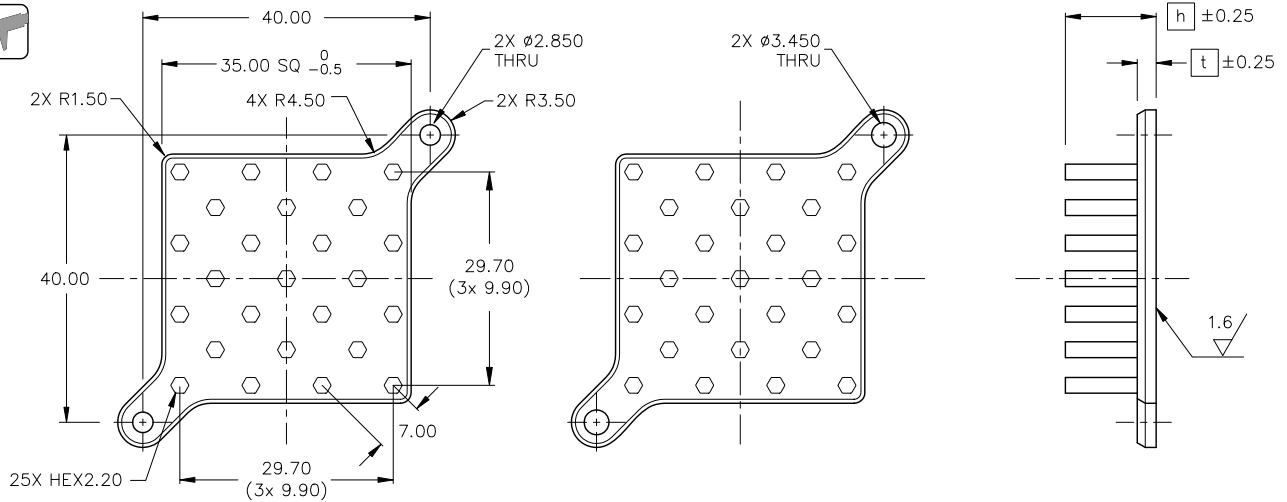


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



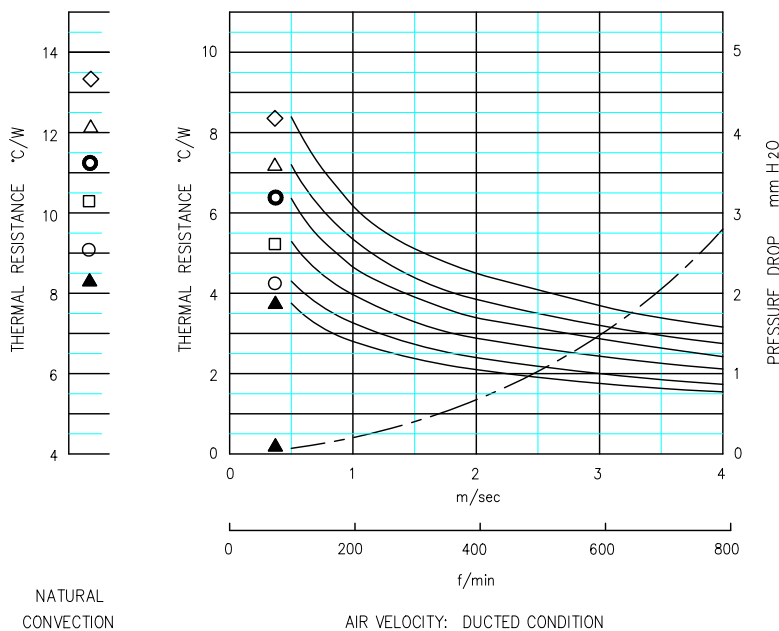
NR35-XXBC
FOR $\phi 2.500 \pm 0.05$ PCB HOLES

NR35-XXB
FOR $\phi 3.175 \pm 0.05$ PCB HOLES

MODEL	HEIGHT h	THICKNESS t	WEIGHT (grams)
NR35-8BC, NR35-8B	8	3.00	8.7
NR35-10BC, NR35-10B	10		12.5
NR35-12BC, NR35-12B	12		13.1
NR35-15BC, NR35-15B	15		13.9
NR35-20BC, NR35-20B	20		15.3
NR35-25BC, NR35-25B	25		16.7
NR35- h BC, NR35- h B	$h \leq 8$	2.00	-
	$8 < h$	3.00	-

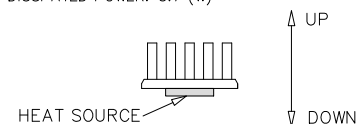
MATERIAL : A6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

DATA



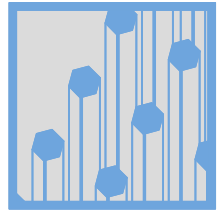
- \diamond NR35-8BC, NR35-8B
- \triangle NR35-10BC, NR35-10B
- \bullet NR35-12BC, NR35-12B
- \square NR35-15BC, NR35-15B
- \circ NR35-20BC, NR35-20B
- \blacktriangle NR35-25BC, NR35-25B

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

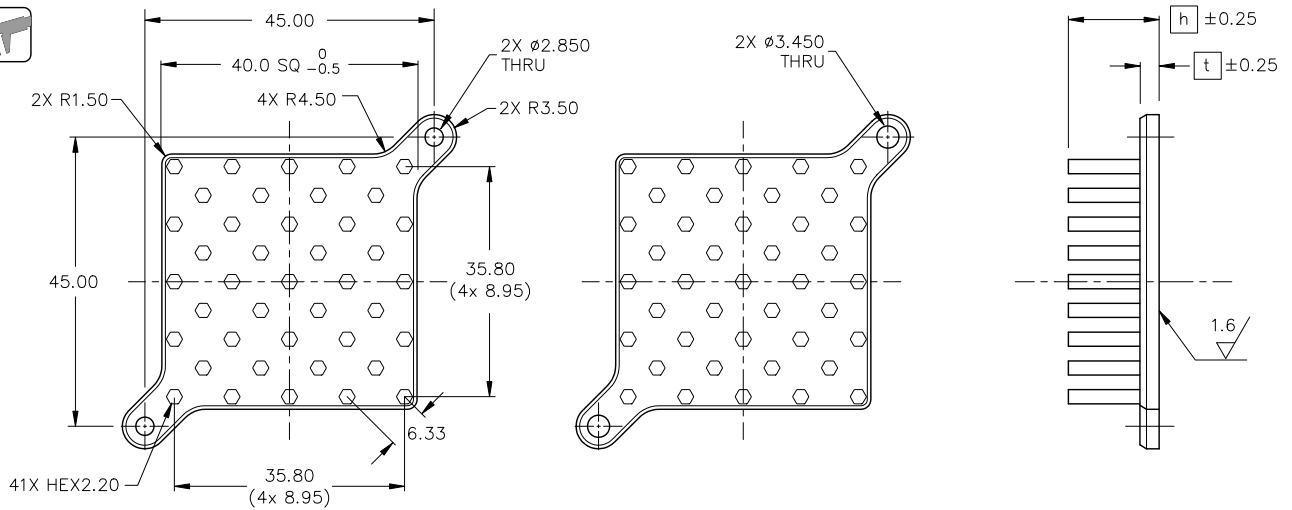


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



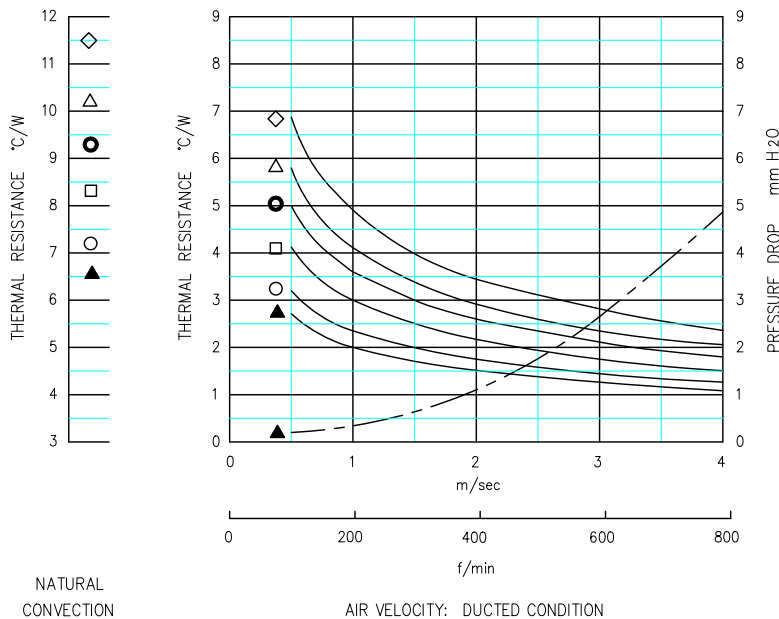
NR40-XXBC
FOR $\phi 2.500 \pm 0.05$ PCB HOLES

NR40-XXB
FOR $\phi 3.175 \pm 0.05$ PCB HOLES

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
NR40-8BC, NR40-8B	8	3.00	13.8
NR40-10BC, NR40-10B	10		16.7
NR40-12BC, NR40-12B	12		17.7
NR40-15BC, NR40-15B	15		19.0
NR40-20BC, NR40-20B	20		21.4
NR40-25BC, NR40-25B	25		23.7
NR40-[h]BC, NR40-[h]B	$h \leq 8$	2.50	-
	$8 < h$	3.00	-

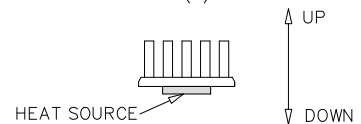
MATERIAL : A6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

DATA



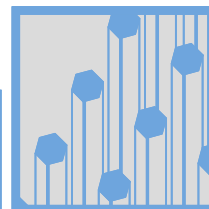
- ◇ NR40-8BC, NR40-8B
- △ NR40-10BC, NR40-10B
- NR40-12BC, NR40-12B
- NR40-15BC, NR40-15B
- NR40-20BC, NR40-20B
- ▲ NR40-25BC, NR40-25B

- DUCTED CONDITION
DUMMY HEATER SIZE: 12.7 SQ
THERMAL RESISTANCE (solid line)
PRESSURE DROP (dashed line)
- NATURAL CONVECTION
DUMMY HEATER SIZE: 12.7 SQ
DISSIPATED POWER: 6.4 (W)

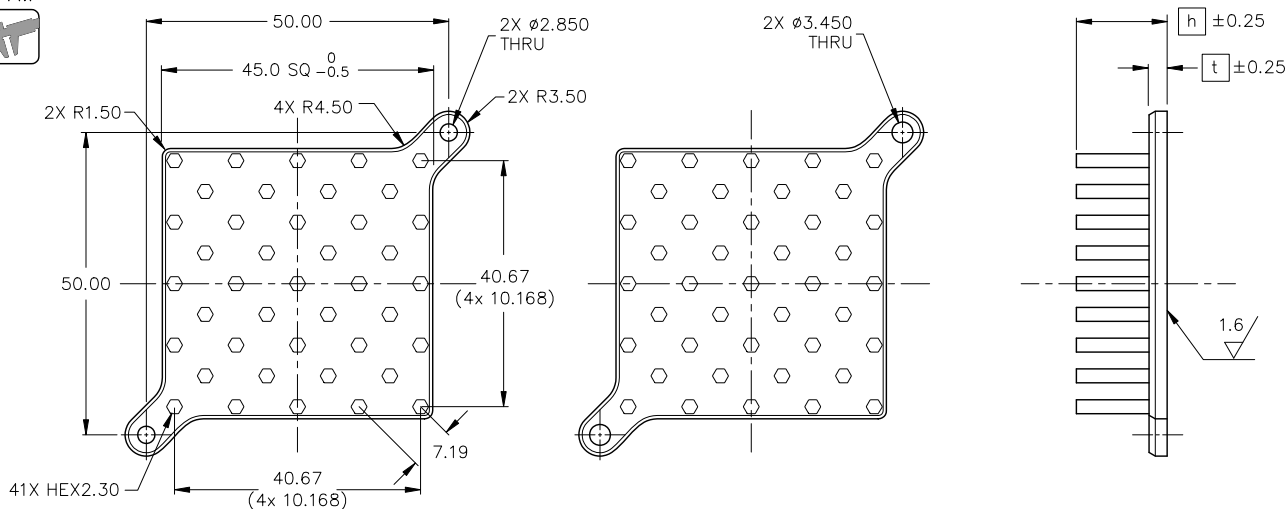


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



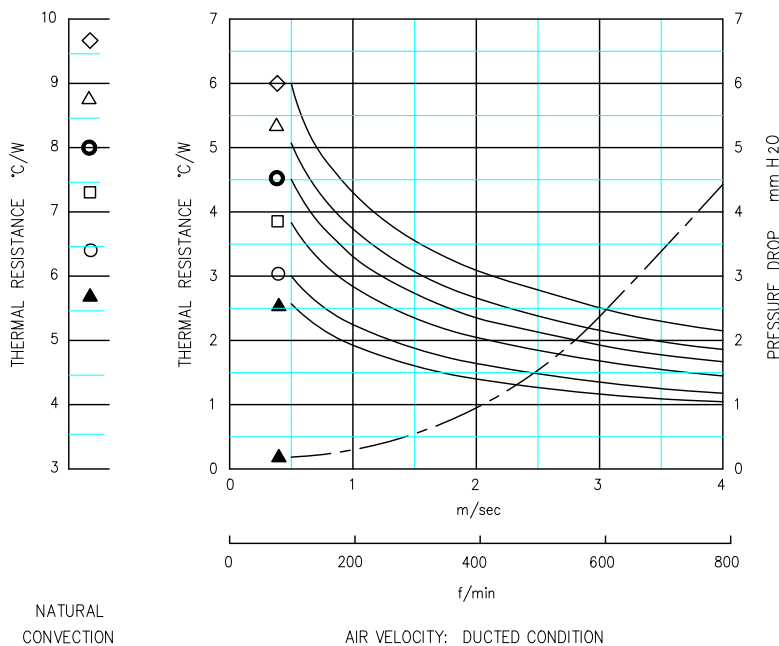
NR45-XXBC
FOR Ø2.500 ± 0.05 PCB HOLES

NR45-XXB
FOR Ø3.175 ± 0.05 PCB HOLES

MODEL	HEIGHT [h]	THICKNESS [t]	WEIGHT (grams)
NR45-8BC, NR45-8B	8	3.00	16.8
NR45-10BC, NR45-10B	10		20.4
NR45-12BC, NR45-12B	12		21.4
NR45-15BC, NR45-15B	15		23.0
NR45-20BC, NR45-20B	20		25.5
NR45-25BC, NR45-25B	25	28.0	
NR45-[h]BC, NR45-[h]B	[h] ≤ 8	2.50	-
	8 < [h]	3.00	-

MATERIAL : A6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

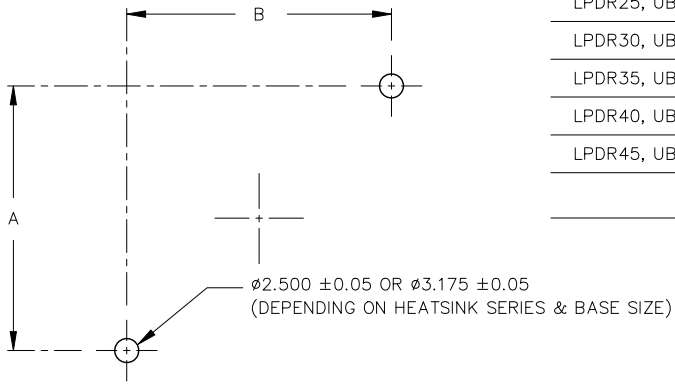
DATA



REF



PCB HOLE LAYOUT



LPDR19 AND UBR19	22.0	22.0
LPDR25, UBR25, NR25 AND SR25	30.0	30.0
LPDR30, UBR30, NR30 AND SR30	35.0	35.0
LPDR35, UBR35, NR35 AND SR35	40.0	40.0
LPDR40, UBR40, NR40 AND SR40	45.0	45.0
LPDR45, UBR45 AND NR45	50.0	50.0
MODEL	A	B