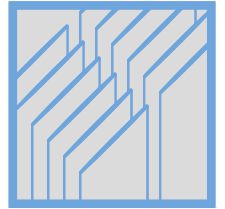


QuickSet Series

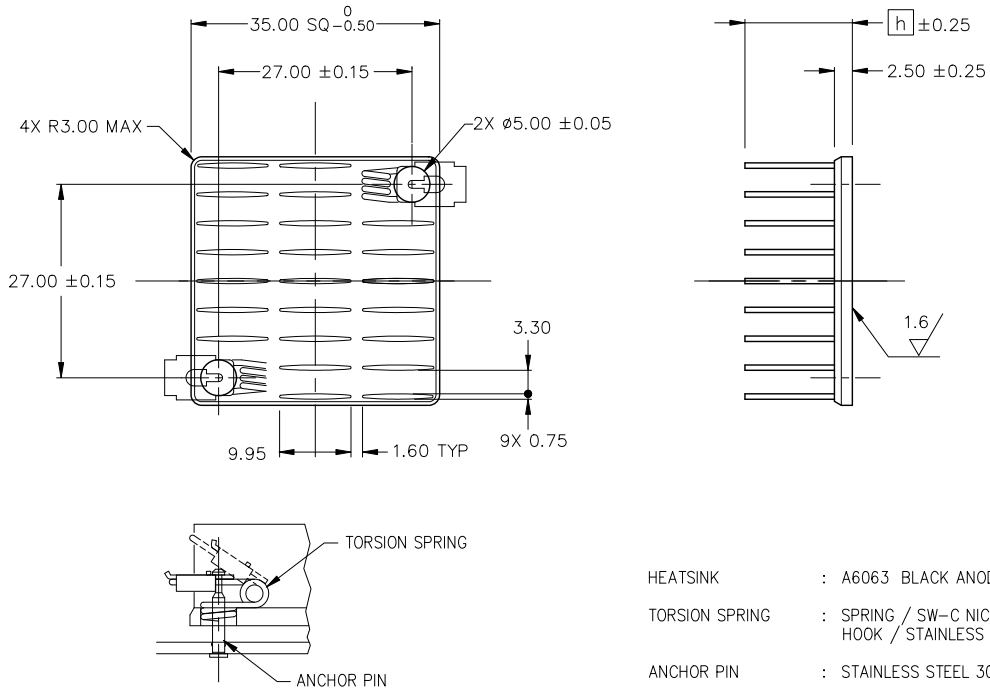
QTLM

QTLH

ALPHA



DIM



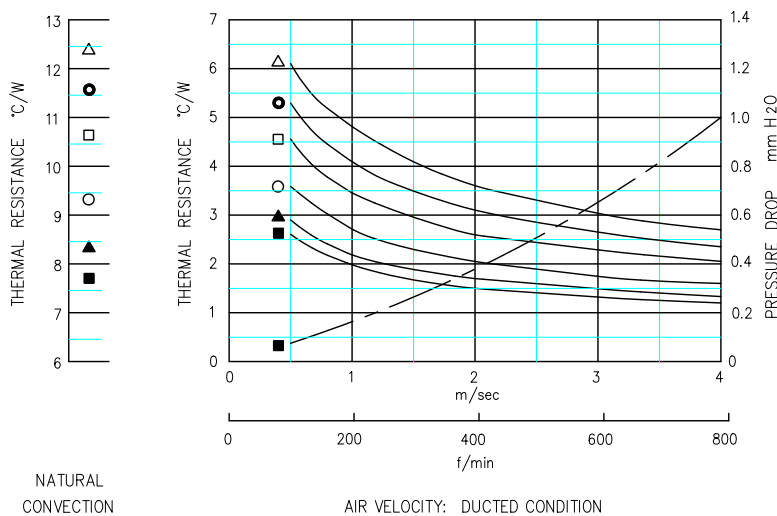
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM35-10B	10	11.0
QTLM35-12B	12	11.7
QTLM35-15B	15	12.8
QTLM35-20B	20	14.7
QTLM35-25B	25	16.6
QTLM35-30B	30	18.5

(SPRING, ANCHOR, TIM NOT INCLUDED)

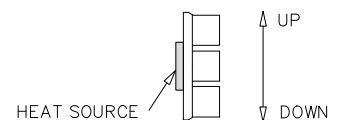
DIMENSIONS : mm

DATA



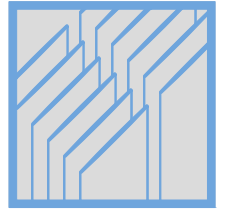
- △ QTLM35-10B
- QTLM35-20B
- QTLM35-12B
- ▲ QTLM35-25B
- QTLM35-15B
- QTLM35-30B

- DUCTED CONDITION
DUMMY HEATER SIZE: 12.7 SQ
THERMAL RESISTANCE
- NATURAL CONVECTION
DUMMY HEATER SIZE: 12.7 SQ
DISSIPATED POWER: 4.7 (W)

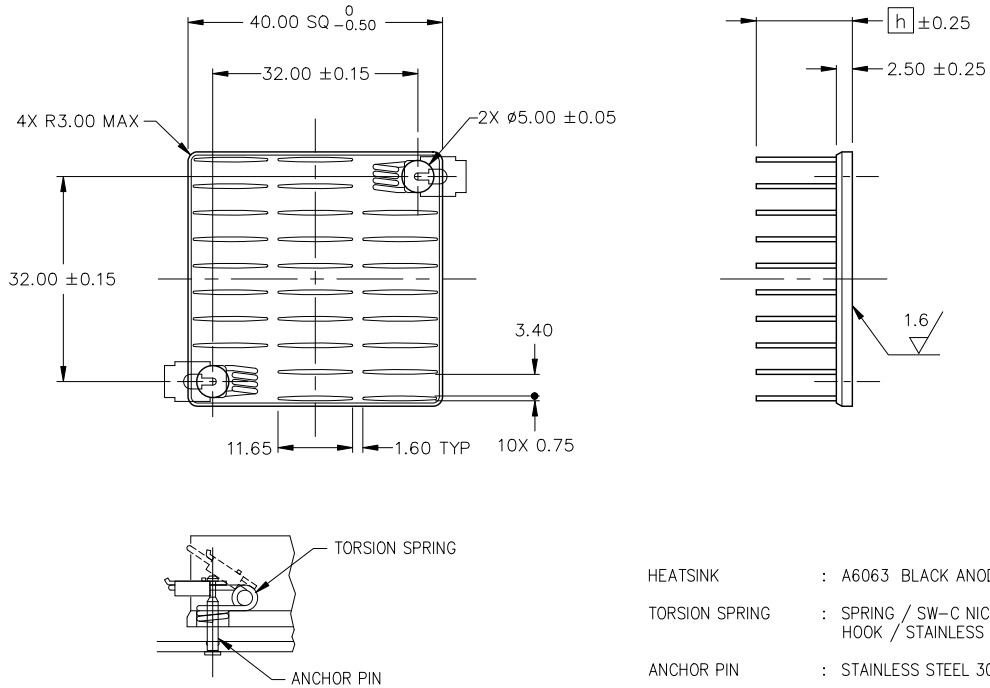


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



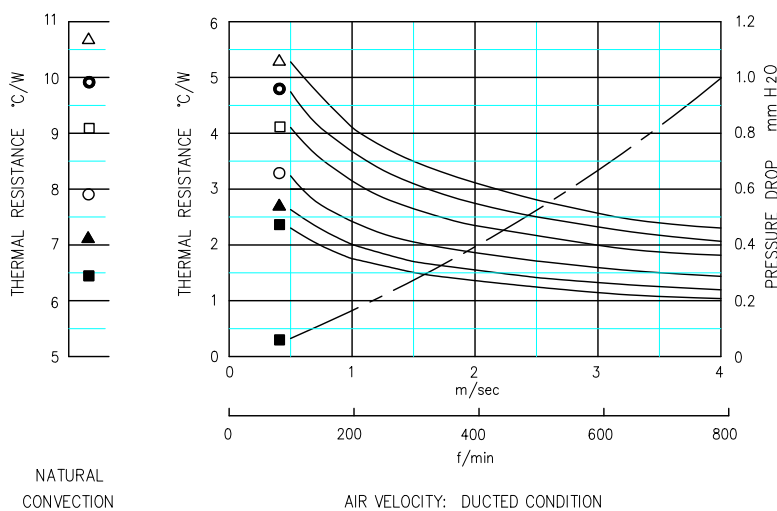
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM40-10B	10	14.4
QTLM40-12B	12	15.4
QTLM40-15B	15	16.9
QTLM40-20B	20	19.4
QTLM40-25B	25	21.9
QTLM40-30B	30	24.3

(SPRING, ANCHOR, TIM NOT INCLUDED)

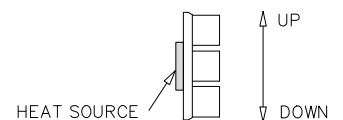
DIMENSIONS : mm

DATA



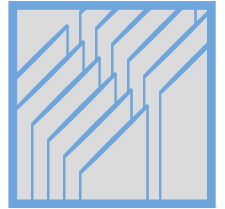
- △ QTLM40-10B
- QTLM40-20B
- QTLM40-12B
- ▲ QTLM40-25B
- QTLM40-15B
- QTLM40-30B

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

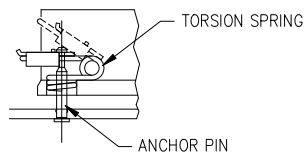
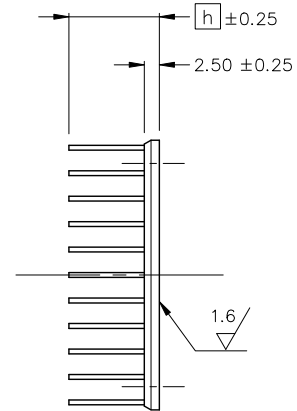
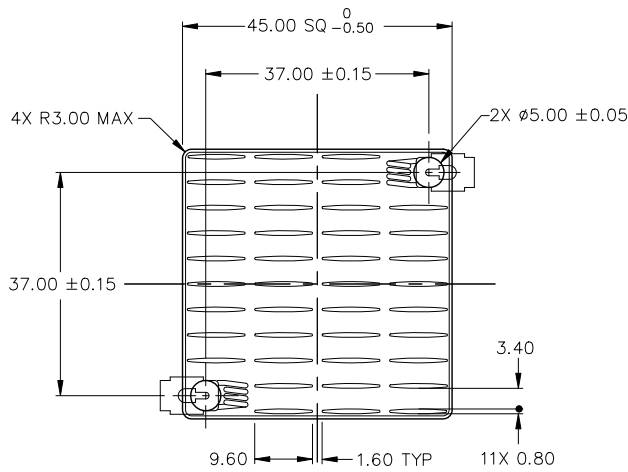


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



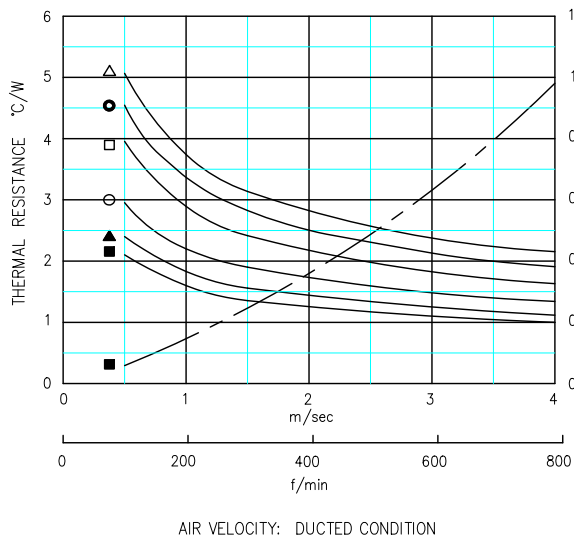
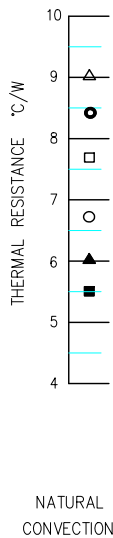
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM45-10B	10	18.5
QTLM45-12B	12	19.8
QTLM45-15B	15	21.8
QTLM45-20B	20	25.1
QTLM45-25B	25	28.4
QTLM45-30B	30	31.7

(SPRING, ANCHOR, TIM NOT INCLUDED)

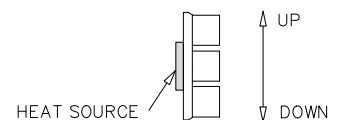
DIMENSIONS : mm

DATA



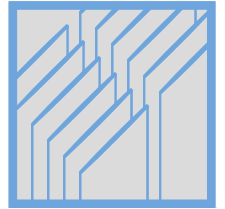
- △ QTLM45-10B
- QTLM45-20B
- QTLM45-12B
- ▲ QTLM45-25B
- QTLM45-15B
- QTLM45-30B

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

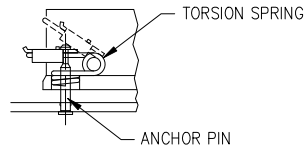
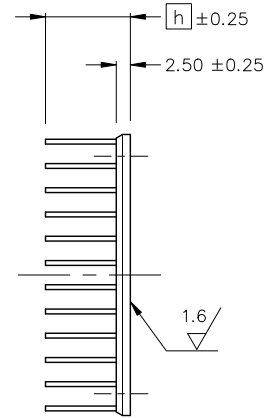
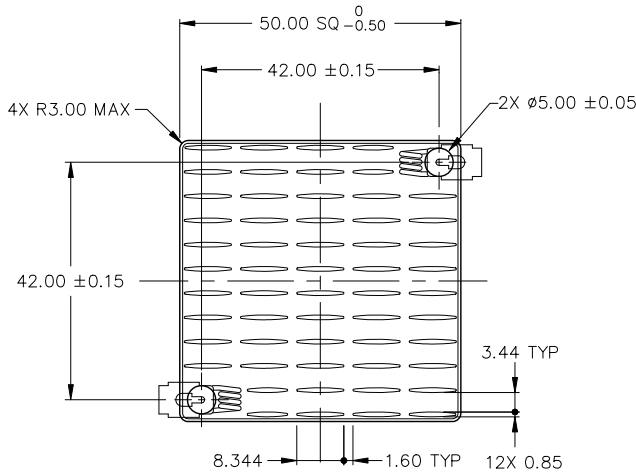


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



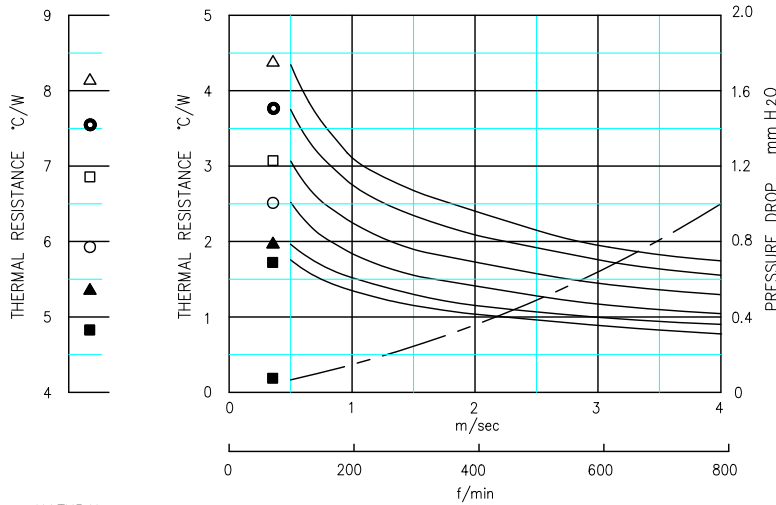
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM50-10B	10	23.0
QTLM50-12B	12	24.7
QTLM50-15B	15	27.2
QTLM50-20B	20	31.5
QTLM50-25B	25	35.7
QTLM50-30B	30	39.9

(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

DATA

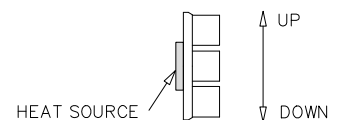


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

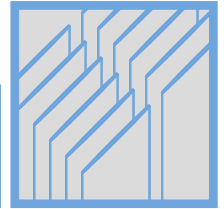
- △ QTLM50-10B
- QTLM50-20B
- QTLM50-12B
- ▲ QTLM50-25B
- QTLM50-15B
- QTLM50-30B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSPATED POWER: 8.0 (W)

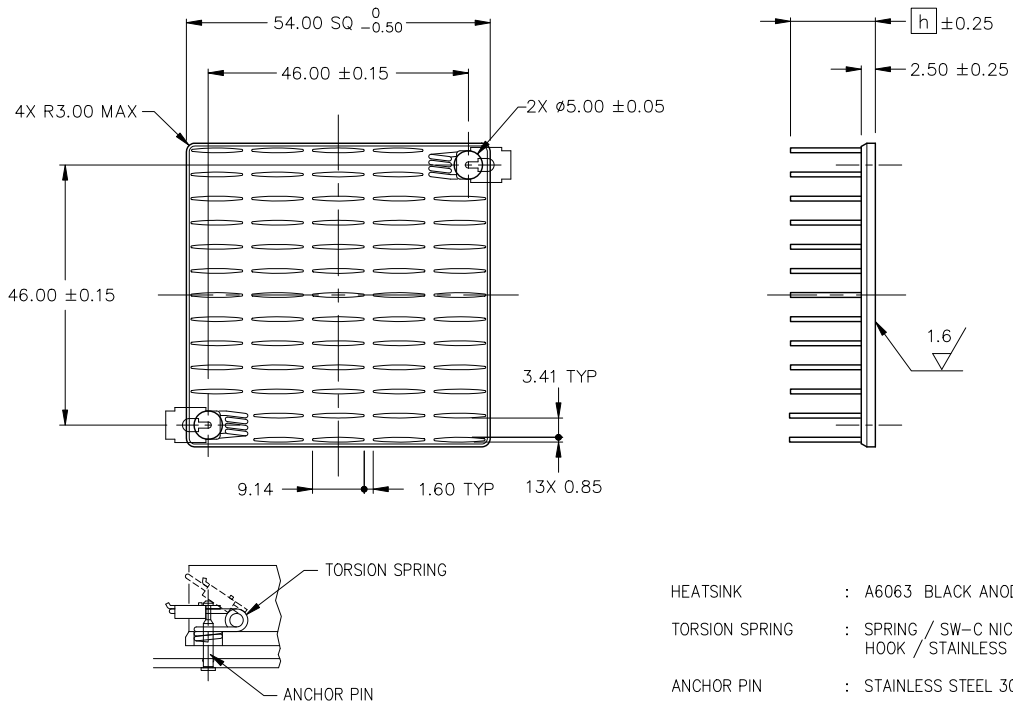


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



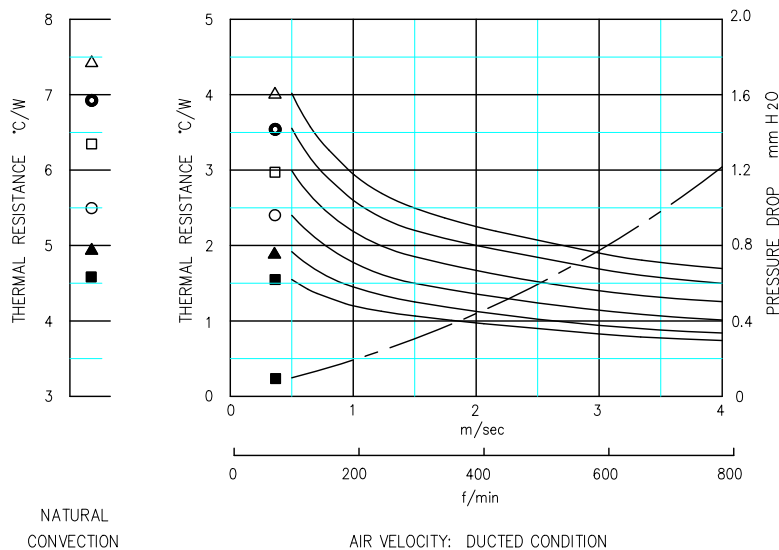
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM54-10B	10	27.1
QTLM54-12B	12	29.1
QTLM54-15B	15	32.1
QTLM54-20B	20	37.2
QTLM54-25B	25	42.2
QTLM54-30B	30	47.3

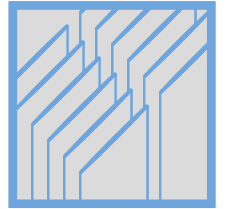
(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

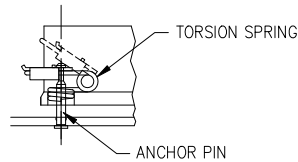
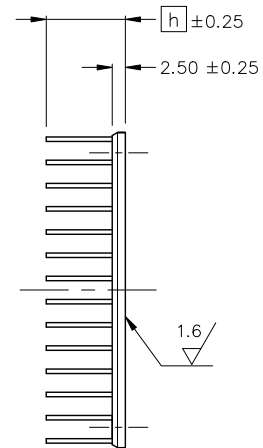
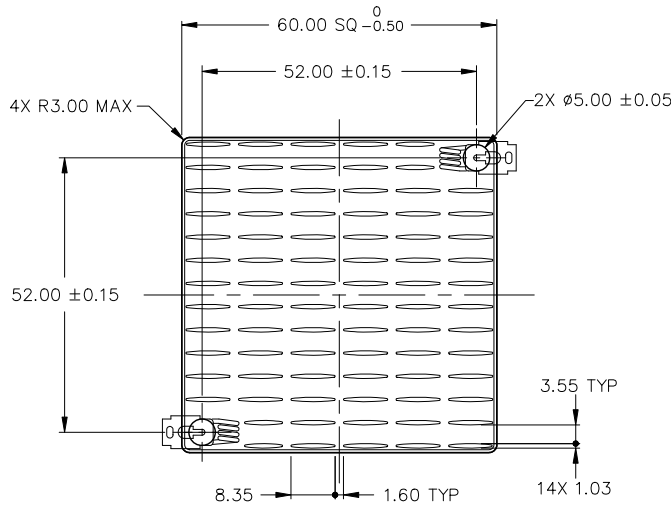
DATA



- Δ QTLM54-10B
 - \bullet QTLM54-12B
 - \square QTLM54-15B
 - \circ QTLM54-20B
 - \blacktriangle QTLM54-25B
 - \blacksquare QTLM54-30B
 - DUCTED CONDITION
 - NATURAL CONVECTION
 - DUMMY HEATER SIZE: 12.7 SQ
 - THERMAL RESISTANCE
 - PRESURE DROP
 - DUMMY HEATER SIZE: 12.7 SQ
 - DISSPATED POWER: 8.3 (W)
- HEAT SOURCE
- NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING
- BASED ON ALPHA'S STANDARD TEST PROCEDURE. REFER TO TECHNICAL INFORMATION.



DIM



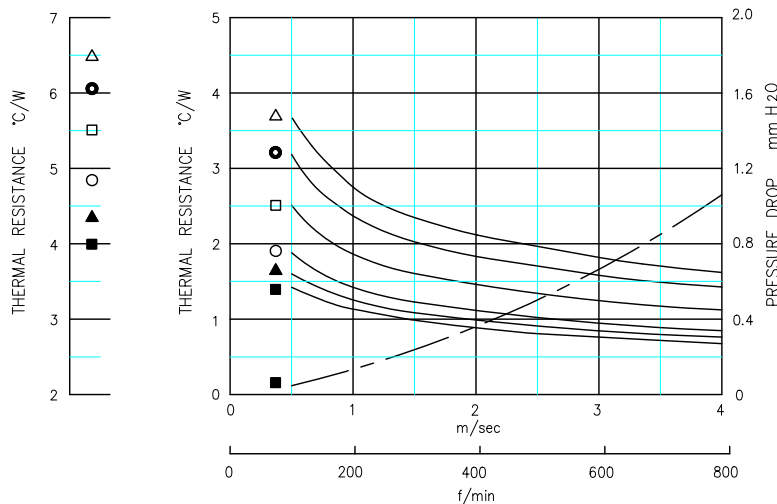
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLM60-10B	10	33.1
QTLM60-12B	12	35.5
QTLM60-15B	15	39.2
QTLM60-20B	20	45.2
QTLM60-25B	25	51.3
QTLM60-30B	30	57.3

(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

DATA

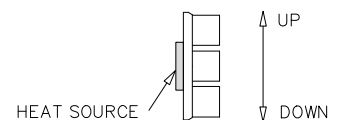


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- △ QTLM60-10B
- QTLM60-20B
- QTLM60-12B
- ▲ QTLM60-25B
- QTLM60-15B
- QTLM60-30B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSPATED POWER: 9.9 (W)



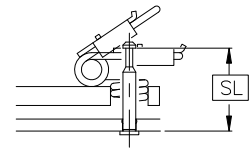
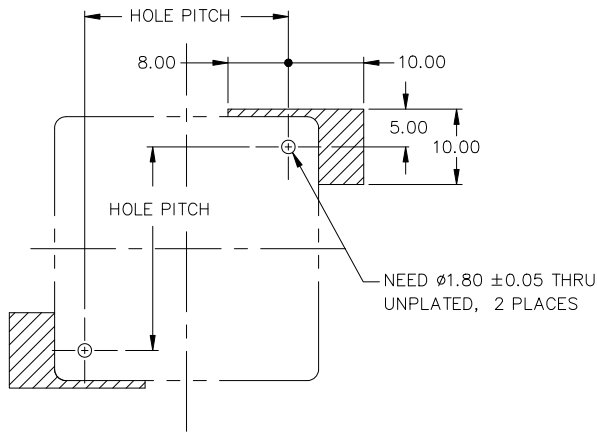
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

REF



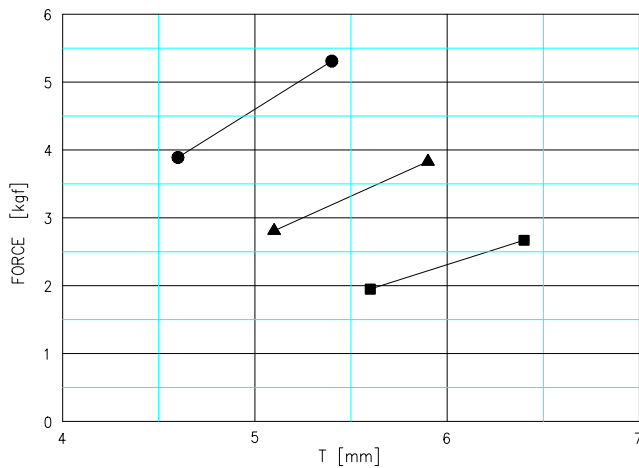
● PCB HOLE PATTERN, SUGGESTED KEEP-OUT AREA & ANCHOR PIN



	LENGTH [SL]
ANCR-8	8.00
ANCR-9	9.00
ANCR-10	10.00
ANCR-11	11.00
ANCR-12	12.00
ANCR-13	13.00
ANCR-14	14.00
ANCR-15	15.00
ANCR-16	16.00

DIMENSIONS : mm

● ATTACHMENT FORCE, TORSION SPRING AND ANCHOR PIN



TORSION SPRING

- S001YZ4M (SPRING WIRE DIA. 1.0)
- ▲ S001YZ4N (SPRING WIRE DIA. 0.9)
- S001YZ4J (SPRING WIRE DIA. 0.8)

T =	+	+	+
ANCR-8 : + 3.0	CHIP HEIGHT	HEATSINK BASE THICK	PCB THICK
ANCR-9 : + 2.0			
ANCR-10 : + 1.0			
ANCR-11 : 0			
ANCR-12 : - 1.0			
ANCR-13 : - 2.0			
ANCR-14 : - 3.0			
ANCR-14 : - 4.0			
ANCR-16 : - 5.0			

● ANCOR PIN AND TORSION SPRING COMBINATIONS CAN BE SPECIFIED FOR EACH PARTICULAR PCB THICKNESS AND CHIP HEIGHT.

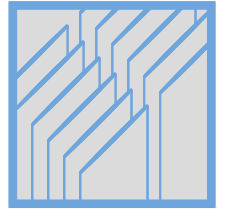
PLEASE VISIT OUR WEBSITE www.micforg.co.jp OR CONTACT ALPHA SALES.

Alpha Company Ltd.

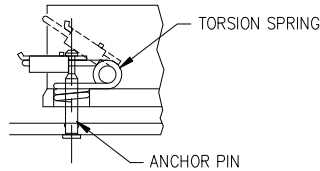
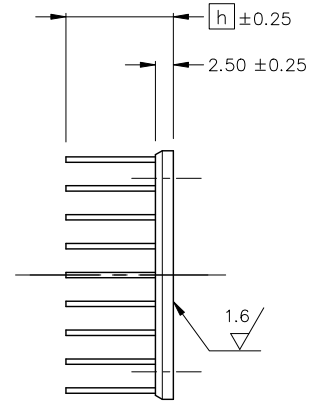
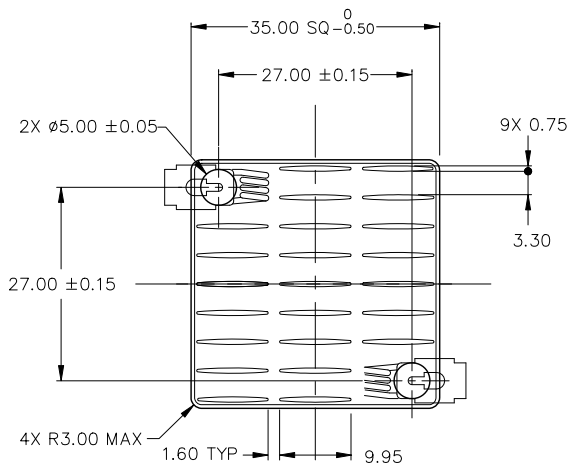
256-1 UEDA, NUMAZU-CITY SHIZUOKA-PREF., JAPAN
 PHONE +81(55)966 0789
 FAX +81(55)966 9192
 E mail : alpha@micforg.co.jp
 URL : www.micforg.co.jp

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 : www.alphanovatech.com



DIM



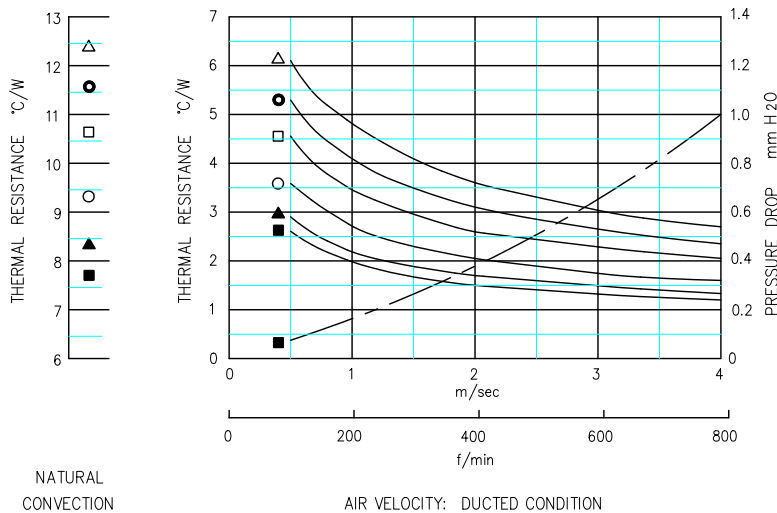
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH35-10B	10	11.0
QTLH35-12B	12	11.7
QTLH35-15B	15	12.8
QTLH35-20B	20	14.7
QTLH35-25B	25	16.6
QTLH35-30B	30	18.5

(SPRING, ANCHOR, TIM NOT INCLUDED)

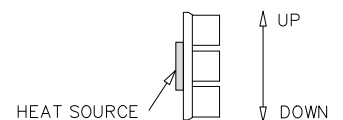
DIMENSIONS : mm

DATA



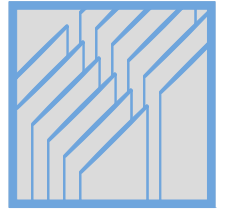
- △ QTLH35-10B
- QTLH35-20B
- QTLH35-12B
- ▲ QTLH35-25B
- QTLH35-15B
- QTLH35-30B

- 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)

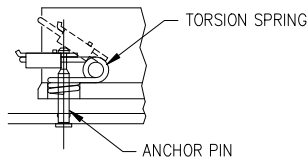
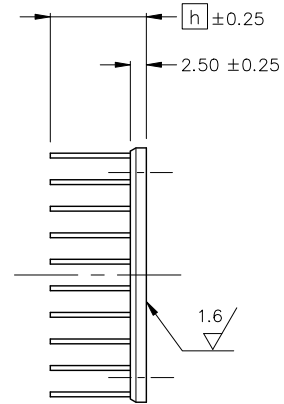
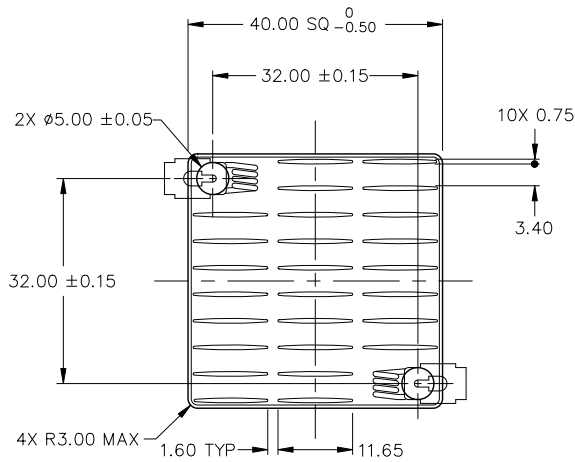


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



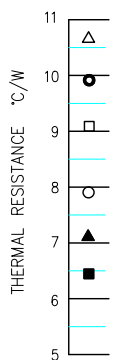
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH40-10B	10	14.4
QTLH40-12B	12	15.4
QTLH40-15B	15	16.9
QTLH40-20B	20	19.4
QTLH40-25B	25	21.9
QTLH40-30B	30	24.3

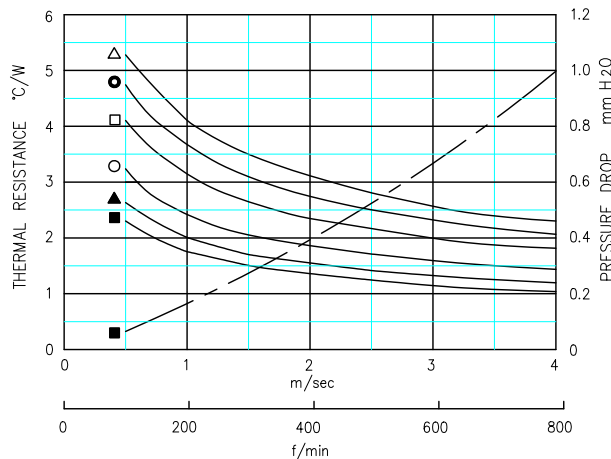
(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

DATA



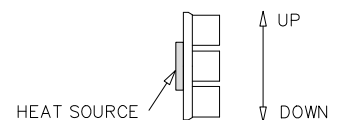
NATURAL CONVECTION



AIR VELOCITY: DUCTED CONDITION

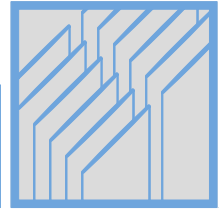
- △ QTLH40-10B
- QTLH40-20B
- QTLH40-12B
- ▲ QTLH40-25B
- QTLH40-15B
- QTLH40-30B

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

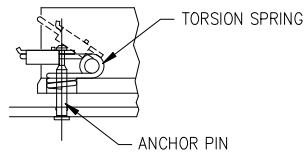
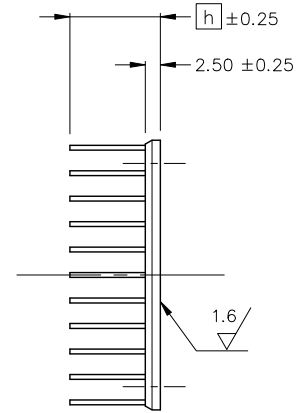
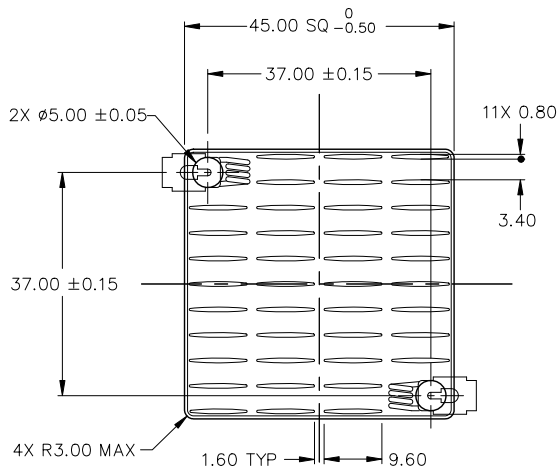


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



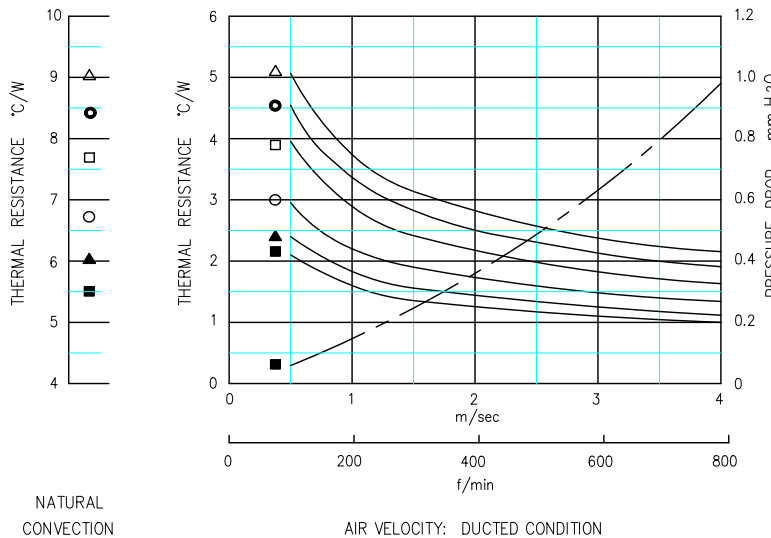
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH45-10B	10	18.5
QTLH45-12B	12	19.8
QTLH45-15B	15	21.8
QTLH45-20B	20	25.1
QTLH45-25B	25	28.4
QTLH45-30B	30	31.7

(SPRING, ANCHOR, TIM NOT INCLUDED)

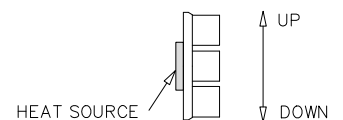
DIMENSIONS : mm

DATA



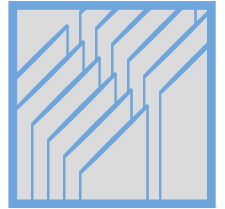
- △ QTLH45-10B
- QTLH45-20B
- QTLH45-12B
- ▲ QTLH45-25B
- QTLH45-15B
- QTLH45-30B

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

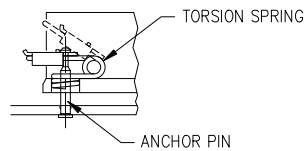
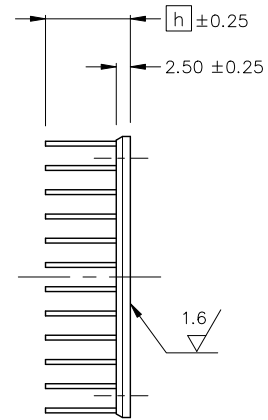
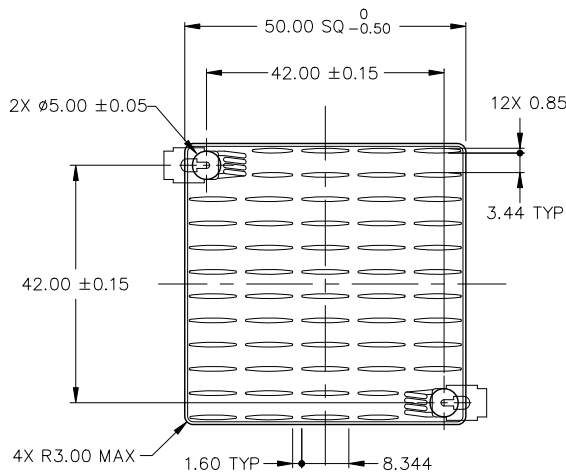


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



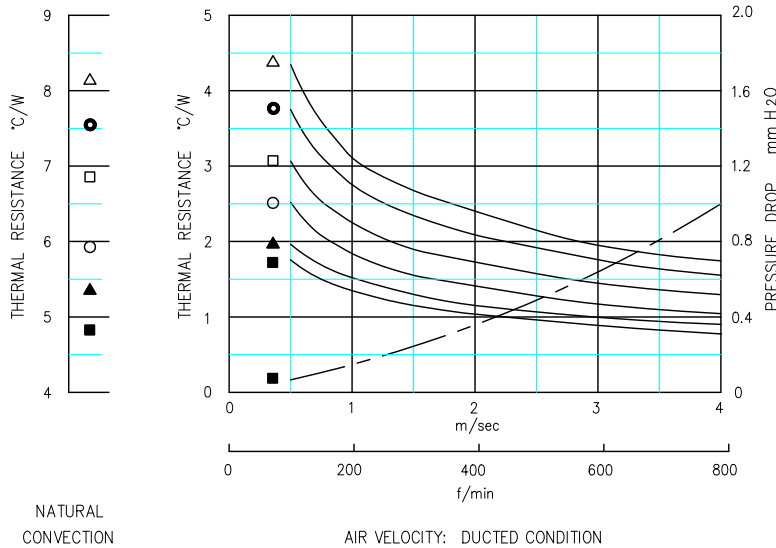
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH50-10B	10	23.0
QTLH50-12B	12	24.7
QTLH50-15B	15	27.2
QTLH50-20B	20	31.5
QTLH50-25B	25	35.7
QTLH50-30B	30	39.9

(SPRING, ANCHOR, TIM NOT INCLUDED)

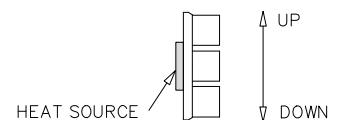
DIMENSIONS : mm

DATA



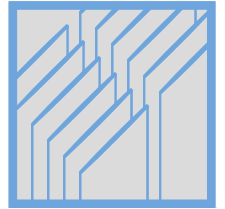
- △ QTLH50-10B
- QTLH50-20B
- QTLH50-12B
- ▲ QTLH50-25B
- QTLH50-15B
- QTLH50-30B

- DUCTED CONDITION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- DISSPATED POWER: 8.0 (W)

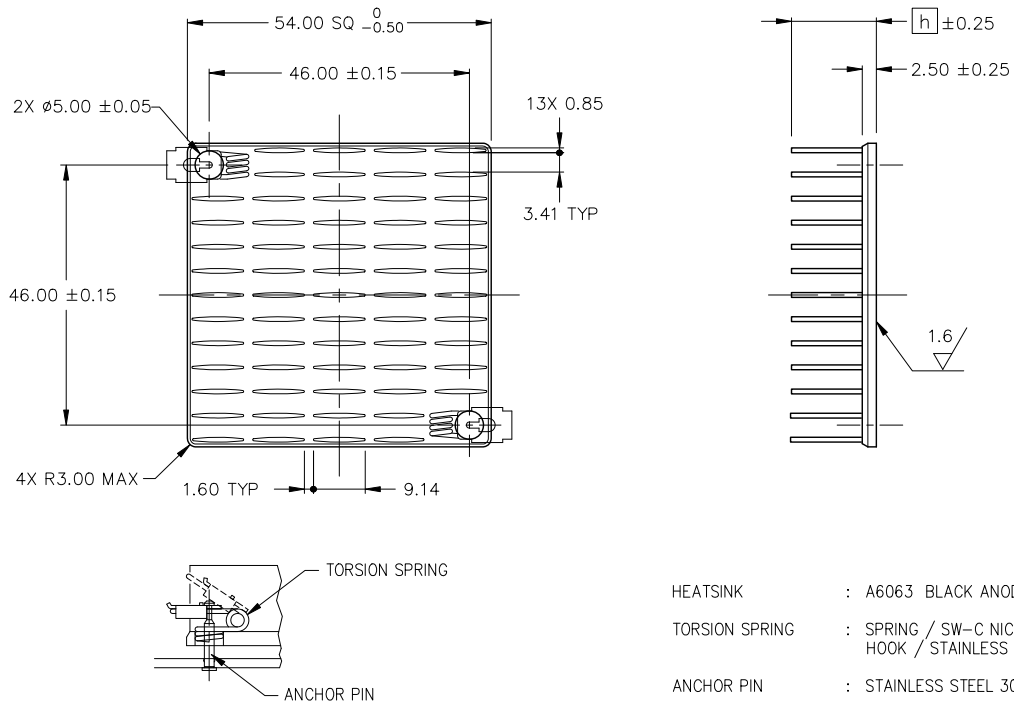


NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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



DIM



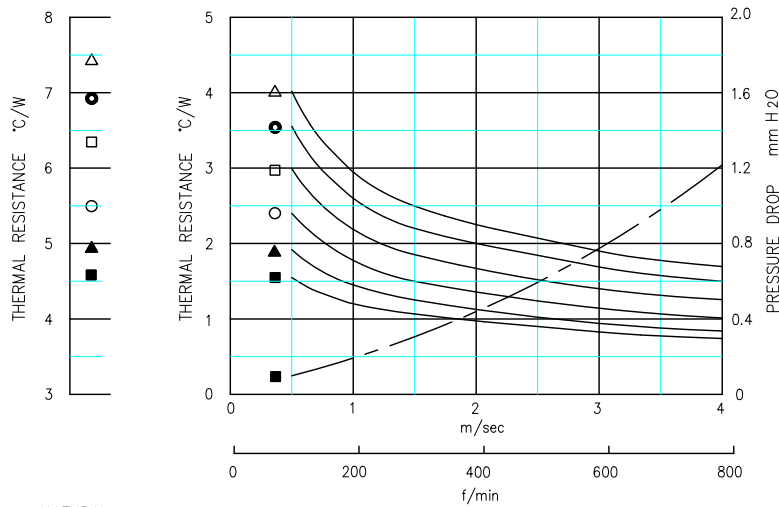
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH54-10B	10	27.1
QTLH54-12B	12	29.1
QTLH54-15B	15	32.1
QTLH54-20B	20	37.2
QTLH54-25B	25	42.2
QTLH54-30B	30	47.3

(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

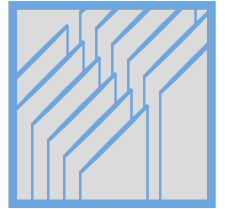
DATA



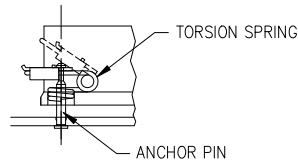
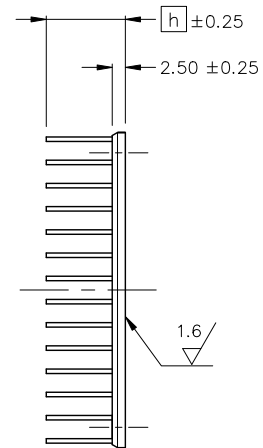
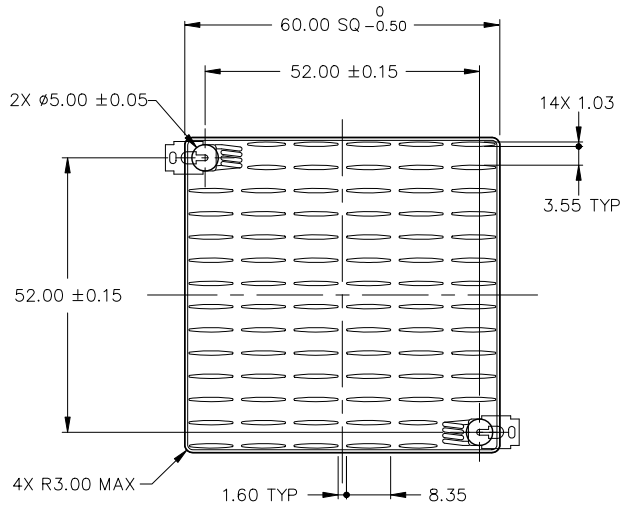
NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING
 ■ BASED ON ALPHA'S STANDARD TEST PROCEDURE. REFER TO TECHNICAL INFORMATION.



DIM



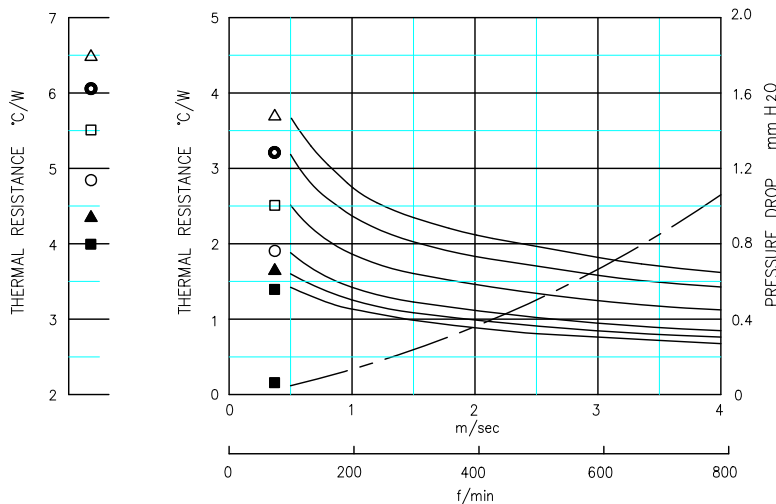
- HEATSINK : A6063 BLACK ANODIZE
- TORSION SPRING : SPRING / SW-C NICKEL PRECOATED HOOK / STAINLESS STEEL 304
- ANCHOR PIN : STAINLESS STEEL 303

BASIC HEATSINK MODEL	HEIGHT [h]	WEIGHT (grams)
QTLH60-10B	10	33.1
QTLH60-12B	12	35.5
QTLH60-15B	15	39.2
QTLH60-20B	20	45.2
QTLH60-25B	25	51.3
QTLH60-30B	30	57.3

(SPRING, ANCHOR, TIM NOT INCLUDED)

DIMENSIONS : mm

DATA

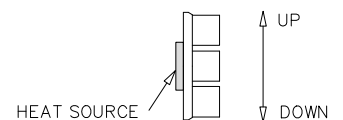


NATURAL CONVECTION

AIR VELOCITY: DUCTED CONDITION

- △ QTLH60-10B
- QTLH60-12B
- QTLH60-15B
- QTLH60-20B
- ▲ QTLH60-25B
- QTLH60-30B

- DUCTED CONDITION
- NATURAL CONVECTION
- DUMMY HEATER SIZE: 12.7 SQ
- THERMAL RESISTANCE
- PRESURE DROP
- DUMMY HEATER SIZE: 12.7 SQ
- DISSPATED POWER: 9.9 (W)



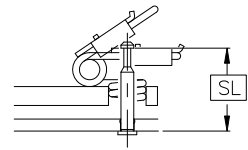
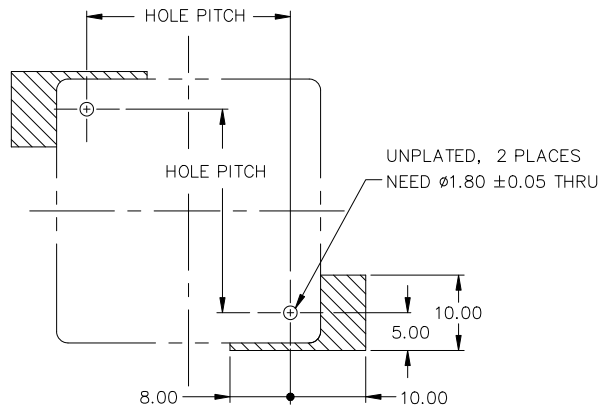
NOTE ORIENTATION OF HEAT SINK USED FOR NATURAL CONVECTION TESTING

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

REF



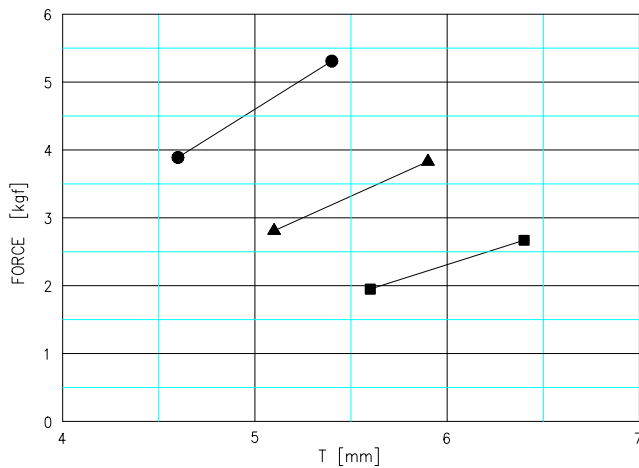
● PCB HOLE PATTERN, SUGGESTED KEEP-OUT AREA & ANCHOR PIN



	LENGTH [SL]
ANCR-8	8.00
ANCR-9	9.00
ANCR-10	10.00
ANCR-11	11.00
ANCR-12	12.00
ANCR-13	13.00
ANCR-14	14.00
ANCR-15	15.00
ANCR-16	16.00

DIMENSIONS : mm

● ATTACHMENT FORCE, TORSION SPRING AND ANCHOR PIN



TORSION SPRING

- S001YZ4M (SPRING WIRE DIA. 1.0)
- ▲ S001YZ4N (SPRING WIRE DIA. 0.9)
- S001YZ4J (SPRING WIRE DIA. 0.8)

T =	ANCR-8	ANCR-9	ANCR-10	ANCR-11	ANCR-12	ANCR-13	ANCR-14	ANCR-14	ANCR-16
	+ 3.0	+ 2.0	+ 1.0	0	- 1.0	- 2.0	- 3.0	- 4.0	- 5.0

+ CHIP HEIGHT + HEATSINK BASE THICK + PCB THICK

● ANCOR PIN AND TORSION SPRING COMBINATIONS CAN BE SPECIFIED FOR EACH PARTICULAR PCB THICKNESS AND CHIP HEIGHT.

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