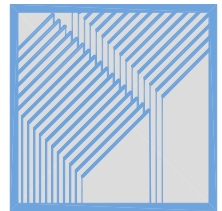


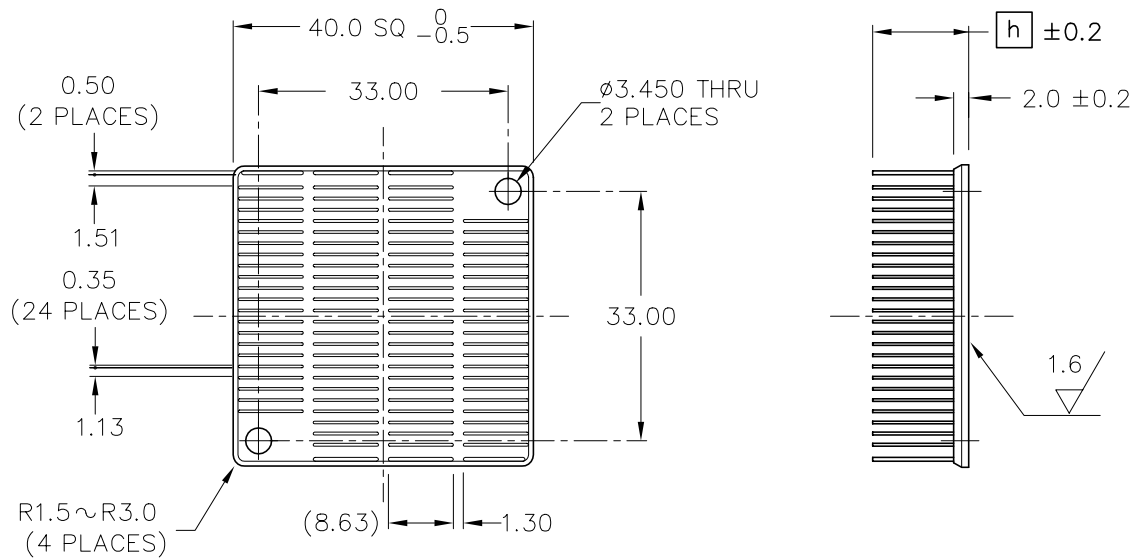
ZM Series ZH Series

Ultra-High Performance Heat Sink
with Attachment Holes

ALPHA



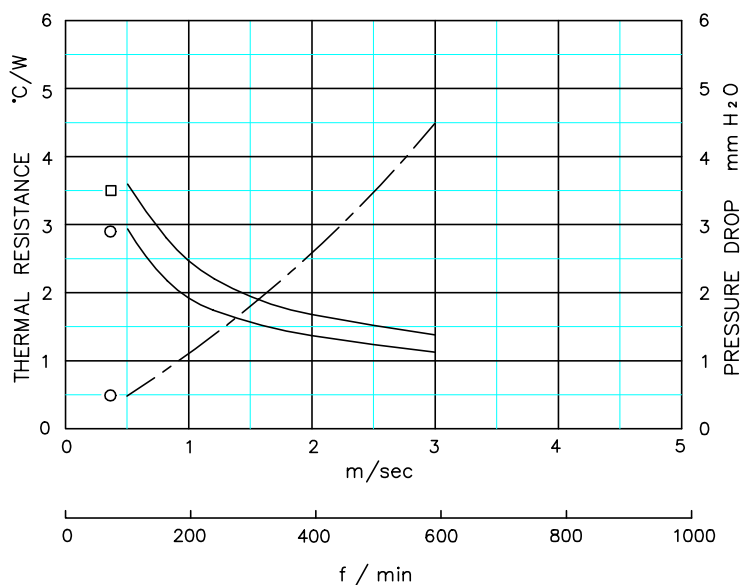
DIM



MODEL	HEIGHT $\boxed{h}$	WEIGHT (grams)
ZM40-9.5B	9.5	14.9
ZM40-12.7B	12.7	17.6

MATERIAL : A 6063
FINISH : BLACK ANODIZE
DIMENSIONS : mm

DATA

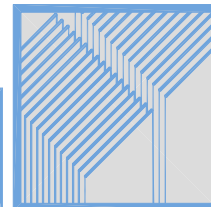


- ZM40-9.5B
- ZM40-12.7B

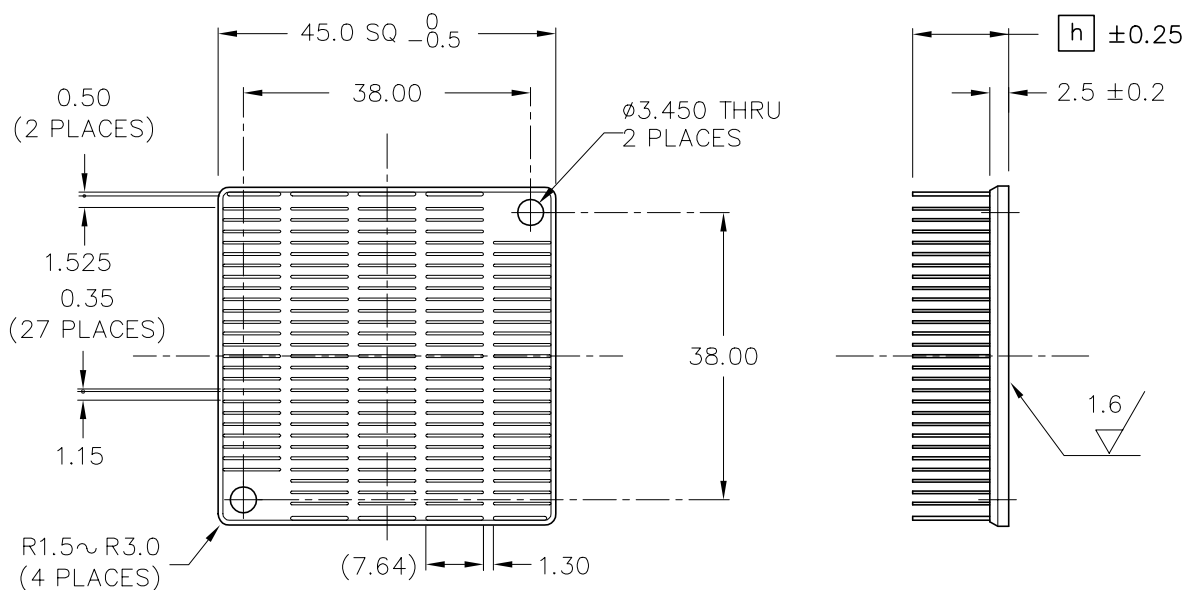
● DUCTED CONDITION
DUMMY HEATER SIZE: 12.7 SQ
THERMAL RESISTANCE _____
PRESURE DROP _____

AIR VELOCITY: DUCTED CONDITION

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

ALPHAUltra-High Performance Heat Sink
with attachment holes**ZM45**

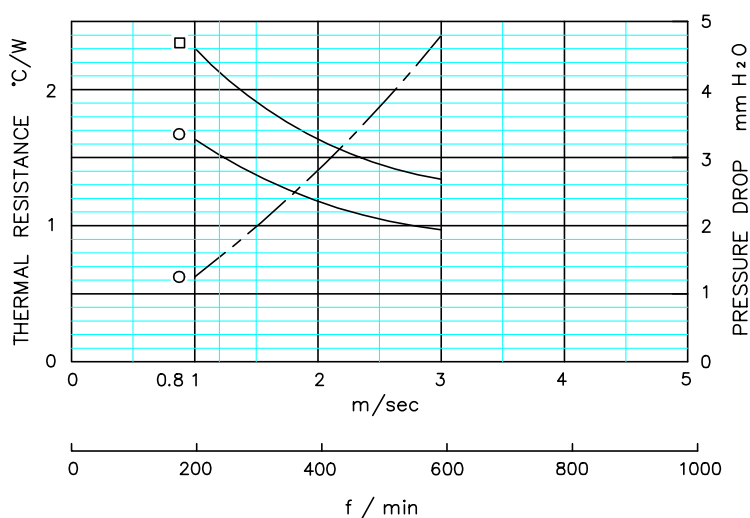
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZM45-9.5B	9.5	20.9
ZM45-12.7B	12.7	24.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZM45-9.5B
 ○ ZM45-12.7B

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

AIR VELOCITY: DUCTED CONDITION

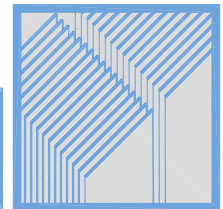
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

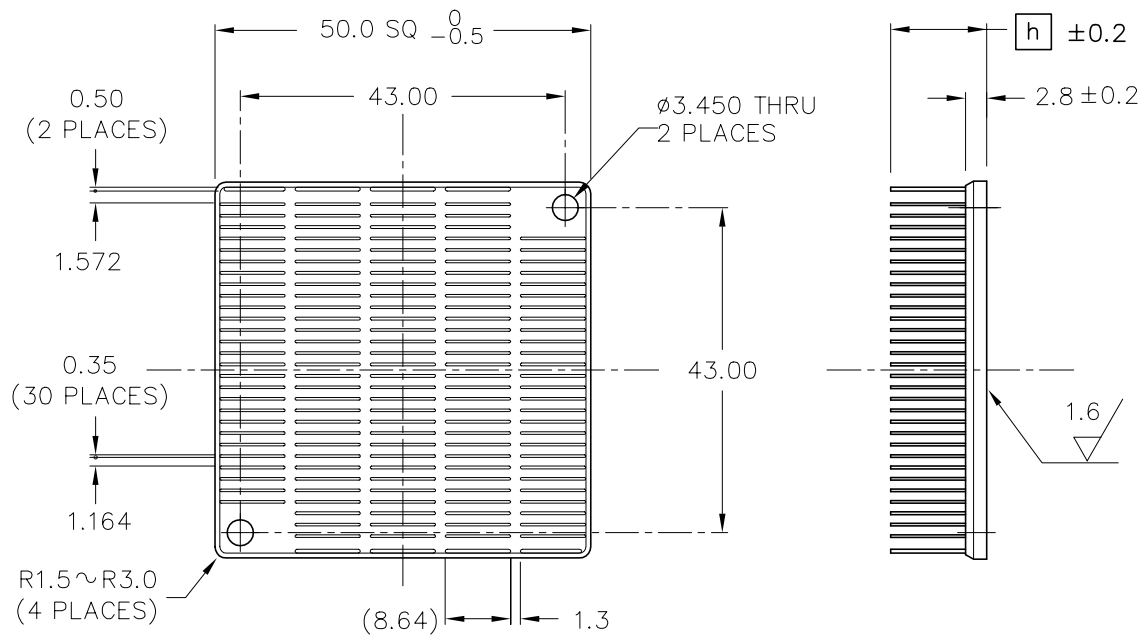
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHA**Ultra-High Performance Heat Sink**
with attachment holes**ZM50**

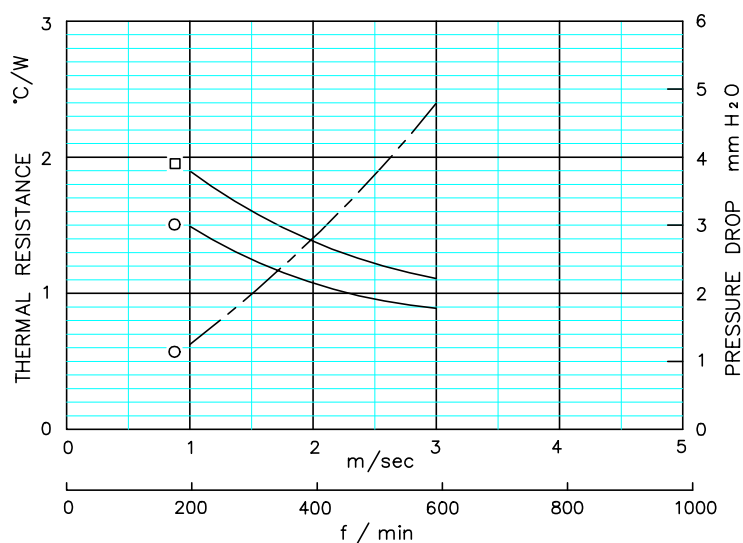
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZM50-9.5B	9.5	26.4
ZM50-12.7B	12.7	30.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZM50-9.5B
 ○ ZM50-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

AIR VELOCITY: DUCTED CONDITION

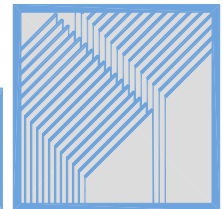
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

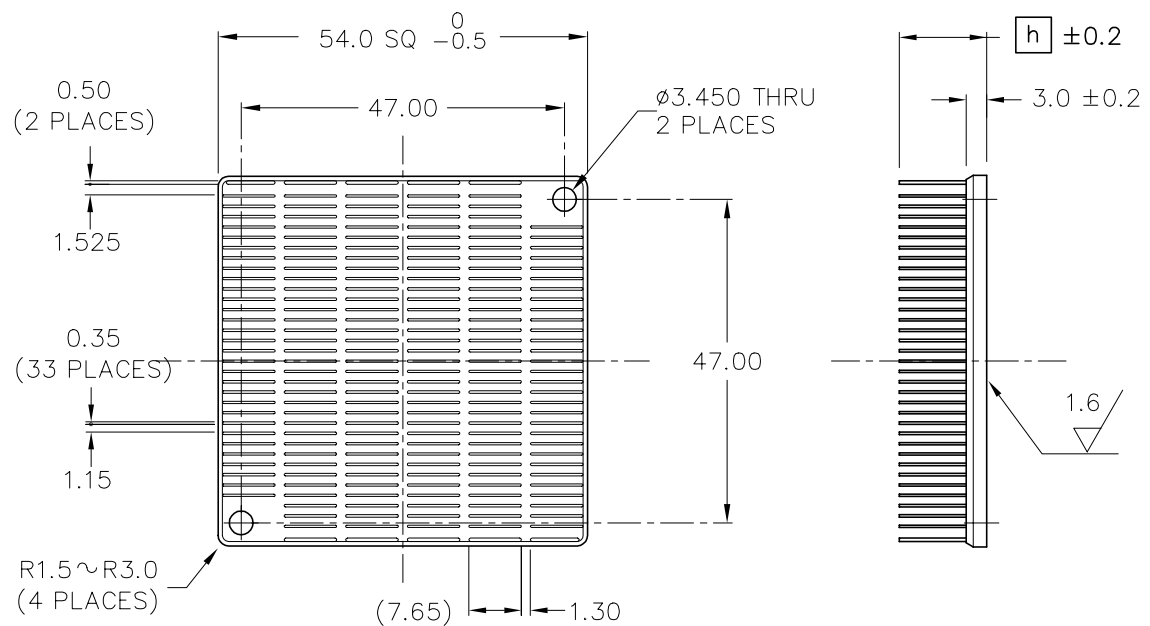
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHAUltra-High Performance Heat Sink
with attachment holes**ZM54**

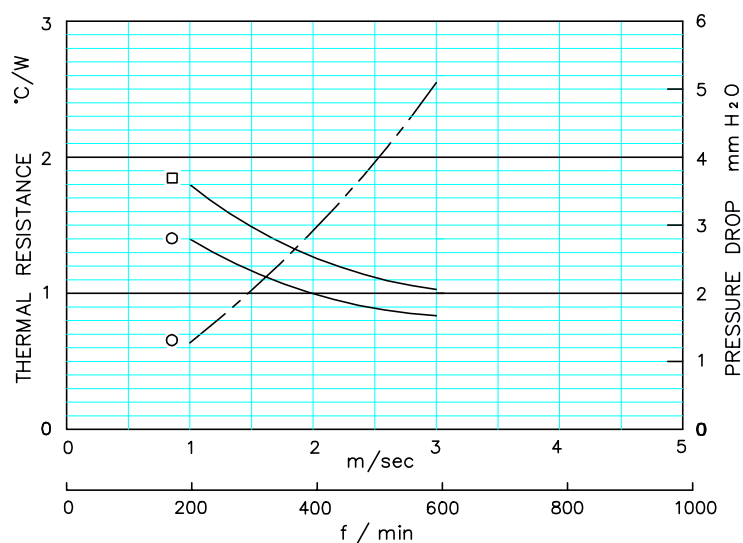
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZM54-9.5B	9.5	32.4
ZM54-12.7B	12.7	37.2

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZM54-9.5B
 ○ ZM54-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

AIR VELOCITY: DUCTED CONDITION

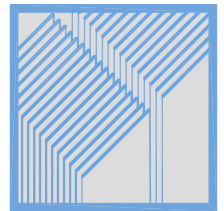
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

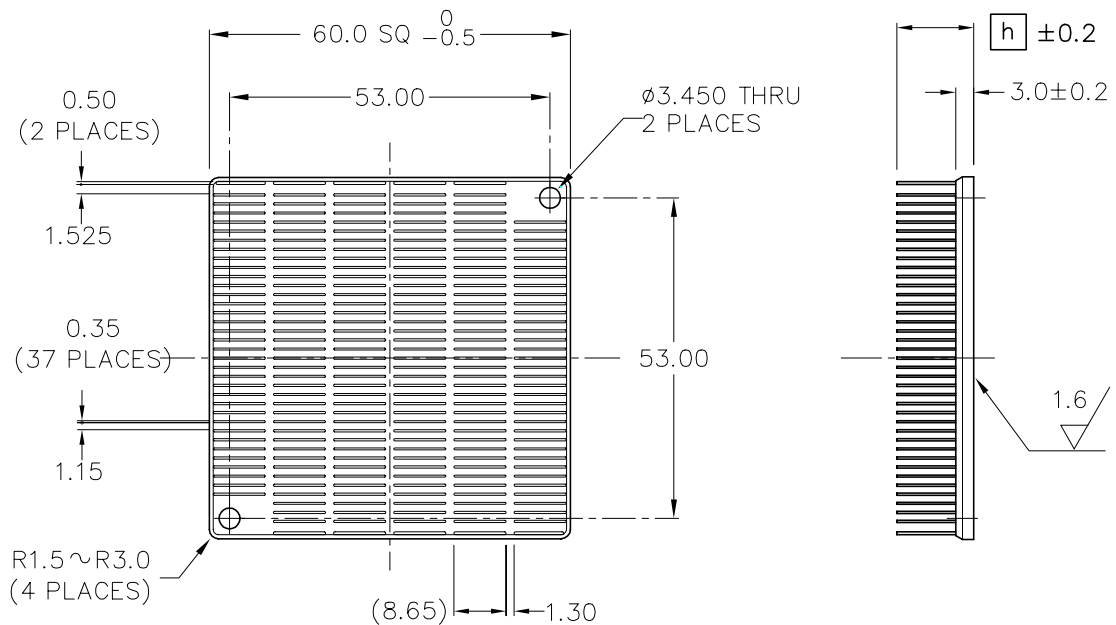
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHA**Ultra-High Performance Heat Sink**
with attachment holes**ZM60**

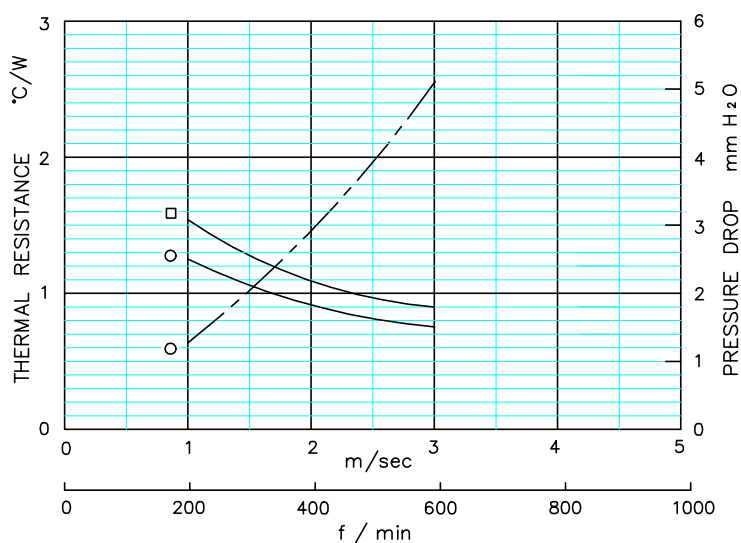
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZM60-9.5B	9.5	40.9
ZM60-12.7B	12.7	46.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



AIR VELOCITY: DUCTED CONDITION

□ ZM60-9.5B
 ○ ZM60-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

■ 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>

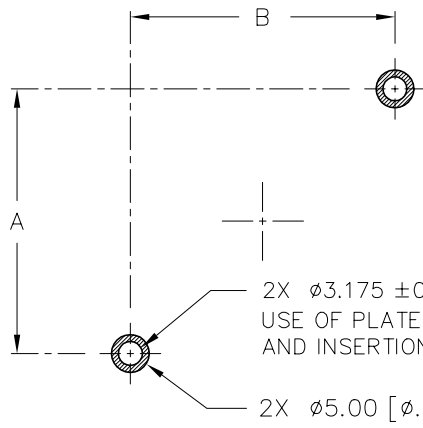
Alpha Novatech, Inc. - a subsidiary of Alpha Company.

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>

REF

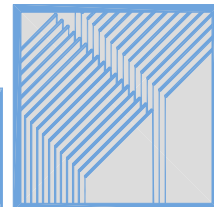


BOARD KEEPOUT PATTERNS

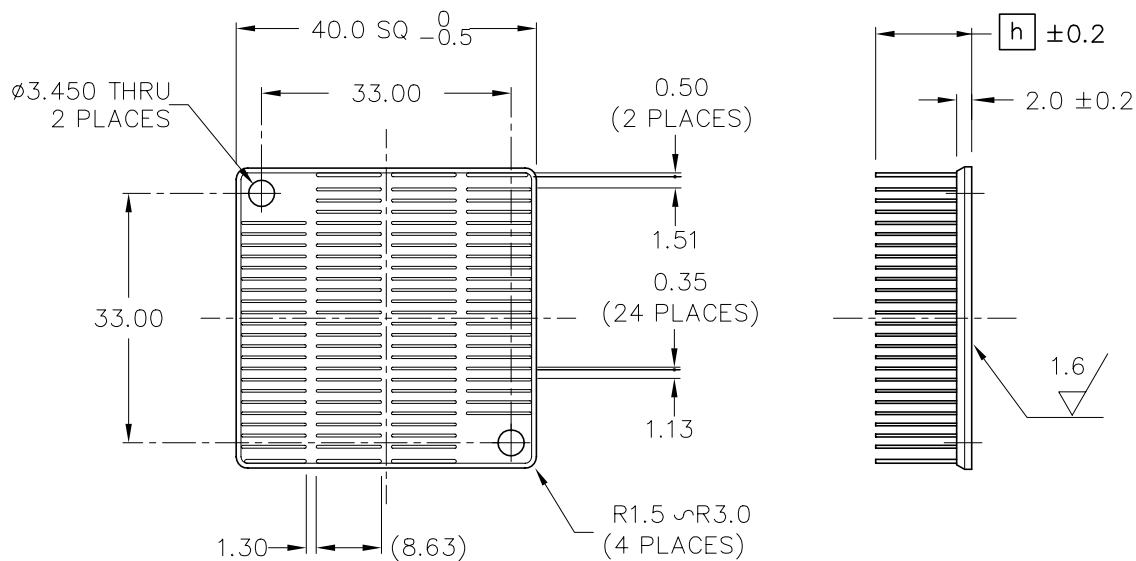


LPDM40, UBM40 AND ZM40	33.0	33.0
LPDM45, UBM45 AND ZM45	38.0	38.0
LPDM50, UBM50 AND ZM50	43.0	43.0
LPDM54, UBM54 AND ZM54	47.0	47.0
LPDM60, UBM60 AND ZM60	53.0	53.0
LPDM70 AND UBM70	63.0	63.0
MODEL	A	B

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

ALPHA**Ultra-High Performance Heat Sink**
with attachment holes**ZH 40**

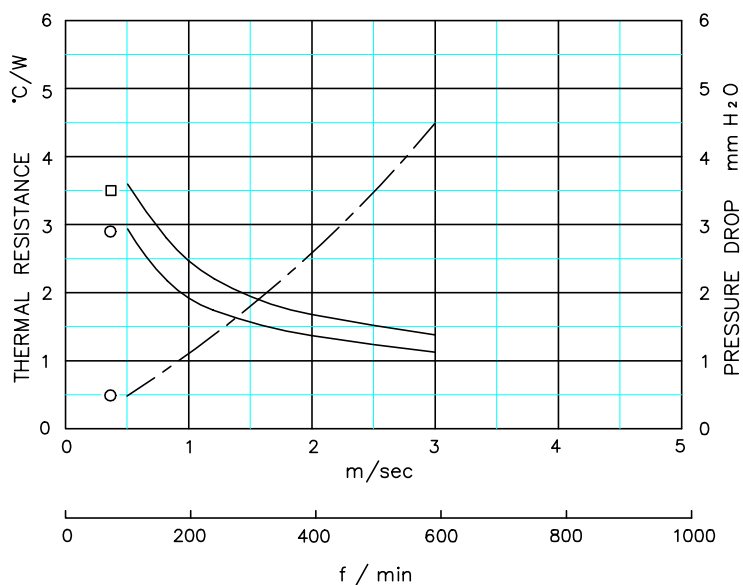
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZH40-9.5B	9.5	14.9
ZH40-12.7B	12.7	17.6

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



AIR VELOCITY: DUCTED CONDITION

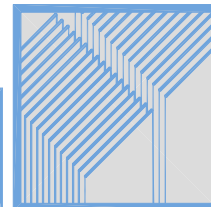
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

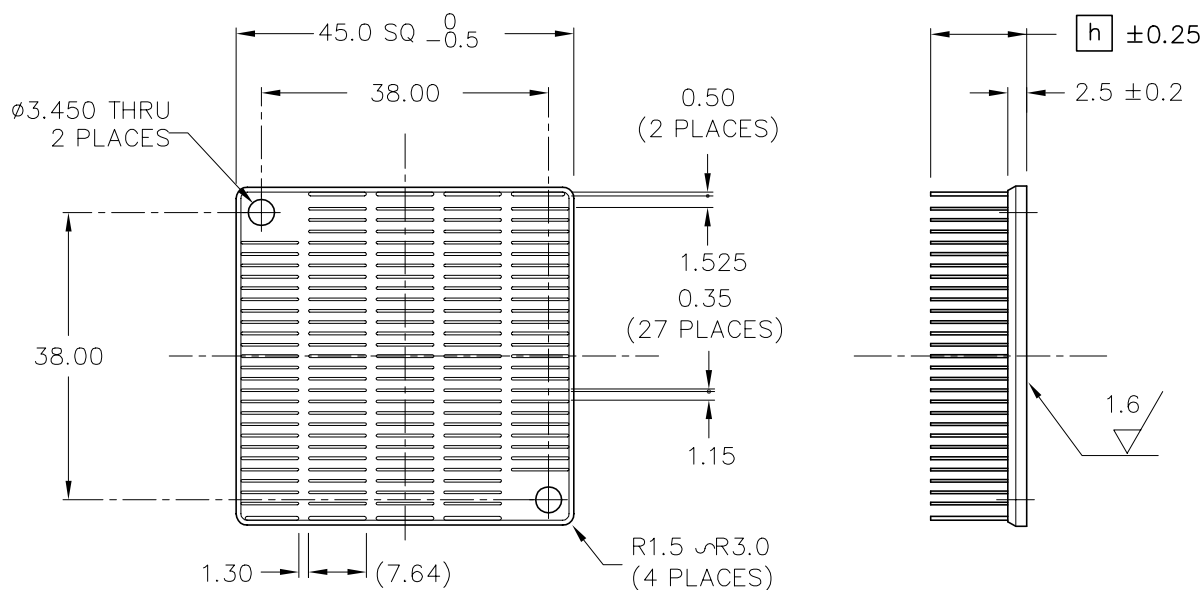
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHAUltra-High Performance Heat Sink
with attachment holes**ZH 45**

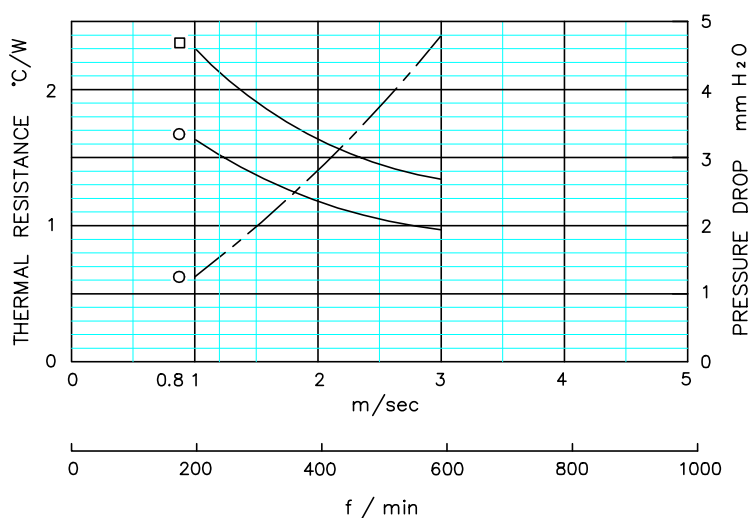
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZH45-9.5B	9.5	20.9
ZH45-12.7B	12.7	24.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZH45-9.5B
 ○ ZH45-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

AIR VELOCITY: DUCTED CONDITION

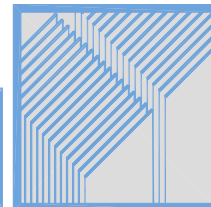
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

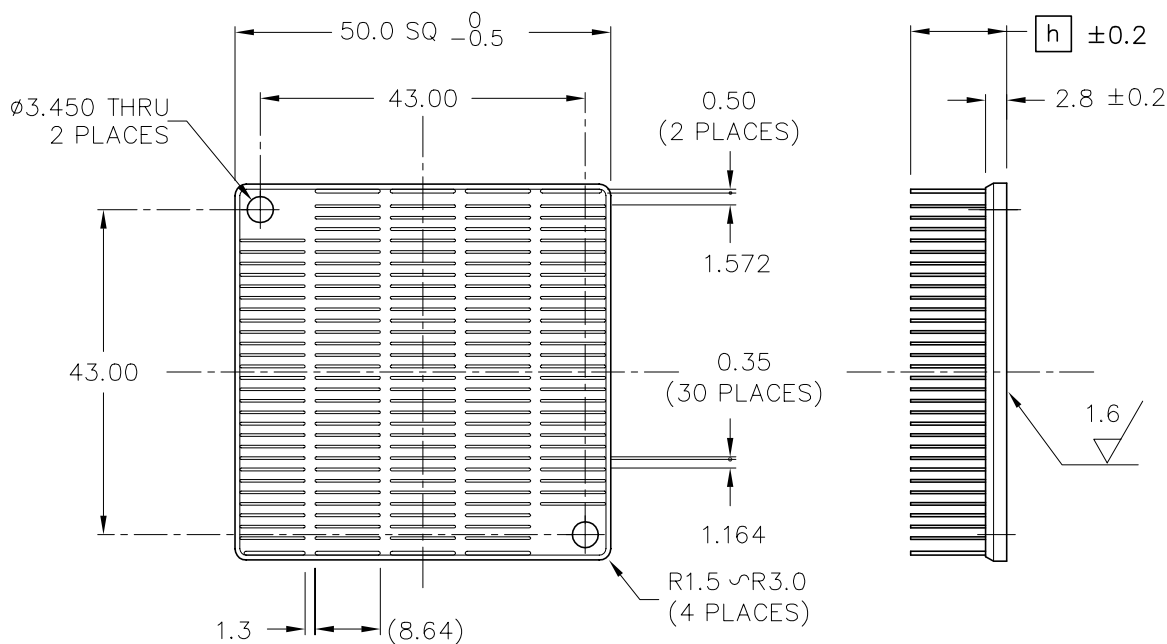
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHA**Ultra-High Performance Heat Sink**
with attachment holes**ZH50**

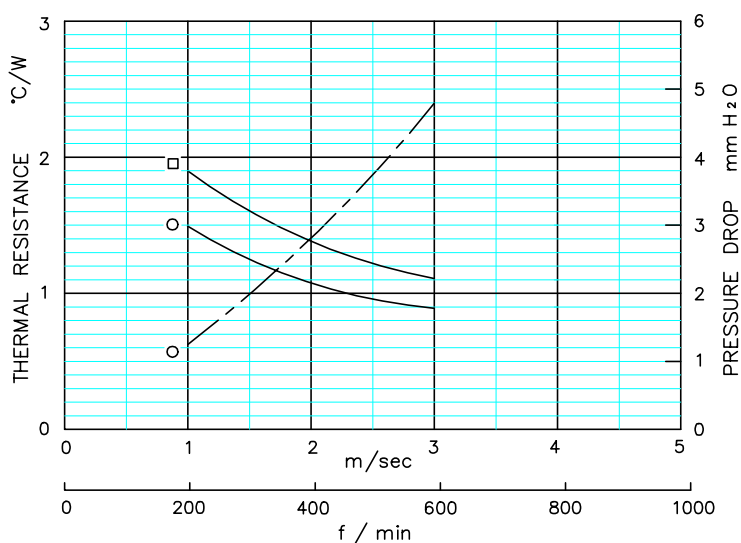
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZH50-9.5B	9.5	26.4
ZH50-12.7B	12.7	30.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZH50-9.5B
 ○ ZH50-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

AIR VELOCITY: DUCTED CONDITION

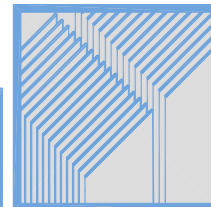
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

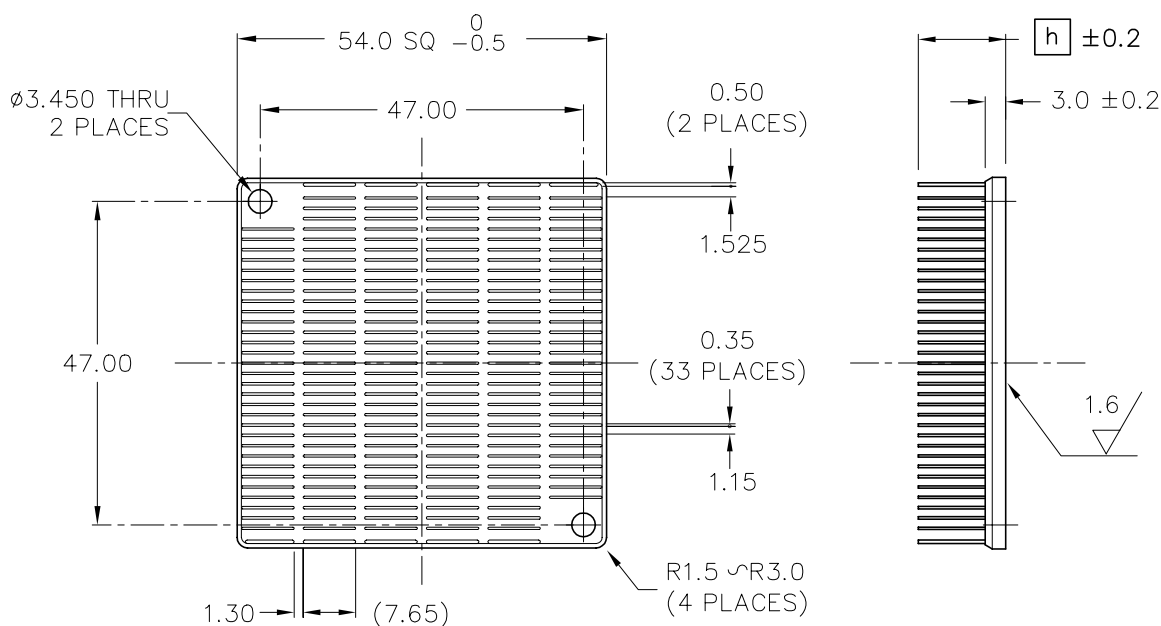
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHAUltra-High Performance Heat Sink
with attachment holes**ZH54**

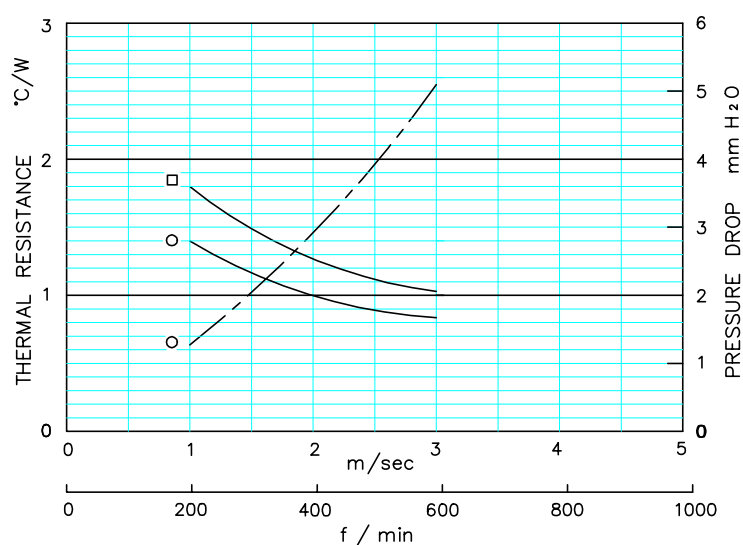
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZH54-9.5B	9.5	32.4
ZH54-12.7B	12.7	37.2

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZH54-9.5B
 ○ ZH54-12.7B

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

AIR VELOCITY: DUCTED CONDITION

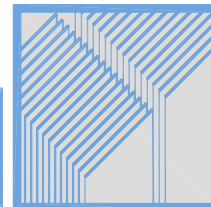
■ BASED ON ALPHA'S STANDARD TEST PROCEDURE.
 REFER TO TECHNICAL INFORMATION.

Alpha Company Ltd.

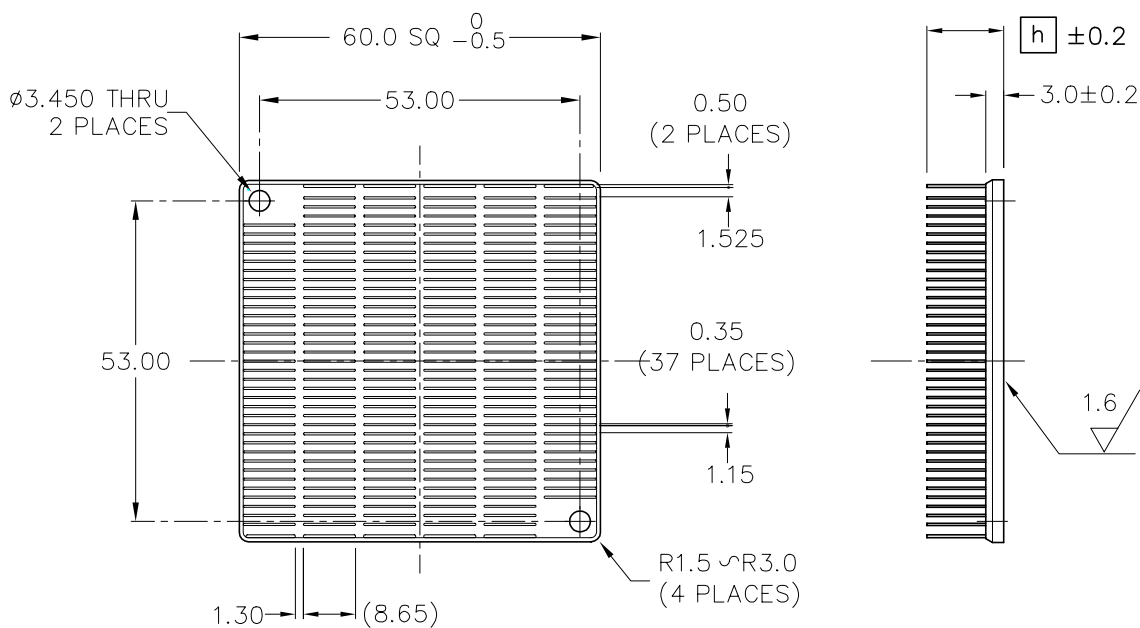
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : <http://www.micforg.co.jp>

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>

ALPHA**Ultra-High Performance Heat Sink**
with attachment holes**ZH60**

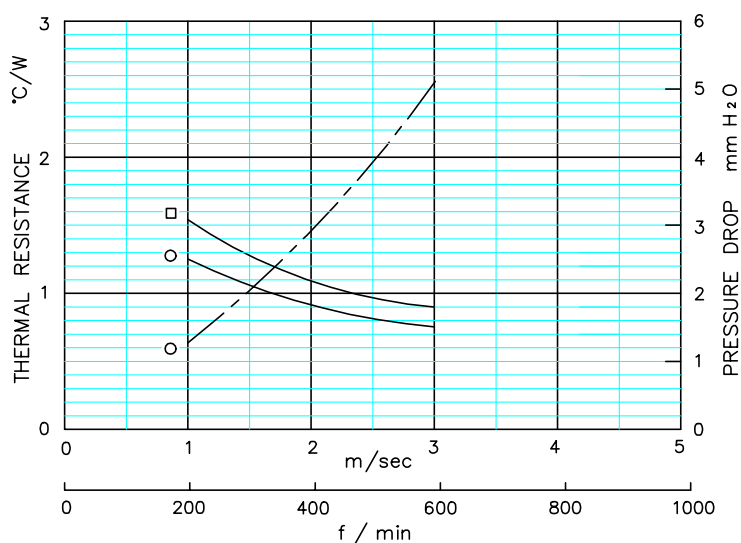
DIM



MODEL	HEIGHT h	WEIGHT (grams)
ZH60-9.5B	9.5	40.9
ZH60-12.7B	12.7	46.7

MATERIAL : A 6063
 FINISH : BLACK ANODIZE
 DIMENSIONS : mm

DATA



□ ZH60-9.5B
 ○ ZH60-12.7B

● DUCTED CONDITION
 DUMMY HEATER SIZE: 12.7 SQ
 THERMAL RESISTANCE ———
 PRESSURE DROP - - -

AIR VELOCITY: DUCTED CONDITION

■ 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>

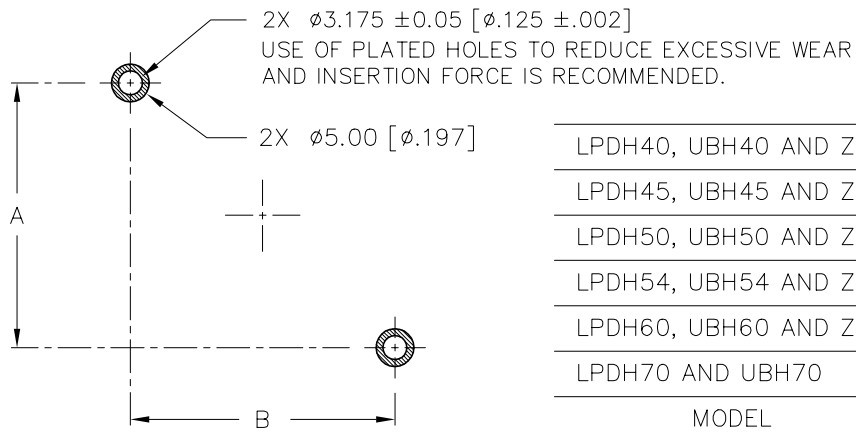
Alpha Novatech, Inc. - a subsidiary of Alpha Company.

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>

REF



BOARD KEEPOUT PATTERNS



LPDH40, UBH40 AND ZH40	33.0	33.0
LPDH45, UBH45 AND ZH45	38.0	38.0
LPDH50, UBH50 AND ZH50	43.0	43.0
LPDH54, UBH54 AND ZH54	47.0	47.0
LPDH60, UBH60 AND ZH60	53.0	53.0
LPDH70 AND UBH70	63.0	63.0
MODEL	A	B

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