

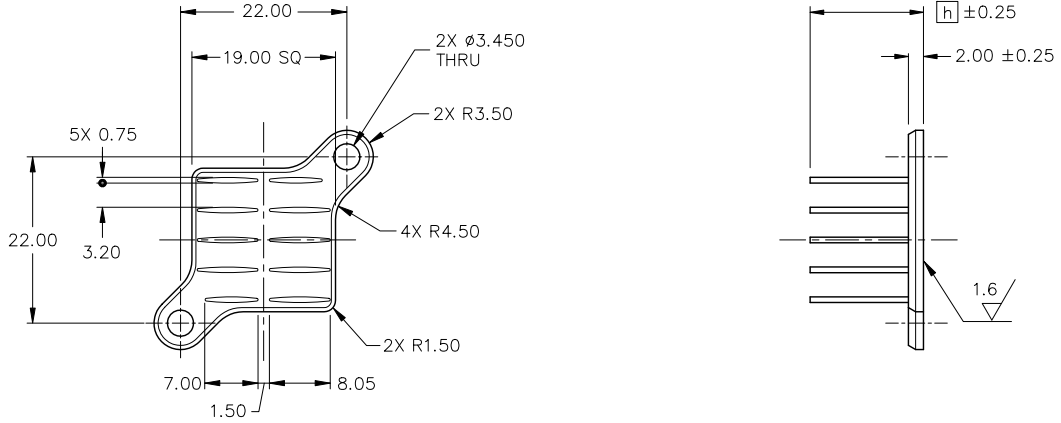
LPDR Series  
LPDL Series

Low Pressure Drop Heat Sink  
with Mounting Tabs

**ALPHA**



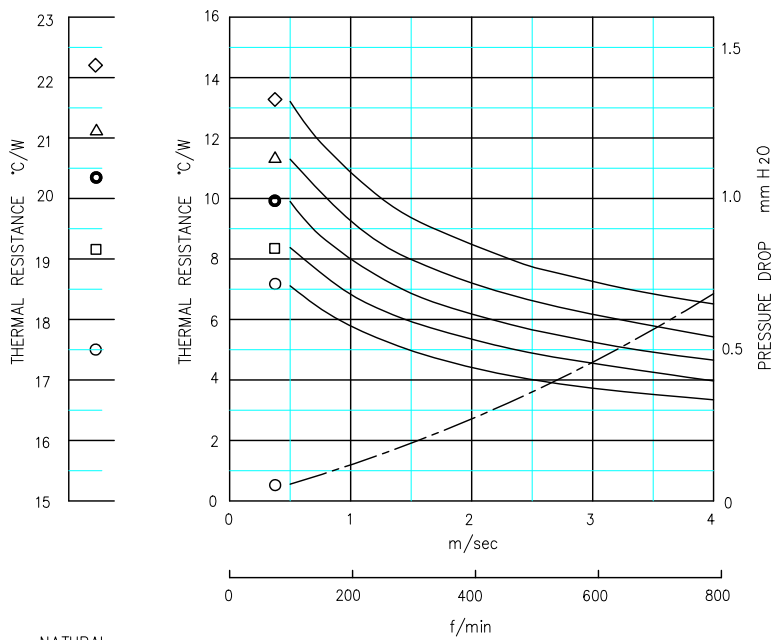
### DIM



MODEL	HEATSINK HEIGHT $h$	WEIGHT (grams)
LPDR19-8B	8	3.0
LPDR19-10B	10	3.2
LPDR19-12B	12	3.5
LPDR19-15B	15	3.8
LPDR19-20B	20	4.4

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA

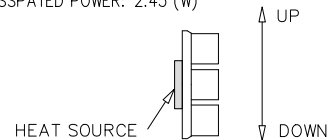


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ RPDR19-8B      △ RPDR19-10B
- RPDR19-12B    □ RPDR19-15B
- RPDR19-20B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 2.45 (W)



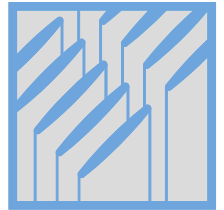
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

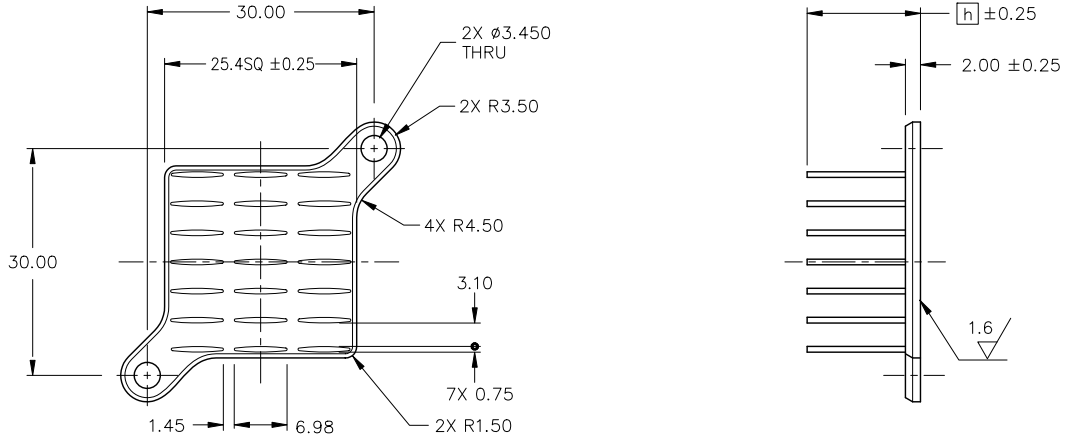
# ALPHA

## Low Pressure Drop Heat Sink with Mounting Tabs

# LPDR 25



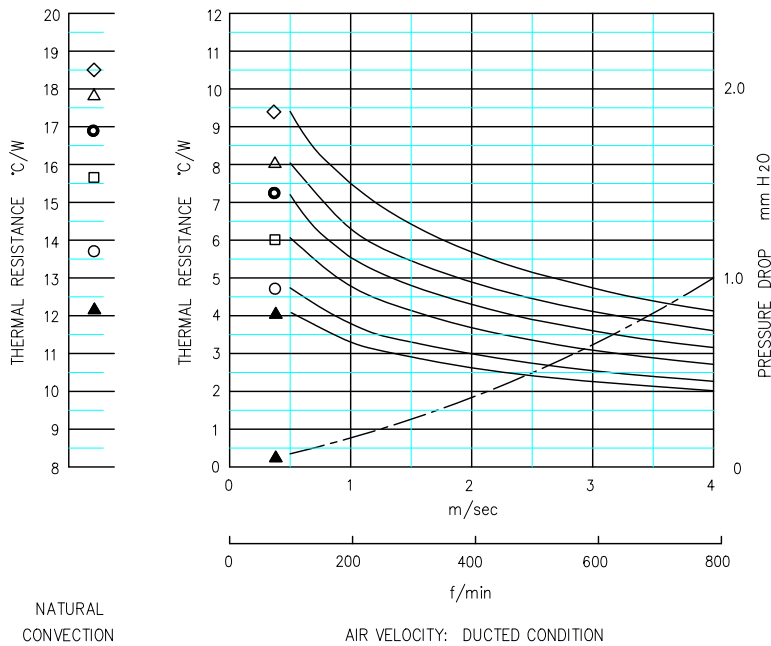
DIM



MODEL	HEATSINK HEIGHT [h]	WEIGHT (grams)
LPDR25-8B	8	5.4
LPDR25-10B	10	5.8
LPDR25-12B	12	6.3
LPDR25-15B	15	7.0
LPDR25-20B	20	8.2
LPDR25-20B	25	9.4

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

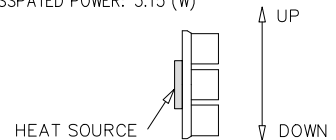
DATA



- ◇ LPDR25-8B      △ LPDR25-10B
- LPDR25-12B    □ LPDR25-15B
- LPDR25-20B    ▲ LPDR25-25B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP

● NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSPATED POWER: 3.15 (W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

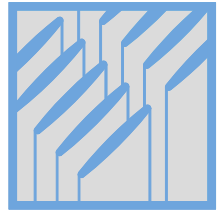
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE. REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

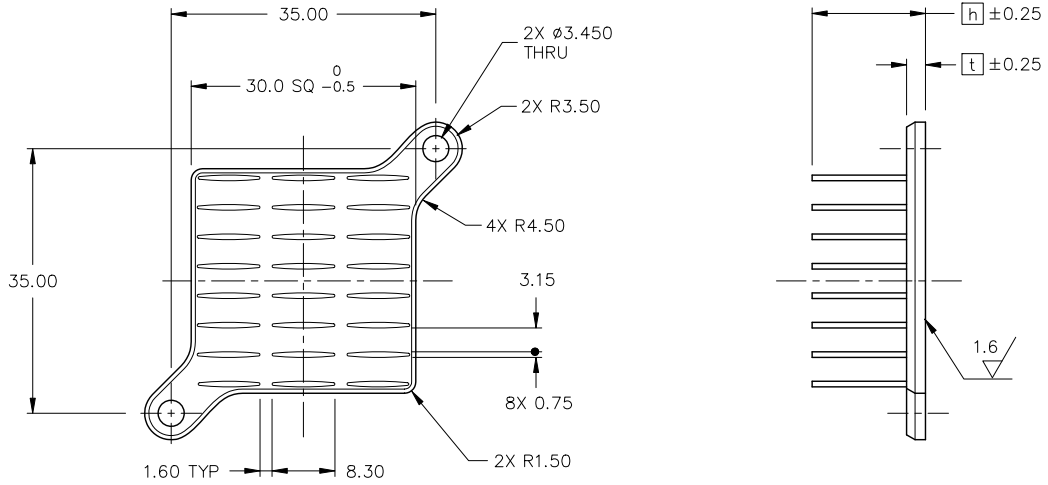
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN  
 PHONE +81(55)966 0789  
 FAX +81(55)966 9192  
 E mail : alpha@micforg.co.jp  
 URL : http://www.micforg.co.jp

Alpha Novatech, Inc. - a subsidiary of Alpha Company.

473 Sapena Ct. #12 Santa Clara, CA 95054 USA  
 PHONE +1(408)567-8082  
 FAX +1(408)567-8053  
 E mail : sales@alphanovatech.com  
 URL : http://www.alphanovatech.com



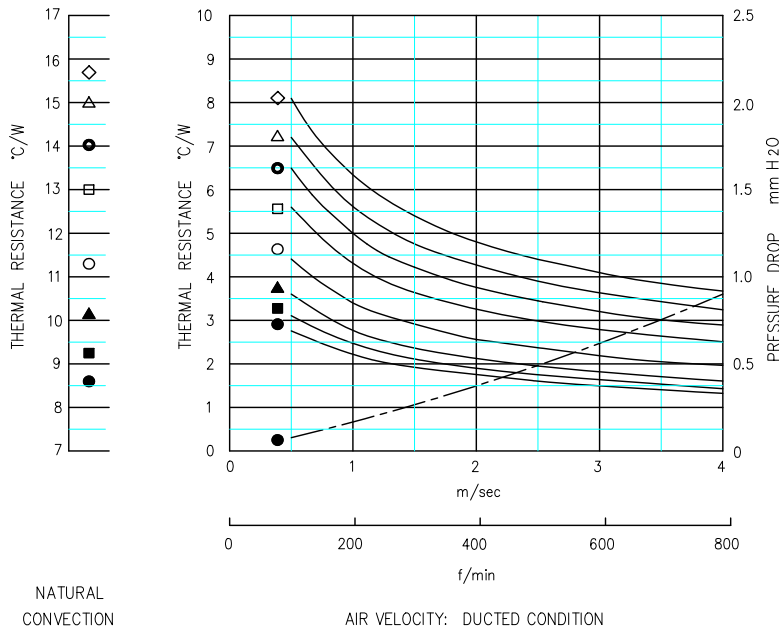
### DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDR30-8B	8	2.50	7.1
LPDR30-10B	10		8.9
LPDR30-12B	12		9.7
LPDR30-15B	15		10.5
LPDR30-20B	20		12.1
LPDR30-25B	25		13.7
LPDR30-30B	30		15.3
LPDR30-35B	35	16.9	
LPDR30-[h]B	$h < 10$	2.00	-
	$10 \leq h$	2.50	-

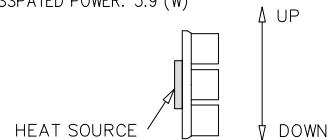
MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA



- ◇ LPDR30-8B      △ LPDR30-10B
- LPDR30-12B    □ LPDR30-15B
- LPDR30-20B    ▲ LPDR30-25B
- LPDR30-30B    ● LPDR30-35B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE: ———
- PRESURE DROP: - - - -
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSIPATED POWER: 3.9 (W)



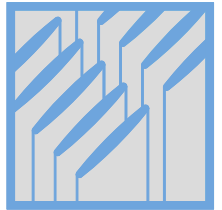
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

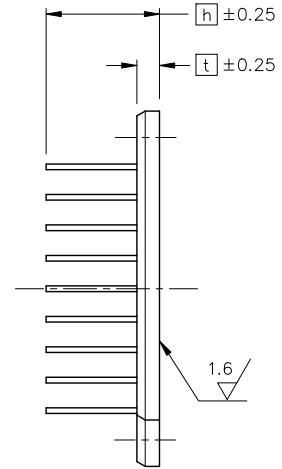
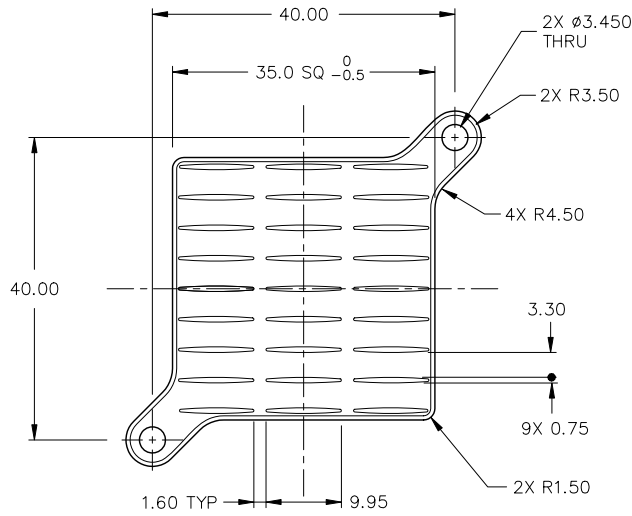
# ALPHA

## Low Pressure Drop Heat Sink with Mounting Tabs

# LPDR 35



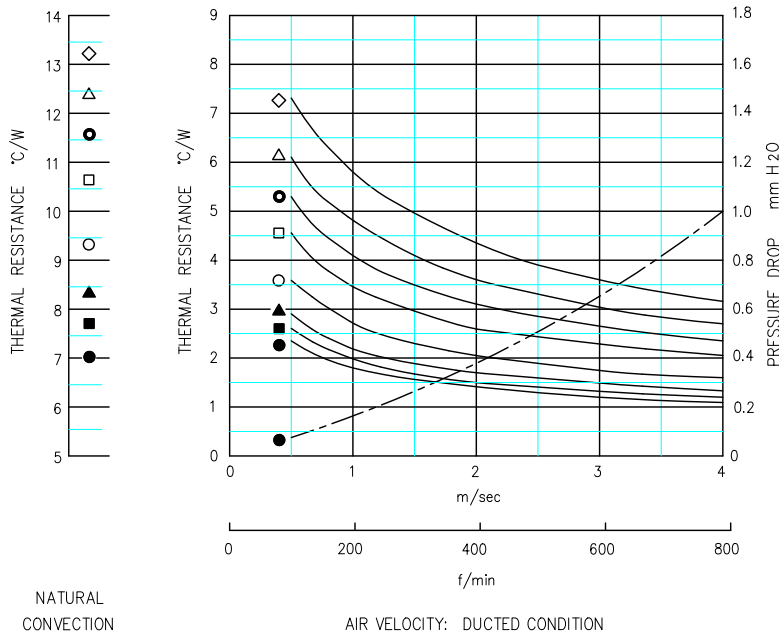
DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDR35-8B	8	2.00	9.5
LPDR35-10B	10	3.00	13.5
LPDR35-12B	12		14.1
LPDR35-15B	15		15.7
LPDR35-20B	20		17.9
LPDR35-25B	25		20.1
LPDR35-30B	30		22.3
LPDR35-35B	35	24.5	
LPDR35-[h]B	[h] < 10	2.00	-
	10 ≤ [h]	3.00	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

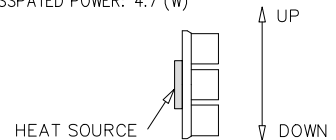
DATA



- ◇ LPDR35-8B
- LPDR35-12B
- LPDR35-20B
- LPDR35-30B
- △ LPDR35-10B
- LPDR35-15B
- ▲ LPDR35-25B
- LPDR35-35B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP

● NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 4.7 (W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

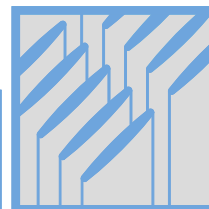
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE. REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

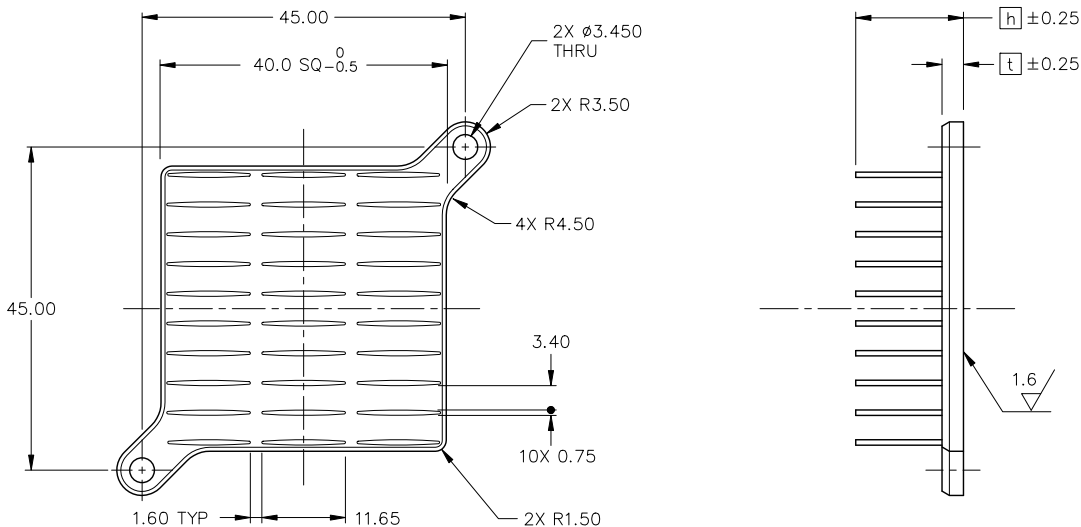
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN  
 PHONE +81(55)966 0789  
 FAX +81(55)966 9192  
 E mail : alpha@micforg.co.jp  
 URL : http://www.micforg.co.jp

Alpha Novatech, Inc. - a subsidiary of Alpha Company.

473 Sapena Ct. #12 Santa Clara, CA 95054 USA  
 PHONE +1(408)567-8082  
 FAX +1(408)567-8053  
 E mail : sales@alphanovatech.com  
 URL : http://www.alphanovatech.com



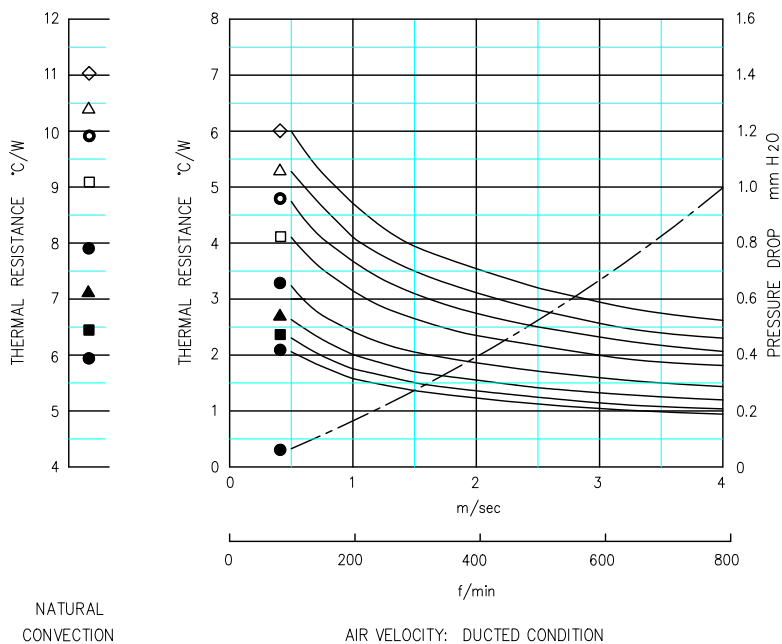
### DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDR40-8B	8	3.00	14.4
LPDR40-10B	10		17.2
LPDR40-12B	12		18.7
LPDR40-15B	15		20.0
LPDR40-20B	20		22.8
LPDR40-25B	25		25.6
LPDR40-30B	30		28.4
LPDR40-35B	35		31.8
LPDR40-[h]B	[h] < 10	2.50	-
	10 ≤ [h]	3.00	-

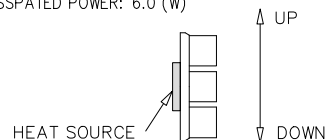
MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA



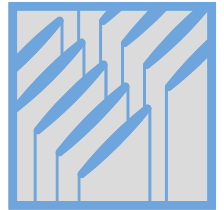
- ◇ LPDR40-8B
- LPDR40-12B
- LPDR40-20B
- LPDR40-30B
- △ LPDR40-10B
- LPDR40-15B
- ▲ LPDR40-25B
- LPDR40-35B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSIPATED POWER: 6.0 (W)

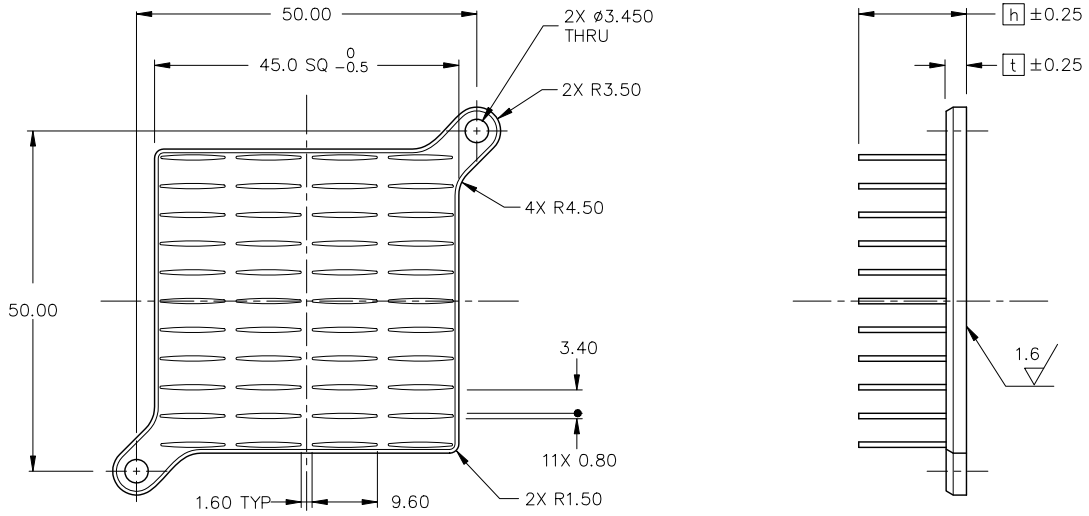


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



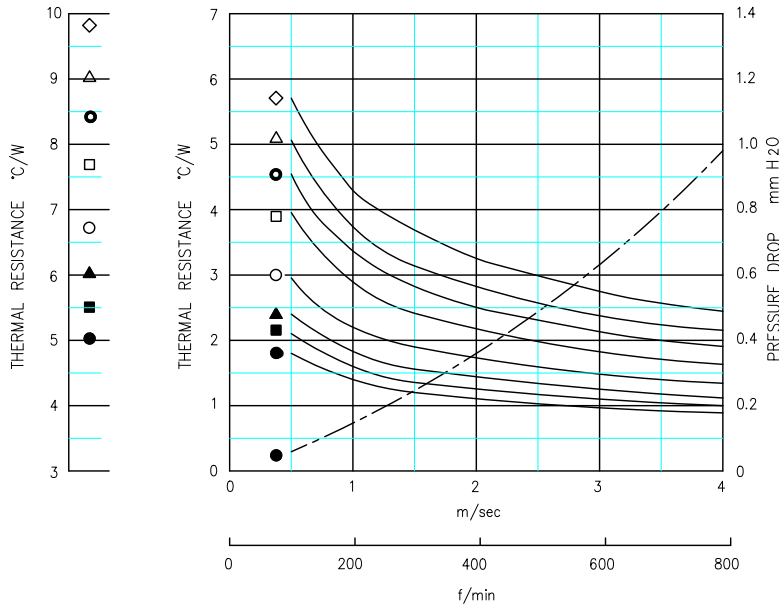
### DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDR45-8B	8	2.50	18.0
LPDR45-10B	10		21.9
LPDR45-12B	12		23.5
LPDR45-15B	15		25.5
LPDR45-20B	20		29.2
LPDR45-25B	25		32.9
LPDR45-30B	30		36.5
LPDR45-35B	35		40.2
LPDR45-[h]B	$h < 10$	2.50	-
	$10 \leq h$	3.00	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

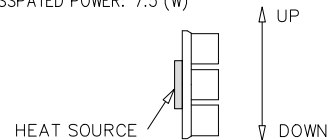
### DATA



- ◇ LPDR45-8B
- △ LPDR45-10B
- LPDR45-12B
- LPDR45-15B
- LPDR45-20B
- ▲ LPDR45-25B
- LPDR45-30B
- LPDR45-35B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP

● NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 7.5 (W)



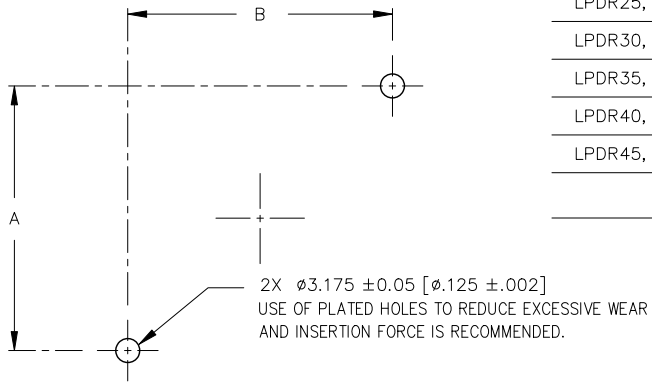
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

REF



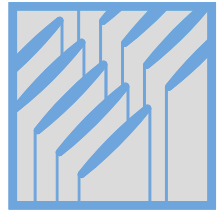
PCB HOLE LAYOUT



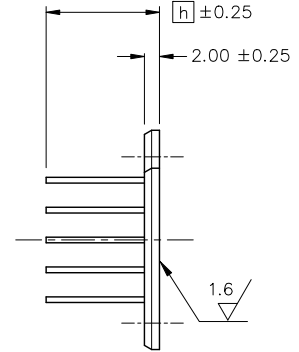
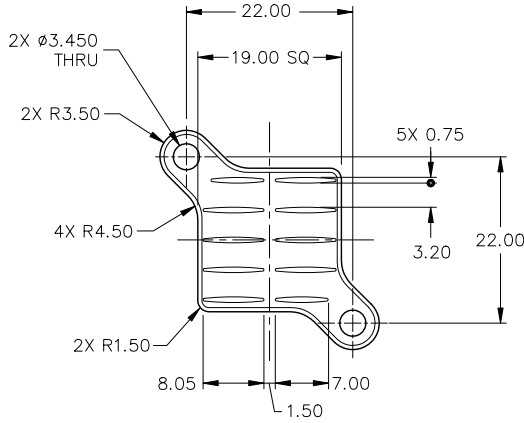
LPDR19 AND UBR19	22.0	22.0
LPDR25, UBR25, NR25 AND SR25	30.0	30.0
LPDR30, UBR30, NR30 AND SR30	35.0	35.0
LPDR35, UBR35, NR35 AND SR35	40.0	40.0
LPDR40, UBR40, NR40 AND SR40	45.0	45.0
LPDR45, UBR45 AND NR45	50.0	50.0
MODEL	A	B

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





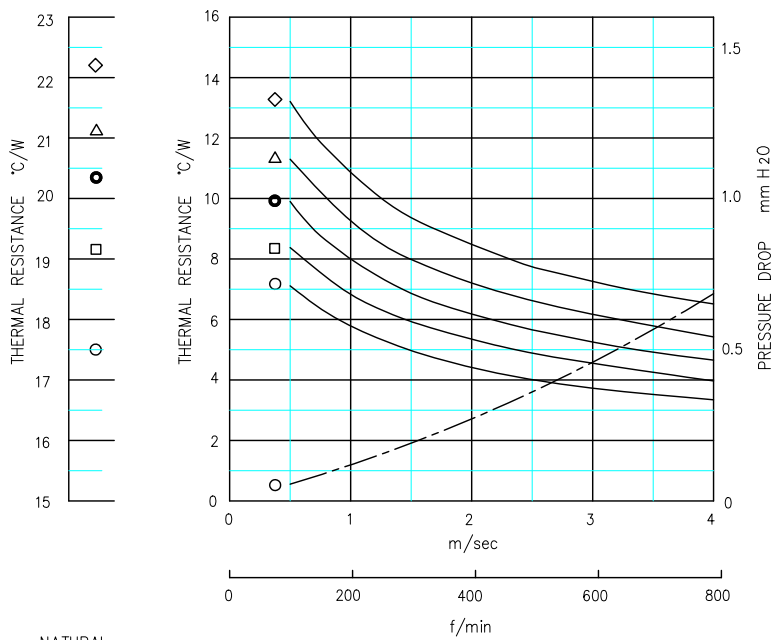
### DIM



MODEL	HEATSINK HEIGHT $h$	WEIGHT (grams)
LPDL19-8B	8	3.0
LPDL19-10B	10	3.2
LPDL19-12B	12	3.5
LPDL19-15B	15	3.8
LPDL19-20B	20	4.4

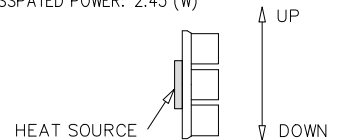
MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA



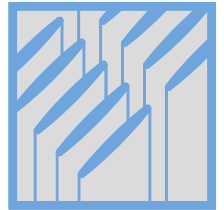
- ◇ LPDL19-8B      △ LPDL19-10B
- LPDL19-12B    □ LPDL19-15B
- LPDL19-20B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 2.45 (W)

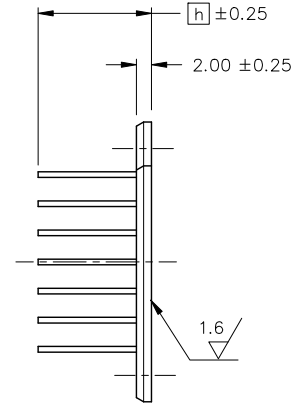
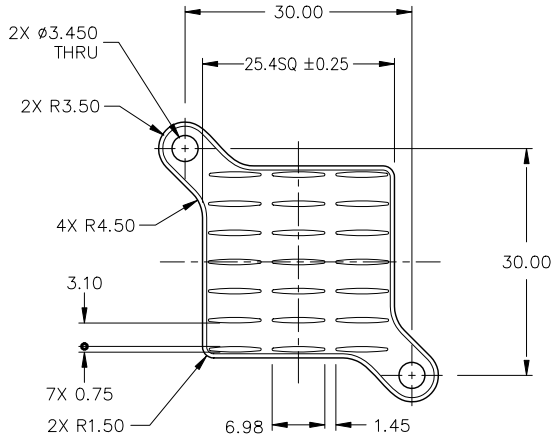


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



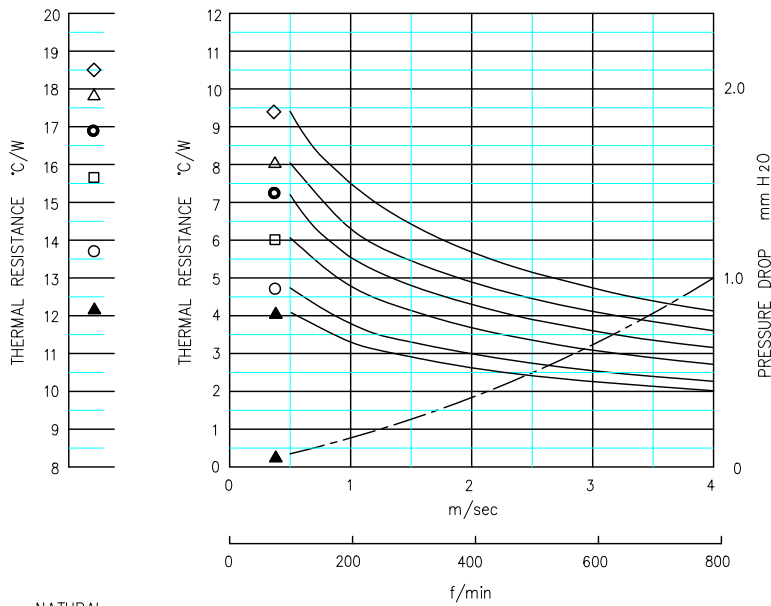
### DIM



MODEL	HEATSINK HEIGHT $h$	WEIGHT (grams)
LPDL25-8B	8	5.4
LPDL25-10B	10	5.8
LPDL25-12B	12	6.3
LPDL25-15B	15	7.0
LPDL25-20B	20	8.2
LPDL25-25B	25	9.4

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

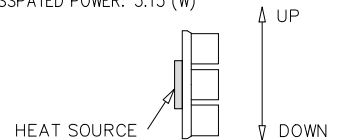
### DATA



- ◇ LPDL25-8B      △ LPDL25-10B
- LPDL25-12B    □ LPDL25-15B
- LPDL25-20B    ▲ LPDL25-25B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP

● NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 3.15 (W)



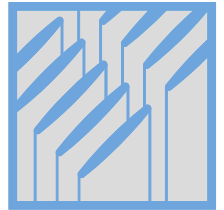
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

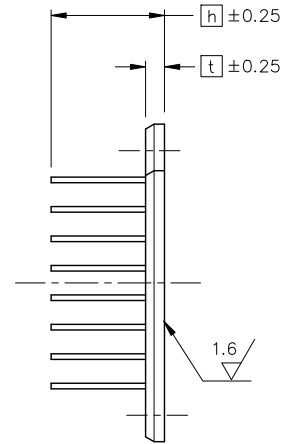
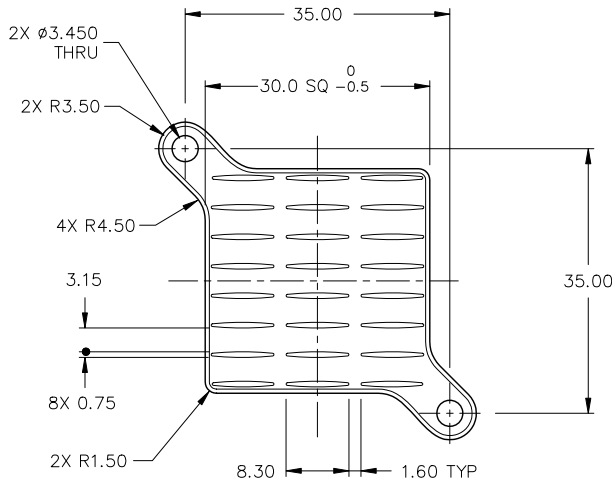
# ALPHA

## Low Pressure Drop Heat Sink with Mounting Tabs

# LPDL 30



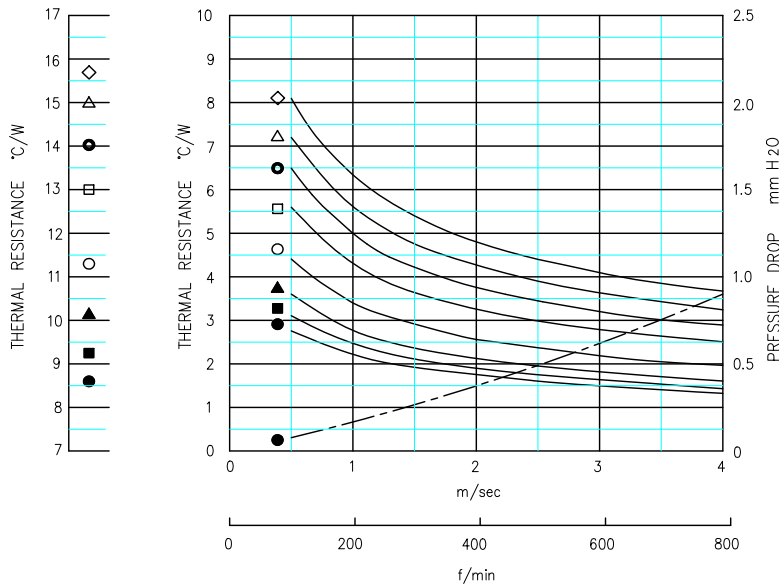
DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDL30-8B	8	2.50	7.1
LPDL30-10B	10		8.9
LPDL30-12B	12		9.7
LPDL30-15B	15		10.5
LPDL30-20B	20		12.1
LPDL30-25B	25		13.7
LPDL30-30B	30		15.3
LPDL30-35B	35		16.9
LPDL30-[h]B	[h] < 10	2.00	-
	10 ≤ [h]	2.50	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

DATA

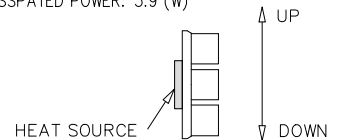


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ LPDL30-8B
- LPDL30-12B
- LPDL30-20B
- LPDL30-30B
- △ LPDL30-10B
- LPDL30-15B
- ▲ LPDL30-25B
- LPDL30-35B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSIPATED POWER: 3.9 (W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

Alpha Company Ltd.

256-1 UEDANUMAZU-CITY SHIZUOKA-PREF.,JAPAN  
 PHONE +81(55)966 0789  
 FAX +81(55)966 9192  
 E mail : alpha@micforg.co.jp  
 URL : http://www.micforg.co.jp

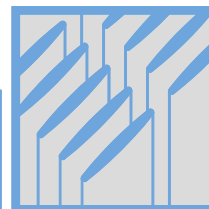
Alpha Novatech, Inc. - a subsidiary of Alpha Company.

473 Sapena Ct. #12 Santa Clara, CA 95054 USA  
 PHONE +1(408)567-8082  
 FAX +1(408)567-8053  
 E mail : sales@alphanovatech.com  
 URL : http://www.alphanovatech.com

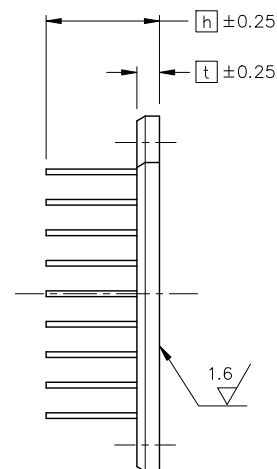
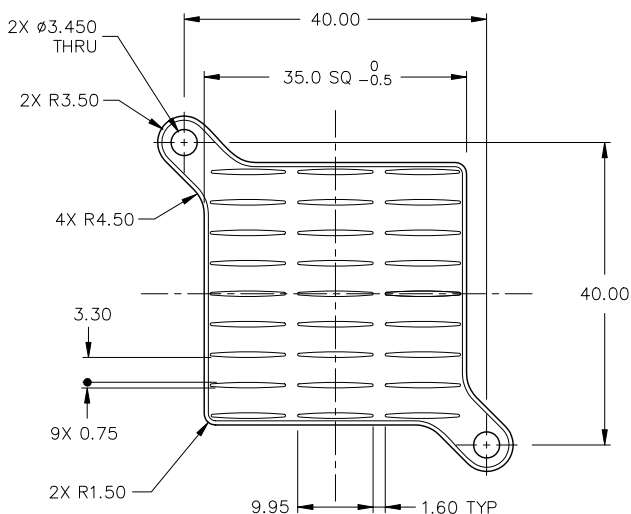
# ALPHA

## Low Pressure Drop Heat Sink with Mounting Tabs

# LPDL 35



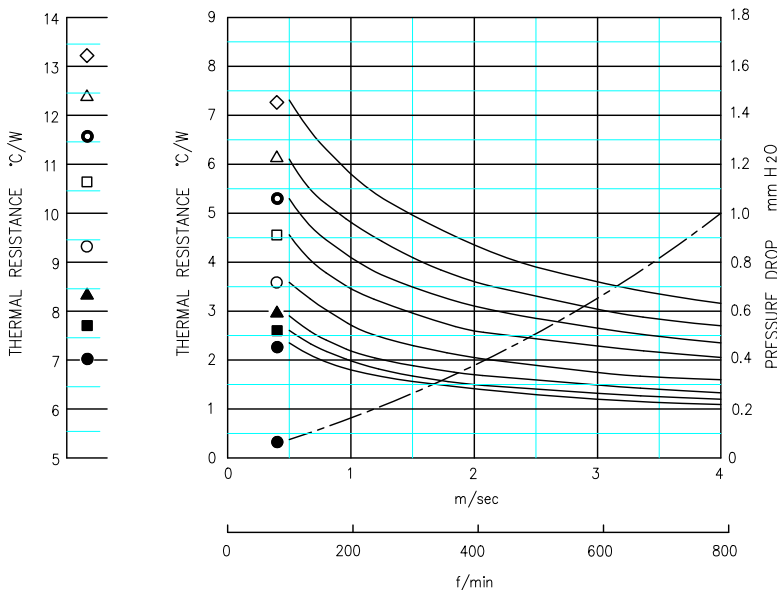
DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDL35-8B	8	3.00	9.5
LPDL35-10B	10		13.5
LPDL35-12B	12		14.1
LPDL35-15B	15		15.7
LPDL35-20B	20		17.9
LPDL35-25B	25		20.1
LPDL35-30B	30		22.3
LPDL35-35B	35	24.5	
LPDL35-[h]B	[h] < 10	2.00	-
	10 ≤ [h]	3.00	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

DATA



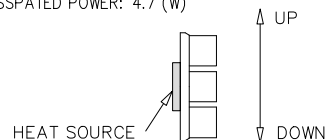
NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ LPDL35-8B
- LPDL35-12B
- LPDL35-20B
- LPDL35-30B
- △ LPDL35-10B
- LPDL35-15B
- ▲ LPDL35-25B
- LPDL35-35B

● DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP

● NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSPATED POWER: 4.7 (W)



NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

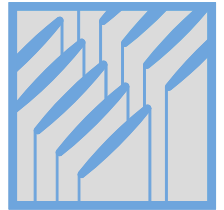
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE. REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

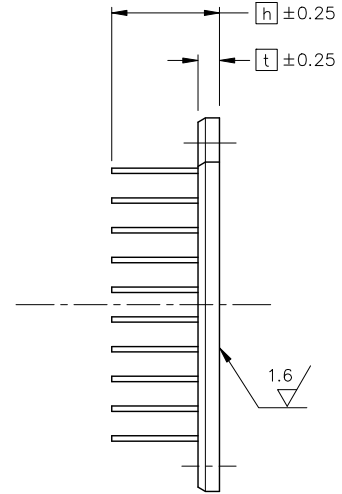
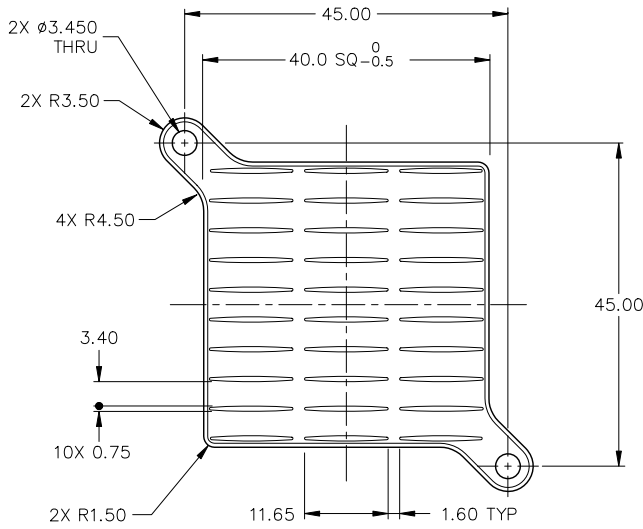
256-1 UEDANUMAZU-CITY SHIZUOKA-PREF.,JAPAN  
 PHONE +81(55)966 0789  
 FAX +81(55)966 9192  
 E mail : alpha@micforg.co.jp  
 URL : http://www.micforg.co.jp

Alpha Novatech, Inc. - a subsidiary of Alpha Company.

473 Sapena Ct. #12 Santa Clara, CA 95054 USA  
 PHONE +1(408)567-8082  
 FAX +1(408)567-8053  
 E mail : sales@alphanovatech.com  
 URL : http://www.alphanovatech.com



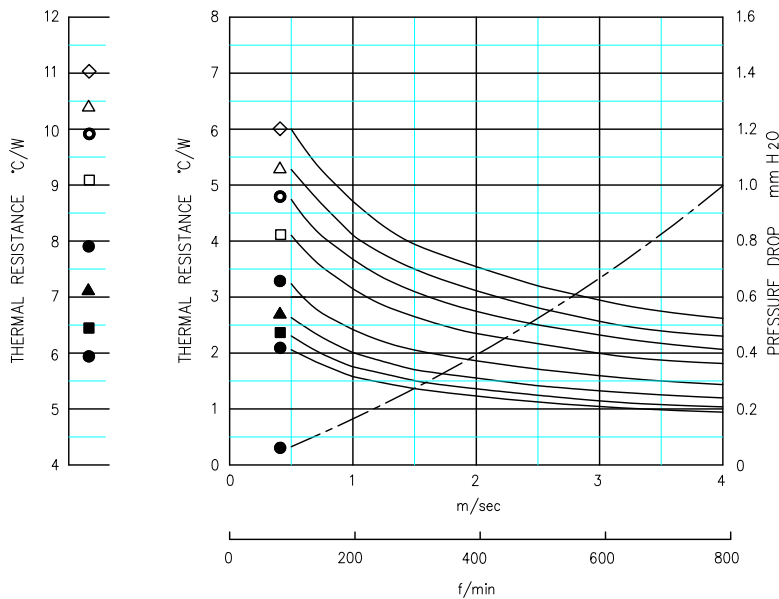
### DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDL40-8B	8	3.00	14.4
LPDL40-10B	10		17.2
LPDL40-12B	12		18.7
LPDL40-15B	15		20.0
LPDL40-20B	20		22.8
LPDL40-25B	25		25.6
LPDL40-30B	30		28.4
LPDL40-35B	35		31.8
LPDL40-[h]B	[h] < 10	2.50	-
	10 ≤ [h]	3.00	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA

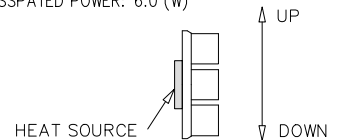


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

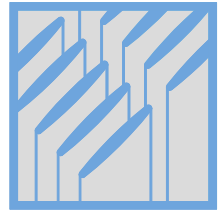
- ◇ LPDL40-8B
- LPDL40-12B
- LPDL40-20B
- LPDL40-30B
- △ LPDL40-10B
- LPDL40-15B
- ▲ LPDL40-25B
- LPDL40-35B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSIPATED POWER: 6.0 (W)

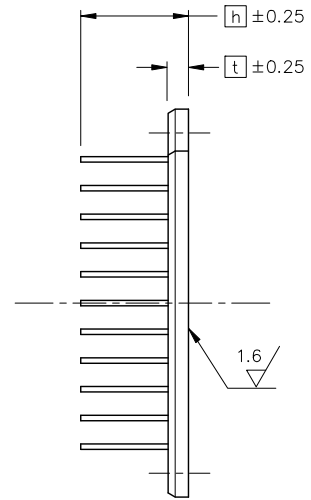
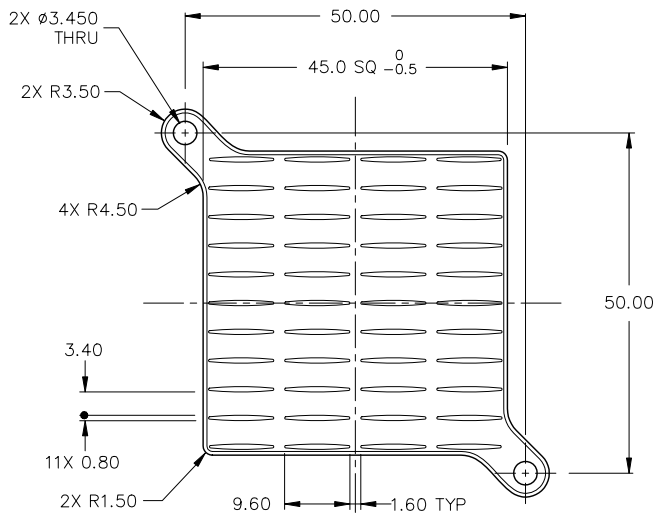


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



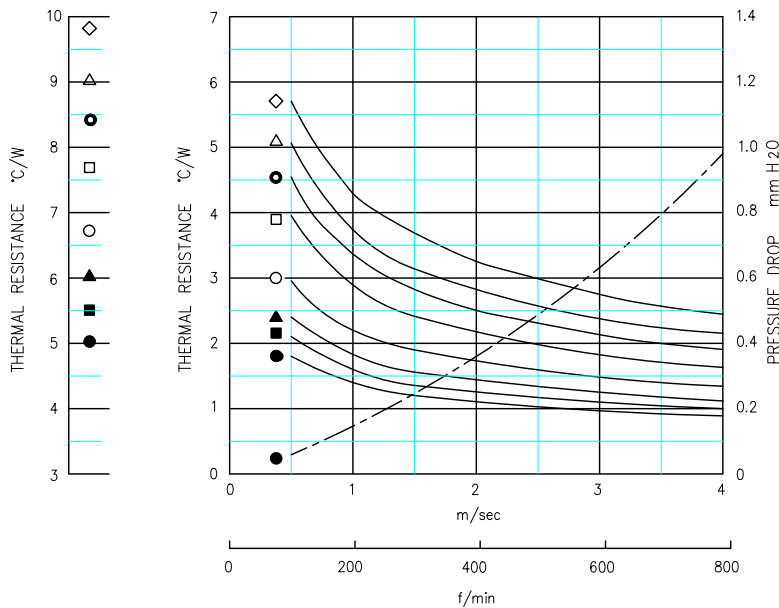
### DIM



MODEL	HEIGHT [h]	THICKNESS [h]	WEIGHT (grams)
LPDL45-8B	8	2.50	18.0
LPDL45-10B	10		21.9
LPDL45-12B	12		23.5
LPDL45-15B	15		25.5
LPDL45-20B	20		29.2
LPDL45-25B	25		32.9
LPDL45-30B	30		36.5
LPDL45-35B	35		40.2
LPDL45-[h]B	[h] < 10	2.50	-
	10 ≤ [h]	3.00	-

MATERIAL : A6063  
 FINISH : BLACK ANODIZE  
 DIMENSIONS : mm

### DATA

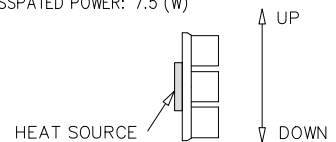


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- ◇ LPDL45-8B
- LPDL45-12B
- LPDL45-20B
- LPDL45-30B
- △ LPDL45-10B
- LPDL45-15B
- ▲ LPDL45-25B
- LPDL45-35B

- DUCTED CONDITION  
 DUMMY HEATER SIZE: 12.7 SQ  
 THERMAL RESISTANCE  
 PRESURE DROP
- NATURAL CONVECTION  
 DUMMY HEATER SIZE: 12.7 SQ  
 DISSIPATED POWER: 7.5 (W)



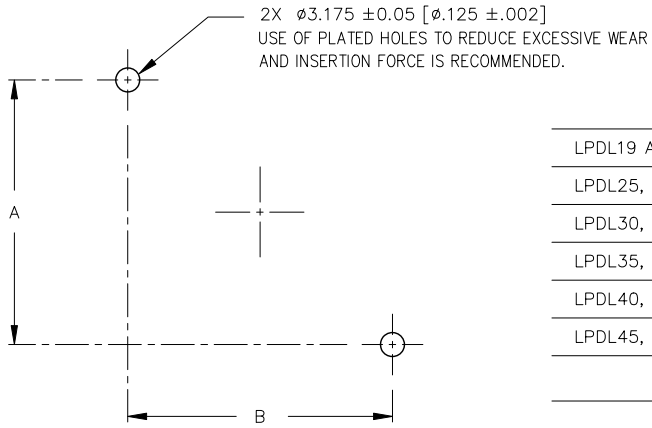
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

REF



PCB HOLE LAYOUT



LPDL19 AND UBL19	22.0	22.0
LPDL25, UBL25 AND NR25	30.0	30.0
LPDL30, UBL30 AND NR30	35.0	35.0
LPDL35, UBL35 AND NR35	40.0	40.0
LPDL40, UBL40 AND NR40	45.0	45.0
LPDL45, UBL45 AND NR45	50.0	50.0
MODEL	A	B

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