INDEX 1

Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

INTRODUCTION 2

The function of a heatsink is to increase the surface area available for the transfer of heat from a component or device thereby increasing the amount of heat that can be dissipated.

The following products/services are available:

1 **A range of Standard heatsinks and accessories** which permit optimum flexibility in the design of Electrical and Electronic equipment requiring heatsink applications.

2 **Custom designed heatsinks.** We have facilities available which enable us to provide design and manufacturing of custom and specialised heatsinks to your requirements.

HEATSINK SELECTION

The main factors to consider when selecting a heatsink are:-

1 Geometry

2 Thermal Resistance

3 Cost

Defining the necessary heatsink performance.
In order to calculate the maximum acceptable thermal resistance for the heatsink so that the device being cooled does not overheat it is first necessary to define the thermal parameters under which it is to operate.

The basic equation for thermal equilibrium is:-

$$\text{Power dissipated} = \frac{\text{Temperature difference across the system}}{\text{Sum of all the thermal resistance in the heat flow path.}}$$

Thermal Performance of any heatsink is influenced by many factors and for this reason all performance figures quoted should be treated as indicative only. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected.

EQUATION 1

Thus $$PD = \frac{Tj - Ta}{\text{Øjc} + \text{Øcs} + \text{Øsa}}$$

Where
PD = Power dissipation (W)
Tj = Max allowable junction temp (ºC) (specified by device manufacturer)
Ta = Ambient temperature (ºC)
Øjc = Thermal resistance junction to case (ºC/W) (specified by device manufacturer)
Øcs = Thermal resistance, case to heatsink (ºC/W)
Øsa = Thermal resistance, heatsinks to ambient air (ºC/W)

The maximum value for thermal resistance heatsink to air (sa) is usually determined by rearranging equation 1 to the following:

EQUATION 2

$$\text{Øsa} = \frac{Tj - Ta}{PD} - (\text{Øjc} + \text{Øcs})$$

The result of the above equation provides a thermal resistance value which must be equalled or bettered by the heatsink selected.

EXAMPLE

A semi-conductor device is to be operated with its junction temperature not exceeding 80ºC whilst dissipating 16 watts to ambient air at a temperature of40ºC. The thermal resistance, junction to case, is specified by the manufacturer as 1.25ºC/W and the thermal resistance, case to sink (using an insulating washer and thermally conductive compound) is taken as 0.50ºC/W.

$$\text{Øsa} = \frac{80 - 40 - (1.25 + 0.50)}{16}$$

$$= 0.75ºC/W$$

The heatsink therefore must have a thermal resistance which does not exceed 0.75ºC/W.

GENERAL INFORMATION 3

MATERIAL

Aluminium Alloy to BS1474 6063, T6.

DIMENSIONS

Profile Tolerances: All profile dimensions are toleranced within BS1474 and this should be taken into consideration when designing our profiles into your equipment. Further details of specific tolerances can be supplied if required.

Length Tolerances: +/- 0.4mm
Tighter Tolerances can be offered if required.

SURFACE FINISH

- Plain
- Matt black anodised
- Alocromed
- Powder Coated
- Wet spray painted
- Clear anodised
- Coloured anodised

HOLE PATTERNS

- Standard hole patterns for popular devices TO3/TO66/TO220 etc.
- Non standard hole patterns to customers own requirements.

PERFORMANCE

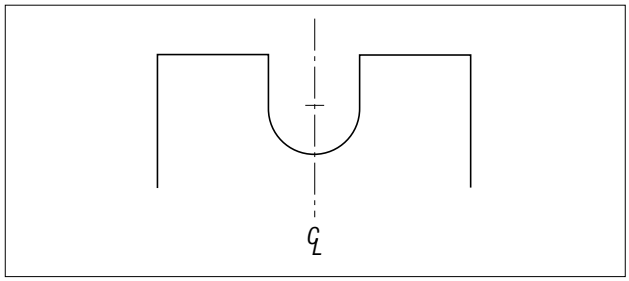
Performance figures given are for natural convection operating conditions and are for a 60°C temperature rise with a centrally mounted heat source and vertically mounted fins. Under general operating conditions the thermal mounting arrangement of devices is not known and therefore the figures should be used only as a guide to heatsink selection.
It is recommended that the effectiveness of any heatsink is confirmed in the specific operating environment in which it will be subjected

SAFETY

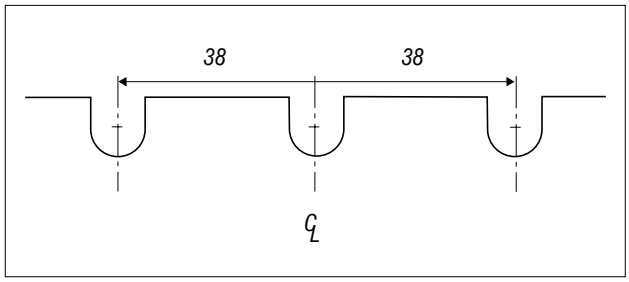
In some circumstances exposed heatsink surfaces may become very hot. Contact with these surfaces may cause burns damage to skin.

INSTALLATION NOTCHES

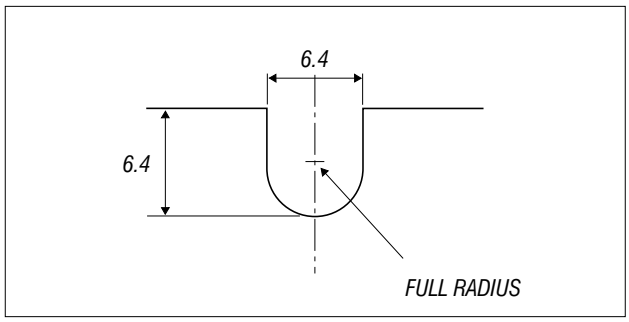
For heatsink lengths up to 87.5mm one single notch in each flange centrally along its length.



For heatsink lengths from 88mm to 150mm three notches in each flange 38mm apart.



STANDARD NOTCH DIMENSIONS



STUDS AND SOLDERABLE PINS

Some heatsinks have standard solderable pins for flow soldering to circuit boards. Non standard pins and studs can also be fitted.

CLIPS

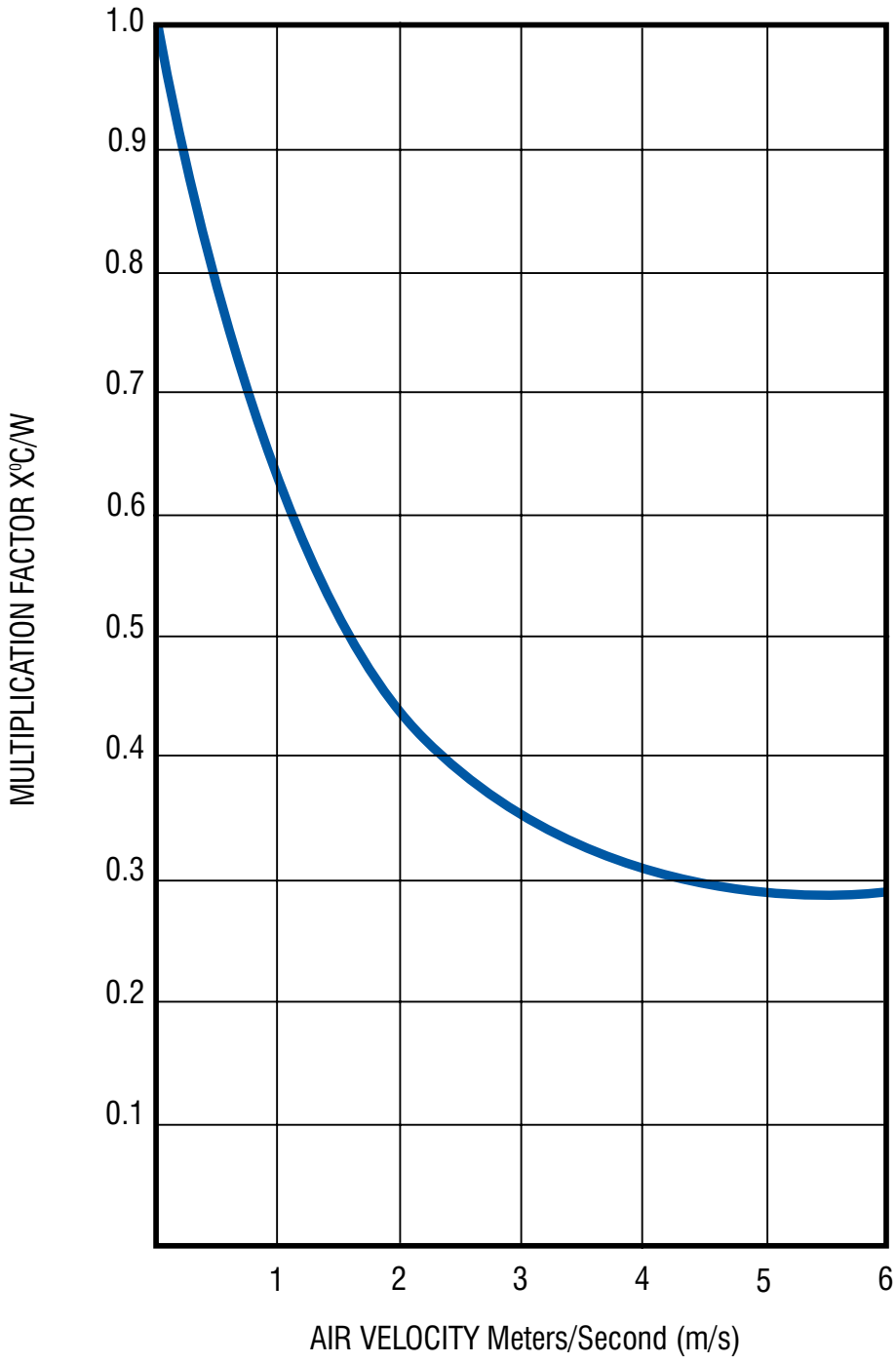
A full range of standard clips are available from stock.

FORCED AIR COOLING 4

This graph may be used as a guide to determine the Thermal resistance of any extruded section with forced convection.

EXAMPLE

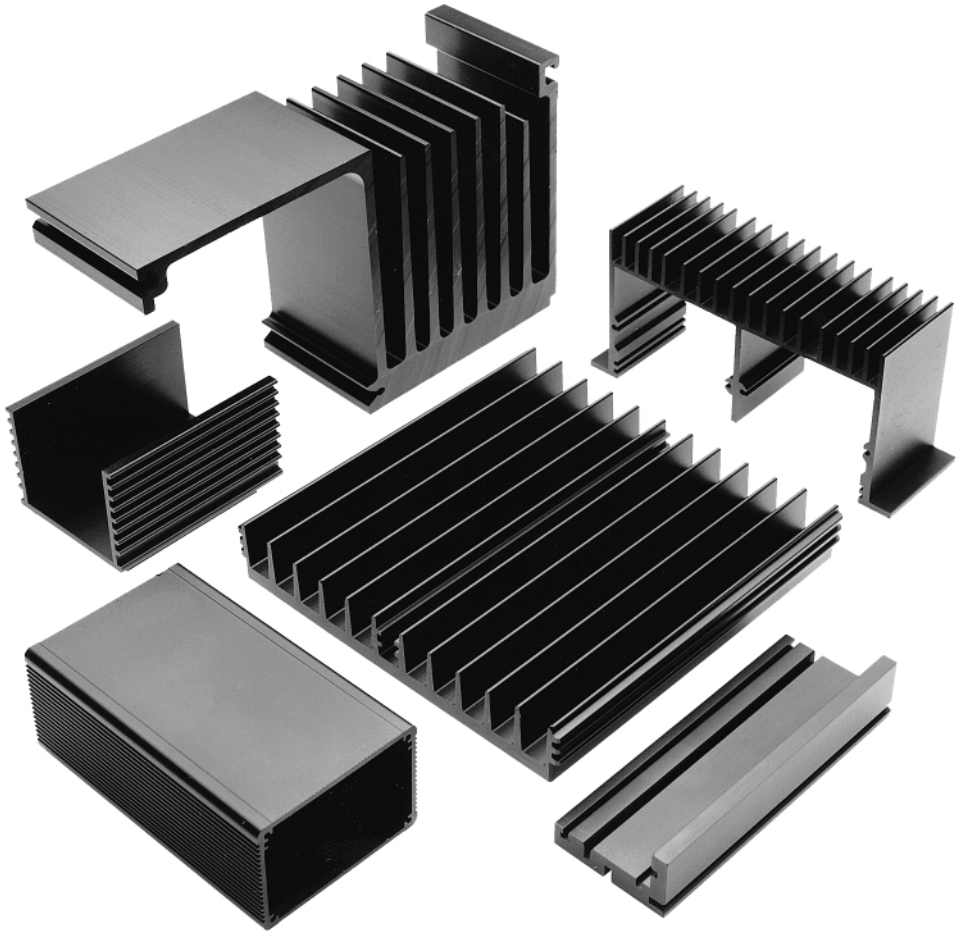
The thermal resistance of a heatsink is 0.35°C/W assume the heatsink is placed in a air velocity of 4m/s. Then 0.35°C/W x 0.3 becomes 0.105°C/W approx.



Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

CUSTOM DESIGN 5

For those customers that require their own specific heatsink we can offer facilities for design, technical drawing and prototype manufacture.



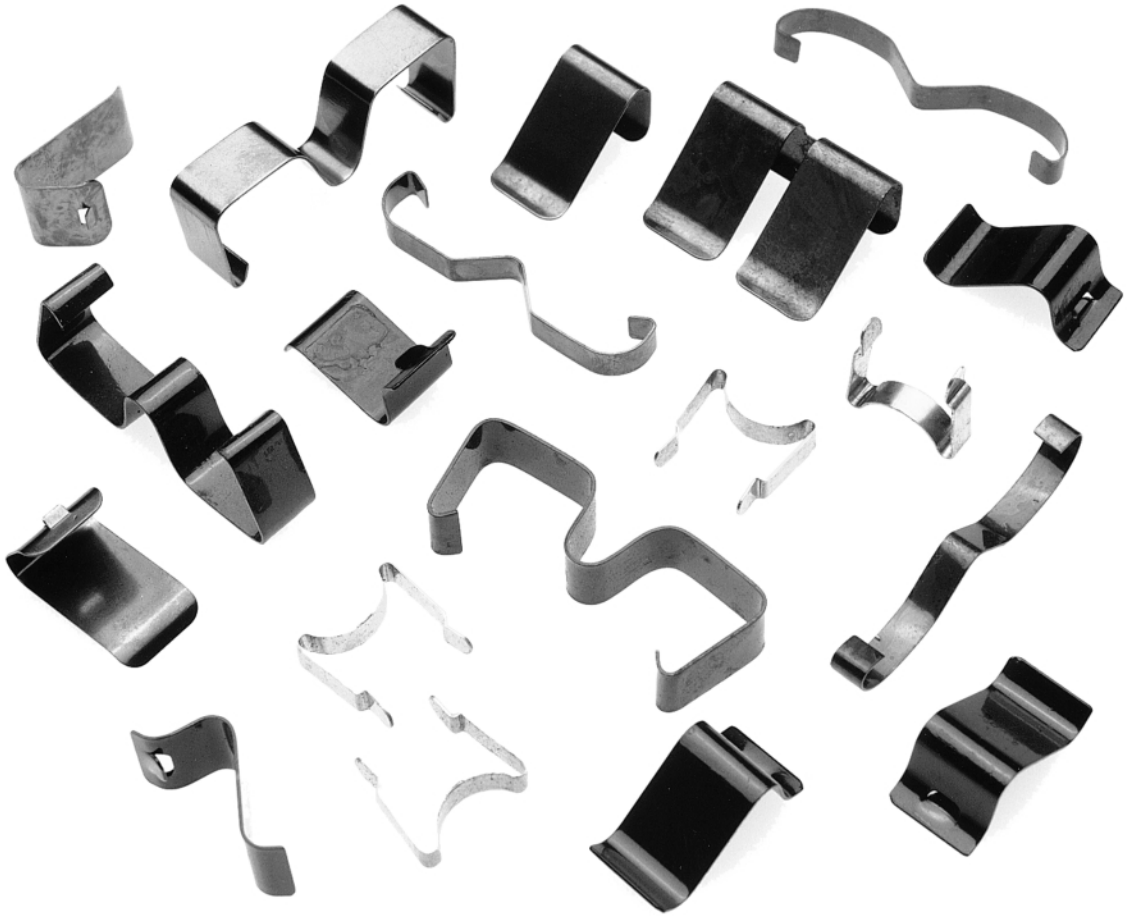
PRODUCT RANGE

In addition to our extensive range of heatsinks we manufacture components that are complimentary to the Electronics and Telecommunications Industries. Typical items of this nature include:- MODEM CASES, FRONT & REAR PANELS, ELECTRONIC ENCLOSURES, CHASSIS ETC.

MANUFACTURING AND FINISHING FACILITIES

- FREE ISSUE OR TOTAL SUPPLY CAPACITY.
- AUTOMATIC AND MANUAL SAW CUTTING.
- CNC MACHINING, DRILLING AND TAPPING.
- PRESSWORK, FORMING AND BENDING.
- BRUSH AND VIBRO DEBURRING.
- SULPHURIC AND CHROMIC ANODISING.
- POWDER AND WET SPRAY PAINTING.
- WET SPRAY PAINTING ON PLASTICS.
- ALOCROM 1000 AND 1200 FINISHES.
- ASSEMBLY WORK
- SPECIAL PACKING
- TOOL AND JIG MAKING.

SPRING CLIPS 6



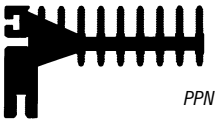
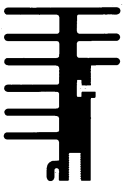
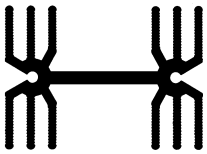
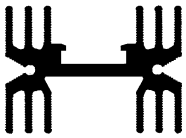
PRODUCT RANGE

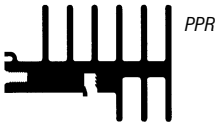
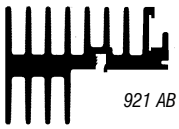
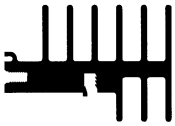
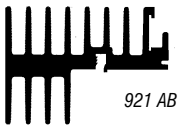
Using our spring clips to fix plastic packages eg. TO220 and TO3P type devices offers several advantages over conventional methods:-

- OPTIMISES THERMAL TRANSFER.
- SAVES TIME.
- SAVES COST.
- REDUCES INVENTORY.
- ENABLES SINGLE SUPPLY SOURCE FOR HEATSINKS AND CLIPS.

SEE BOARD MOUNTING SERIES FOR MORE DETAILS.

SPRING CLIPS 7

CLIP REF	CLIP 01	CLIP 02	CLIP 03
			
HEATSINKS	 *PP*	 *PPN*  *PPT*	 *PPB*  *PPD*

CLIP REF	CLIP 04	CLIP 05	CLIP 06
			 *DOUBLE CLIP (2 X CLIP 05)*
HEATSINKS	*FOR USE WITH PRESSED ALUMINIUM LOUVRE SINKS*	 *PPM*  *PPR*  *921 AB*	 *PPM*  *PPR*  *921 AB*

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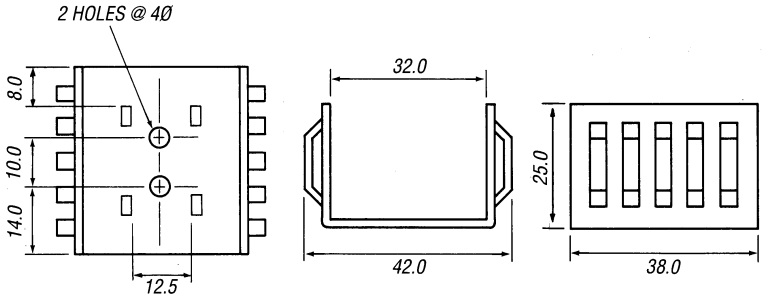
PRESSED ALUMINIUM - LOUVRE SINKS 8

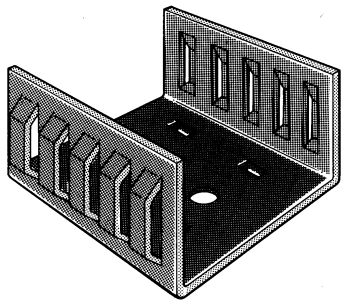
LS85

TO220, TO3P
AND MOST PLASTIC PACKAGED DEVICES
heatsinkS WILL ACCEPT 1 OR 2 DEVICES

7.1ºC/W



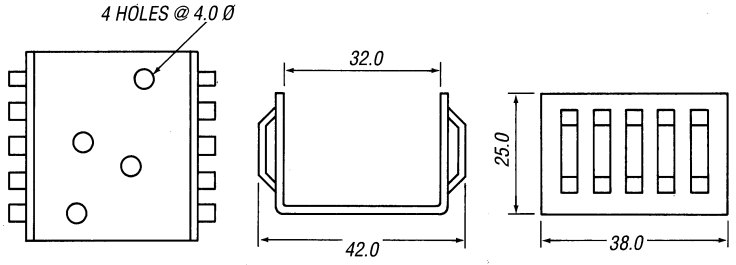
DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

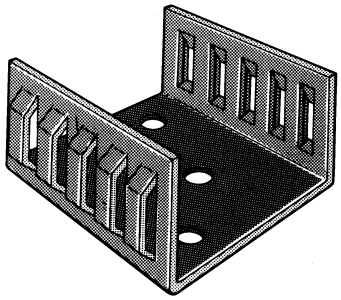


LS90

TO3

7.1ºC/W

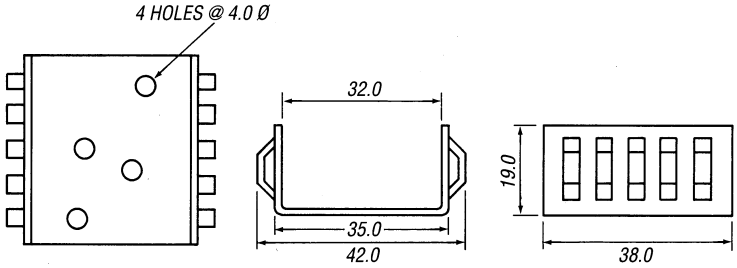


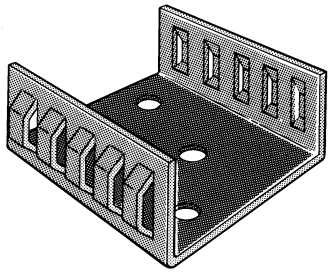


LS95

TO3

7.6ºC/W





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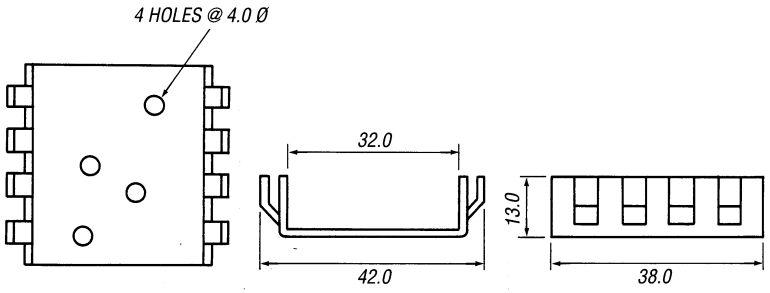
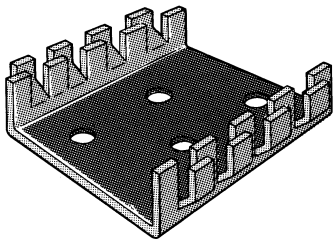
PRESSED ALUMINIUM - LOUVRE SINKS 9

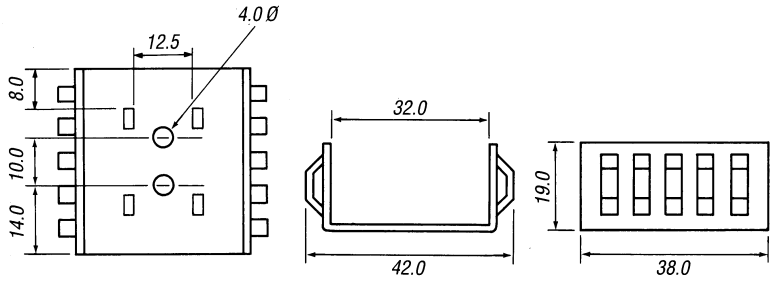
LS100 TO3 8.9ºC/W

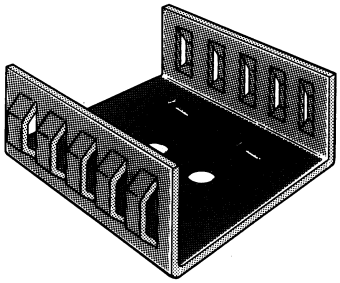




LS120 TO220, TO3P 7.6ºC/W

AND MOST PLASTIC PACKAGED DEVICES
heatsinkS WILL ACCEPT 1 OR 2 DEVICES

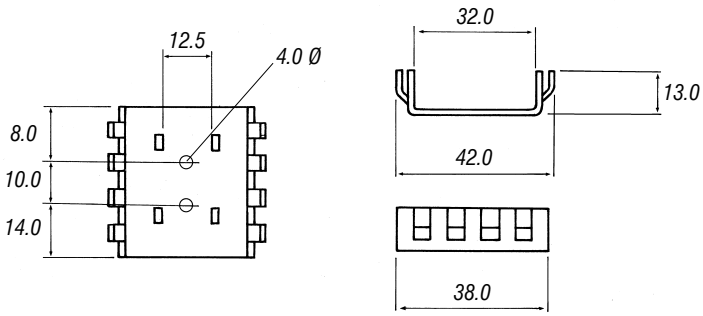


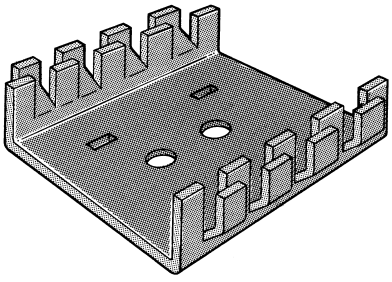


DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

LS125 TO220,TO3P 8.9ºC/W

AND MOST PLASTIC PACKAGED DEVICES
heatsinkS WILL ACCEPT 1 OR 2 DEVICES





DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

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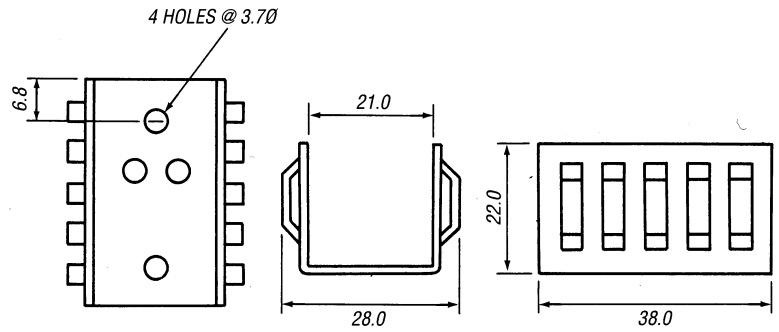
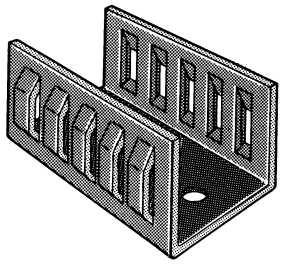
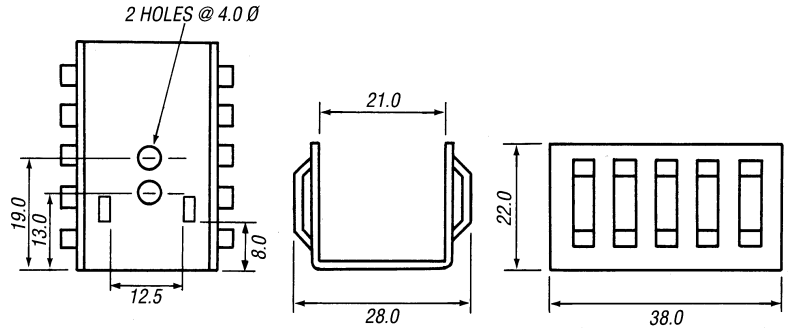
PRESSED ALUMINIUM - LOUVRE SINKS 10

LS135 TO66 9.9ºC/W

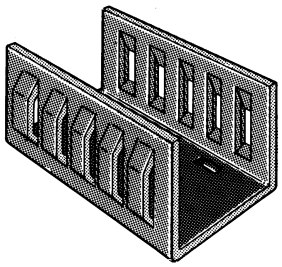




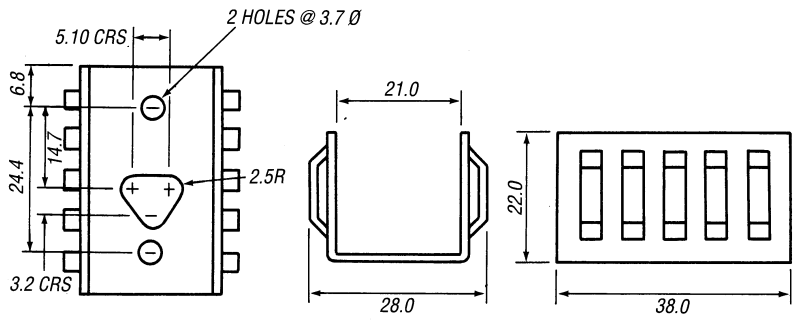
LS140 TO220, TO3P 9.9ºC/W

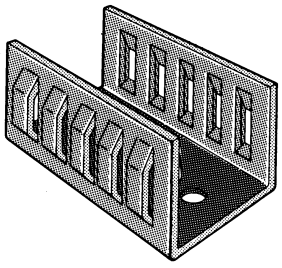


DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)



LS145 TO220 9.9ºC/W





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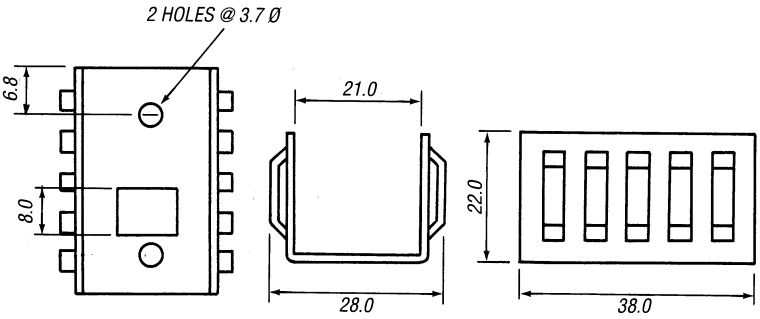
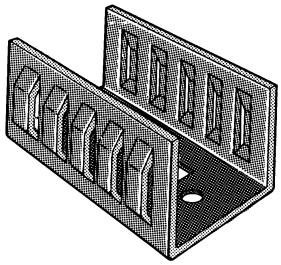
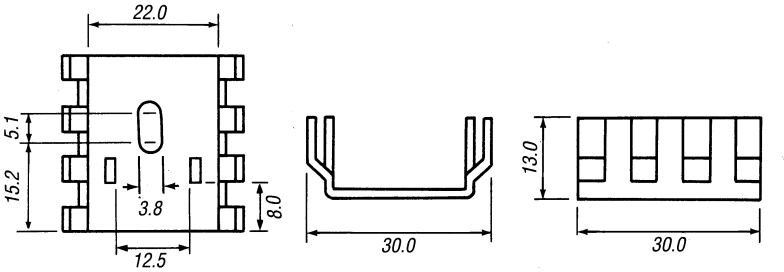
PRESSED ALUMINIUM - LOUVRE SINKS 11

LS150 TO220 9.9ºC/W

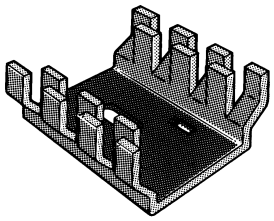




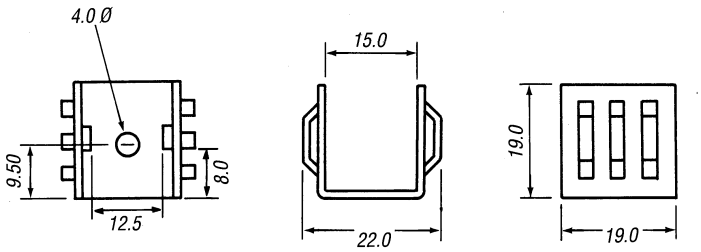
LS160 TO220, TO126, TO3P AND MOST PLASTIC PACKAGED DEVICES 14ºC/W



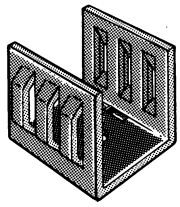
DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)



LS170 TO126 21ºC/W



DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)



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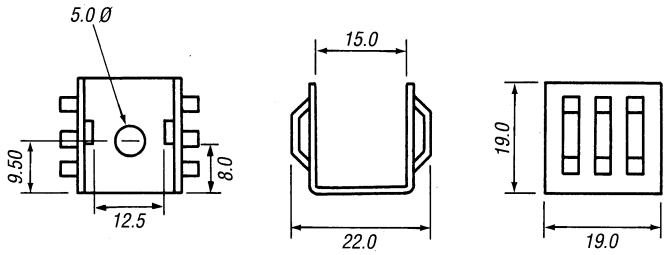
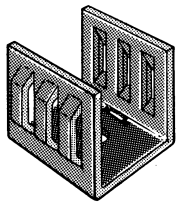
PRESSED ALUMINIUM - LOUVRE SINKS 12

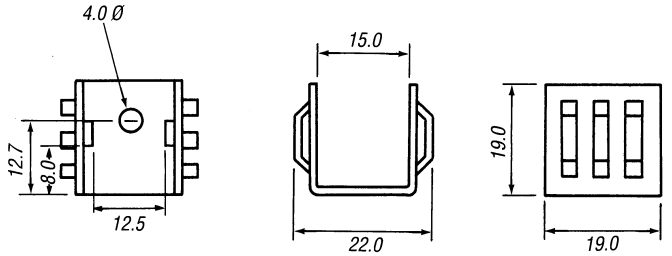
LS175 TO126 21°C/W

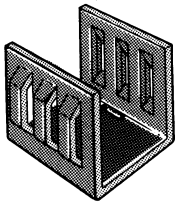




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

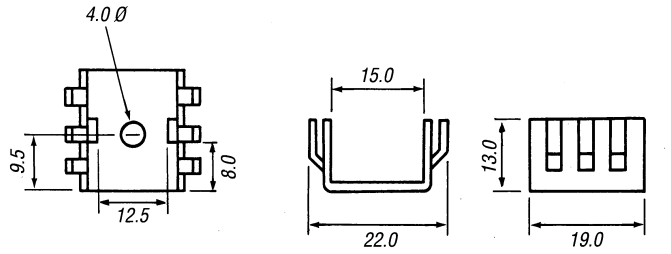
LS185 TO220 21°C/W

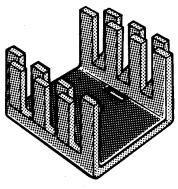




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

LS190 TO126 27°C/W



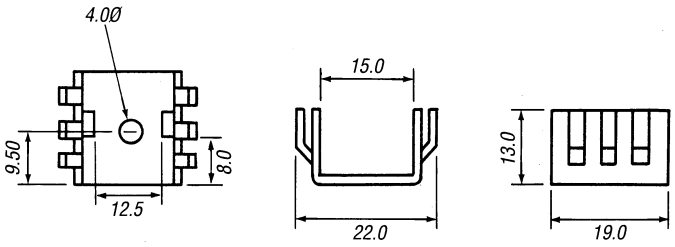


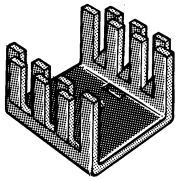
DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

PRESSED ALUMINIUM - LOUVRE SINKS 13

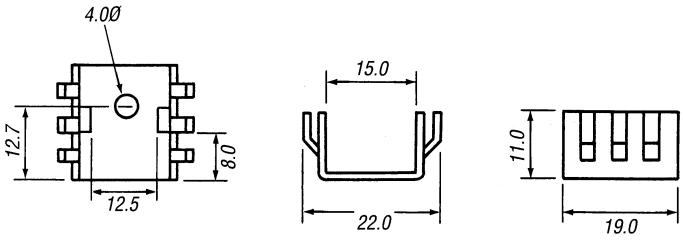
LS200 TO126 30ºC/W

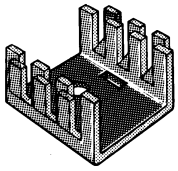




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

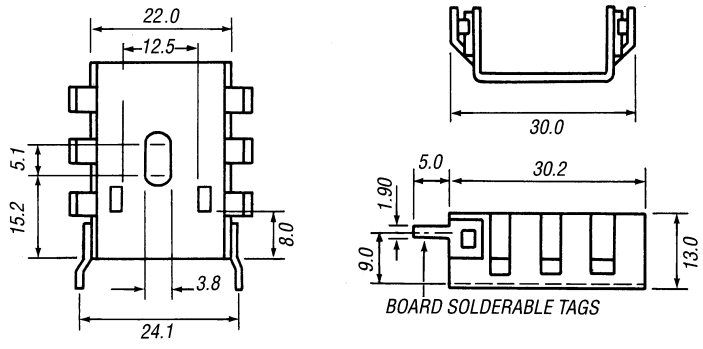
LS205 TO220 30ºC/W

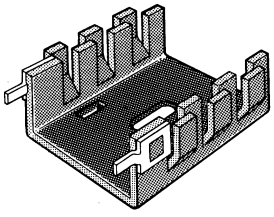




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

LS220 TO220, TO218, TO3P AND MOST PLASTIC PACKAGED DEVICES 17ºC/W



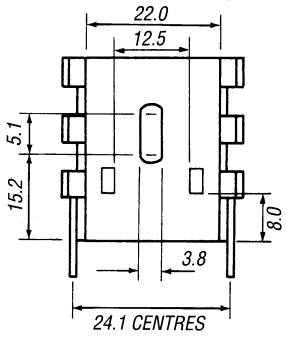


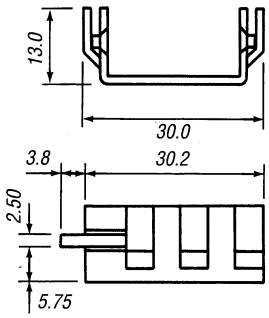
DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

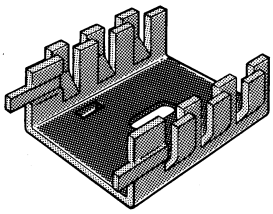
Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

PRESSED ALUMINIUM - LOUVRE SINKS 14

LS225 TO220, TO126, TO3P 17ºC/W

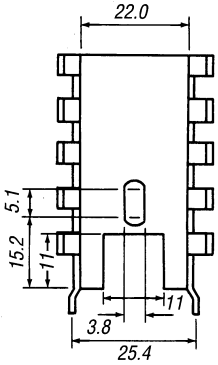


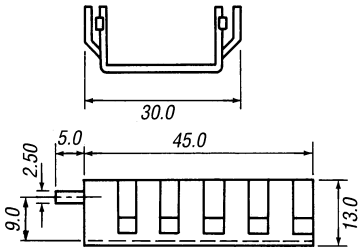


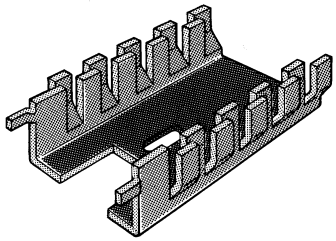


DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

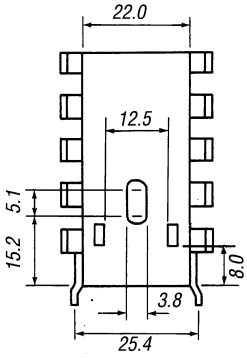
LS235 TO202 13ºC/W

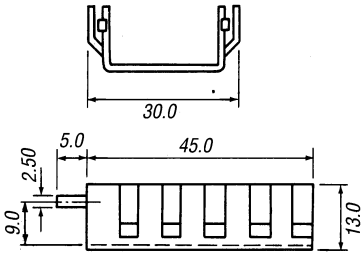


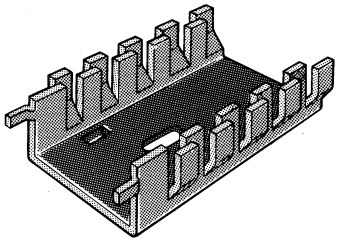




LS240 TO220, TO3P 13ºC/W







DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

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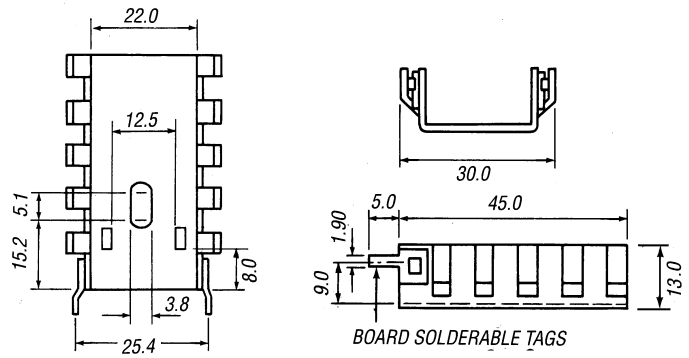
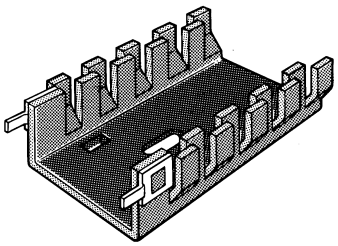
PRESSED ALUMINIUM - LOUVRE SINKS 15

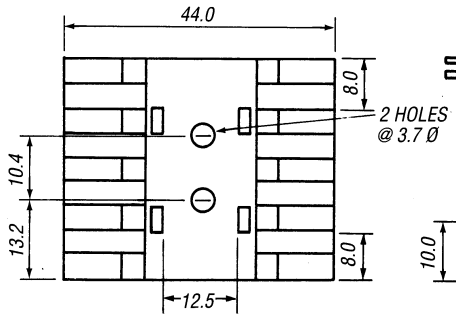
LS250 TO220, TO218, TO3P 13ºC/W

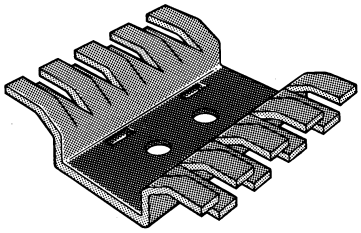




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

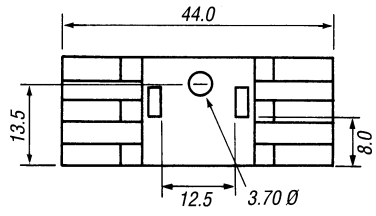
LS300 TO220, TO3P 12ºC/W

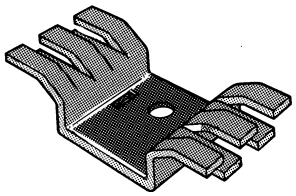




DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

LS305 TO220, TO3P 20ºC/W





DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)

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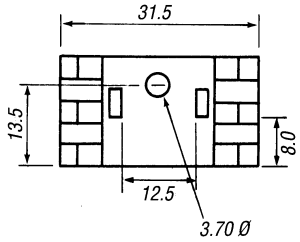
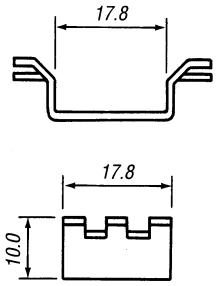
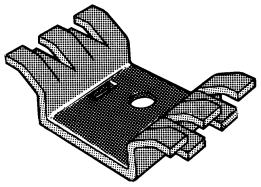
PRESSED ALUMINIUM - LOUVRE SINKS 16

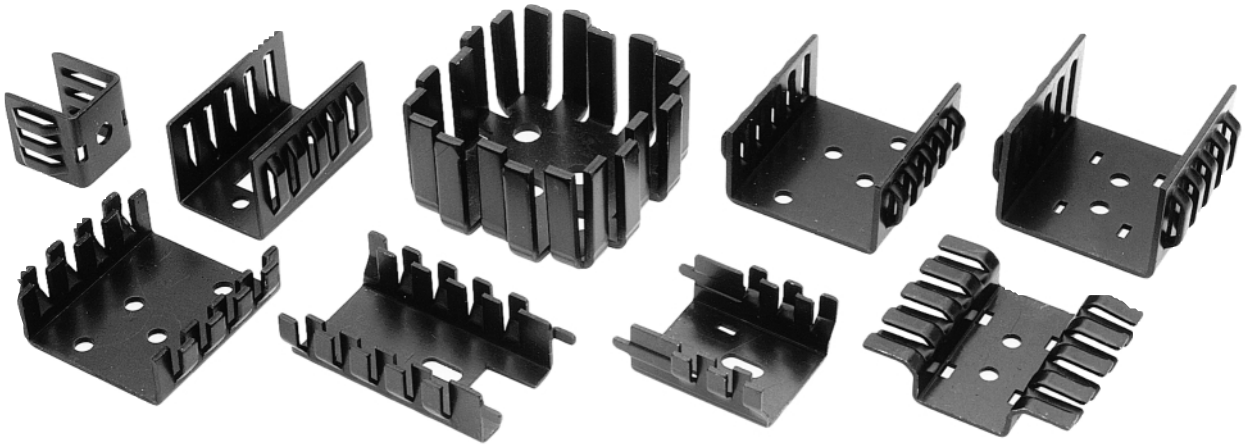
LS310 TO220, TO3P 24ºC/W







DEVICE MAY BE FIXED WITH SCREW OR CLIP (SEE CLIP 04)



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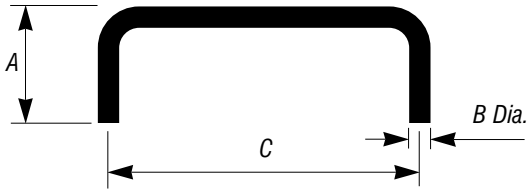
BOARD MOUNTING SERIES 17

WIRE FORMS

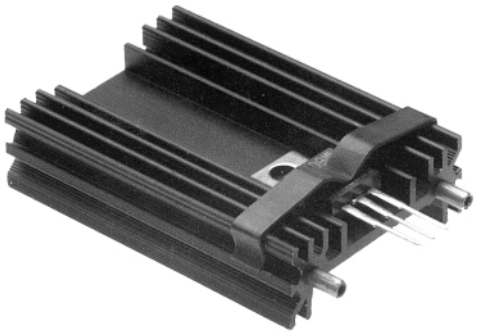
SOME* OF OUR BOARD MOUNTING HEATSINKS ARE AVAILABLE WITH SOLDERABLE WIRE FORMS AS AN OPTIONAL EXTRA

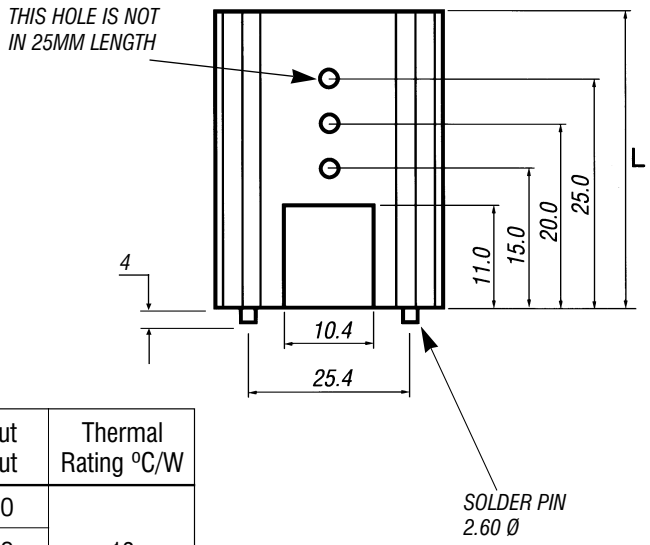
*See, PPR, PPT, 921AB.
WHEN ORDERING ADD SUFFIX WF01, WF02 OR WF03
eg: 271AB025OB.WF01

WF REF	DIMENSIONS		
	A	BØ	C
WF 01	11.3	1.30	21.0
WF 02	11.3	1.30	36.0
WF 03	18.2	1.40	31.5

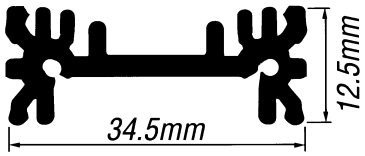


PP (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 01)





Length mm L	Part Number Without Pins	Part Number With Pins	Holes	Cut Out	Thermal Rating °C/W
25	PP25	PP25P	NO	NO	12
25	PP25H	PP25PH	YES	NO	
25	PP25HC	PP25PHC	YES	YES	
38	PP38	PP38P	NO	NO	10
38	PP38H	PP38PH	YES	NO	
38	PP38HC	PP38PHC	YES	YES	
50	PP50	PP50P	NO	NO	8.30
50	PP50H	PP50PH	YES	NO	
50	PP50HC	PP50PHC	YES	YES	
63	PP63	PP63P	NO	NO	6.90
63	PP63H	PP63PH	YES	NO	
63	PP63HC	PP63PHC	YES	YES	



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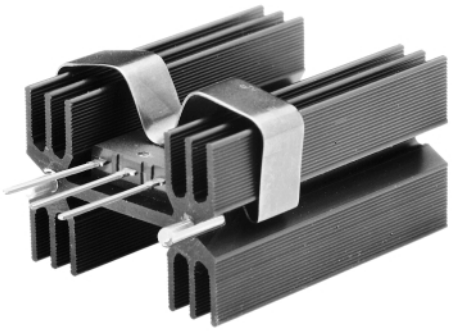
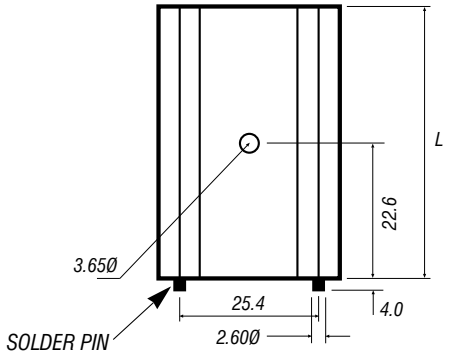
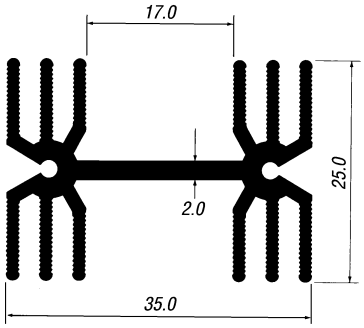
BOARD MOUNTING SERIES 18

PPB (TO220, TO3P, etc) (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 03)

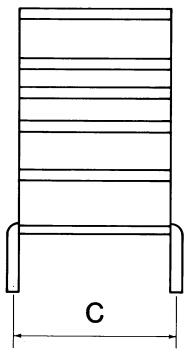


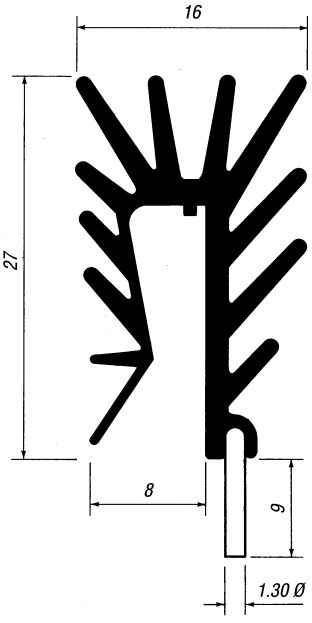


Length mm L	Part Number Without Pins	Part Number With Pins	Holes	Thermal Rating °C/W
38	PPB38	PPB38P	NO	7.00
38	PPB38H	PPB38PH	YES	7.00
50	PPB50	PPB50P	NO	5.5
50	PPB50H	PPB50PH	YES	5.5
63	PPB63	PPB63P	NO	4.5
63	PPB63H	PPB63PH	YES	4.5



PPC (CLIP ON HEATSINK TO220, TO3P, etc)





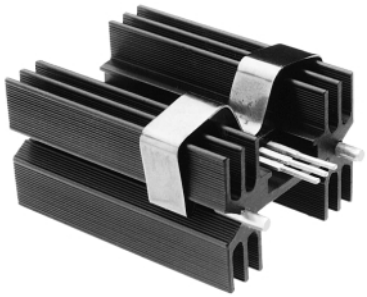
Length mm L	Part Number Without Pins	Part Number With Pins	Pin Centres 'C'	Thermal Rating °C/W
20	PPC20	PPC20P	21	11.00
35	PPC35	PPC35P	36	9.00
50	PPC50	PPC50P	36	7.2

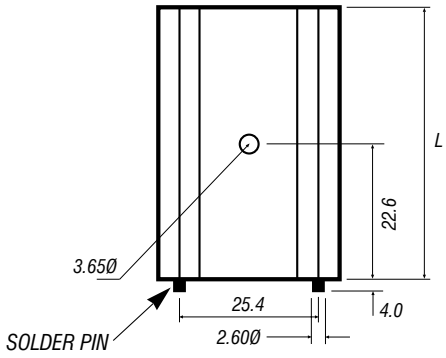
CLIP ON HEATSINK SUITABLE FOR TO220, TO3P PLASTIC PACKAGES AVAILABLE WITH OR WITHOUT SOLDERABLE PINS.

Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

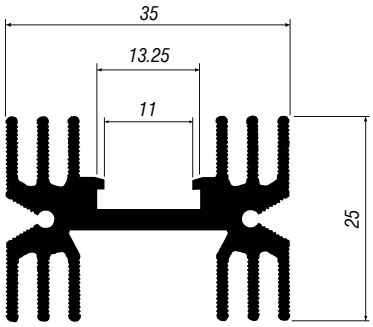
BOARD MOUNTING SERIES 19

PPD (TO220, TO3P, etc) (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 03)

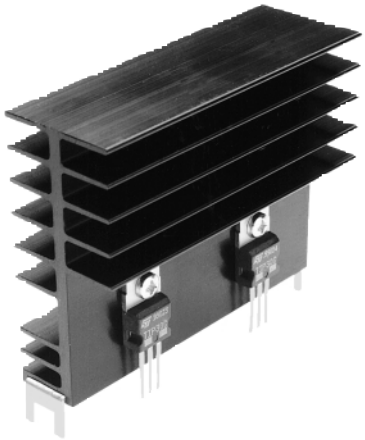


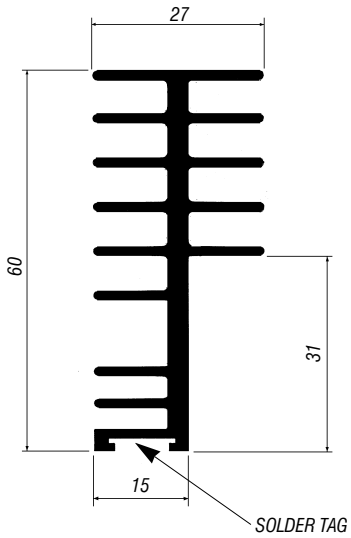


Length mm L	Part Number Without Pins	Part Number With Pins	Holes	Thermal Rating °C/W
38	PPD38	PPD38P	NO	7.00
38	PPD38H	PPD38PH	YES	7.00
50	PPD50	PPD50P	NO	5.5
50	PPD50H	PPD50PH	YES	5.5
63	PPD63	PPD63P	NO	4.5
63	PPD63H	PPD63PH	YES	4.5

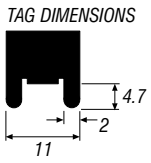


PPH (TO220, TO3P, etc) AVAILABLE WITH OR WITHOUT SOLDER TAGS





Length mm L	Part Number without Solder Tags	Part Number with Solder Tags	Thermal Rating °C/W
50	PPH0500B	PPH0500B-TAG 02	2.75
75	PPH0750B	PPH0750B-TAG 02	2.30
100	PPH1000B	PPH1000B-TAG 02	2.00
150	PPH1500B	PPH1500B-TAG 02	1.60



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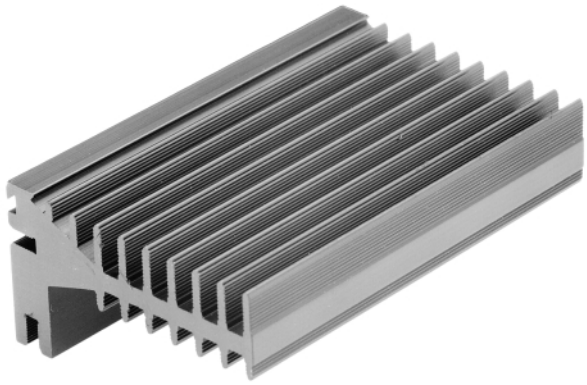
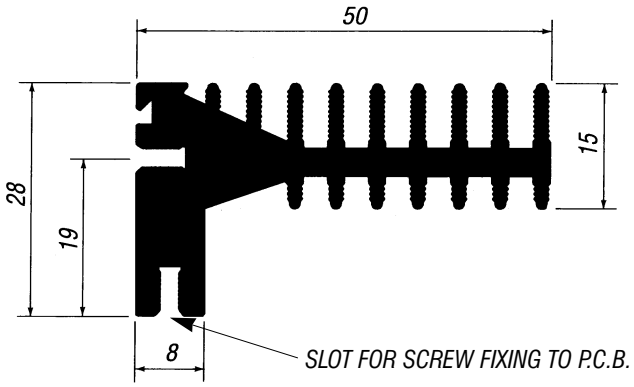
BOARD MOUNTING SERIES 20

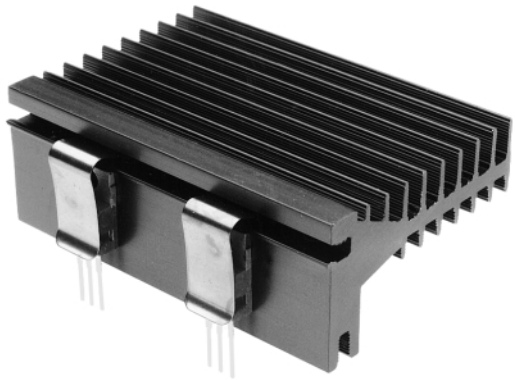
PPL (TO220, TO3P, etc)

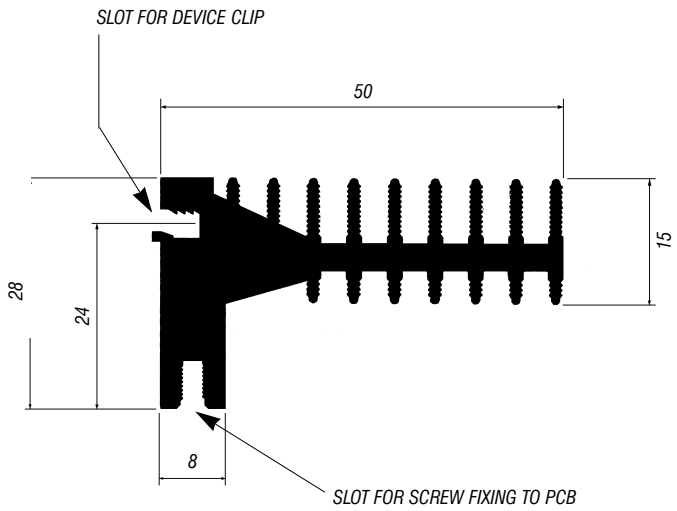




Length mm L	Part Number	Thermal Rating °C/W
50	PPL0500B	5.0
75	PPL0750B	3.7
100	PPL1000B	3.1
150	PPL1500B	2.3

PPM (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 05)





DEVICE CLIP IS PUSH FIT

Length mm L	Part Number	Thermal Rating °C/W
50	PPM0500B	5.0
75	PPM0750B	3.7
100	PPM1000B	3.1
150	PPM1500B	2.3

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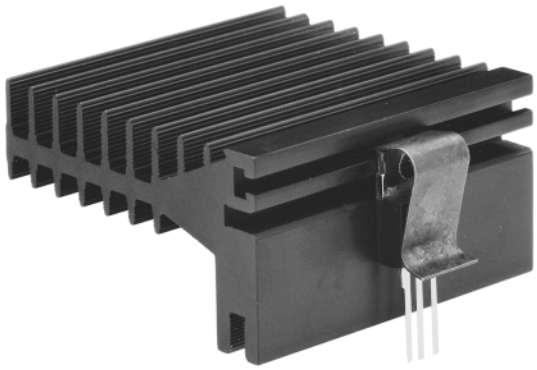
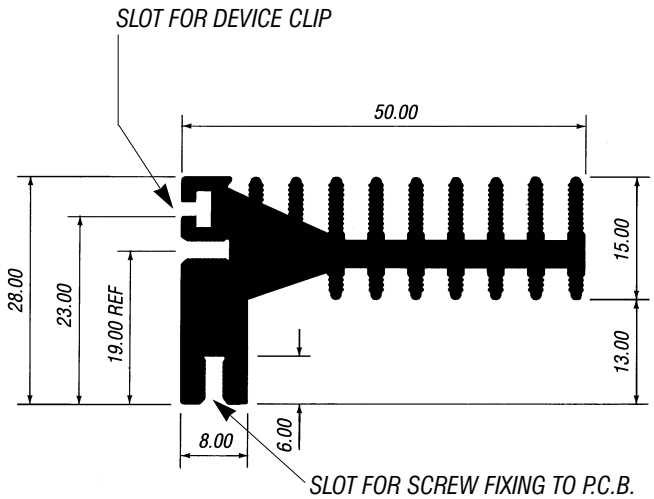
BOARD MOUNTING SERIES 21

PPN (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 02)

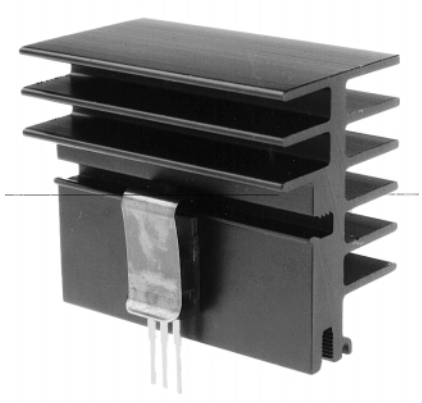


Length mm L	Part Number	Thermal Rating °C/W
50	PPN0500B	5.0
75	PPN0750B	3.7
100	PPN0000B	3.1
150	PPN1500B	2.3

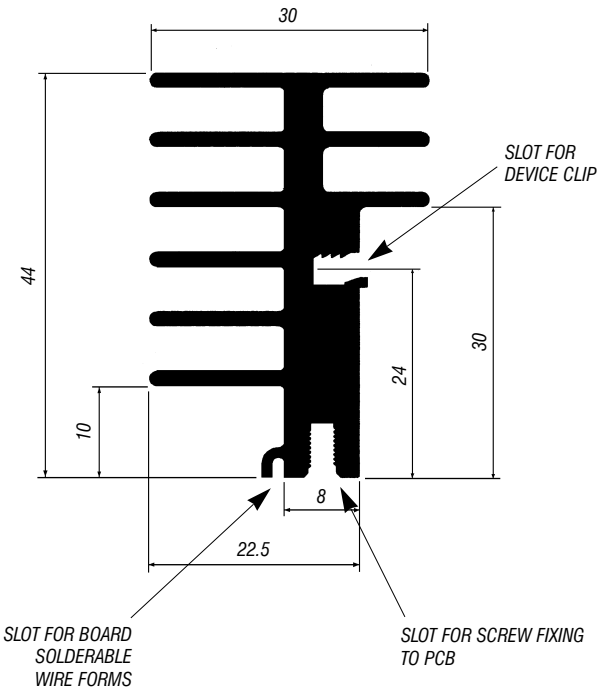


DEVICE CLIP IS SLIDE FIT

PPR (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 05)



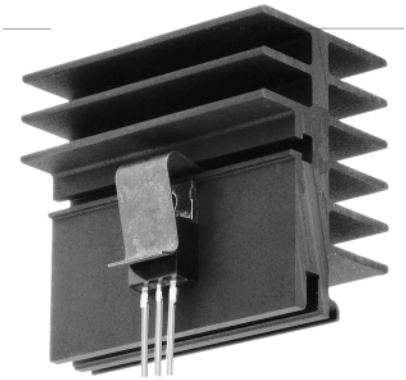
Length mm L	Part Number	Thermal Rating °C/W
50	PPR0500B	4.75
75	PPR0750B	3.52
100	PPR1000B	2.75
150	PPR1500B	2.10

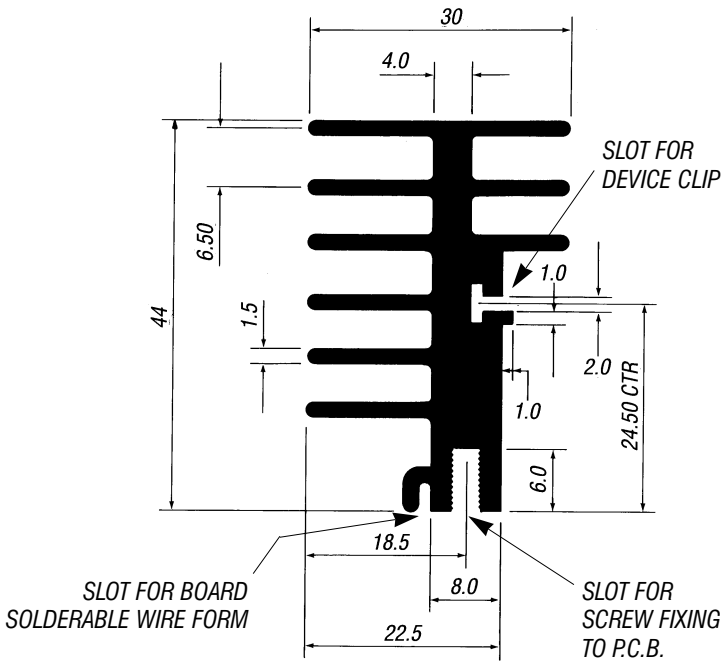


Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

BOARD MOUNTING SERIES 22

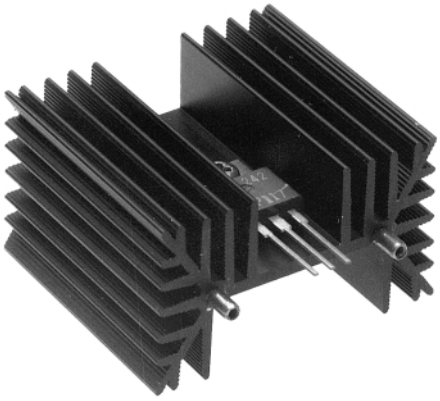
PPT (DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 02)

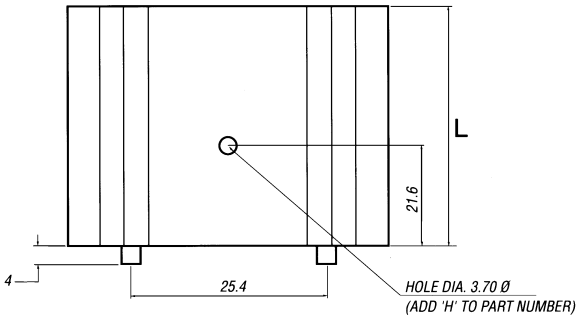


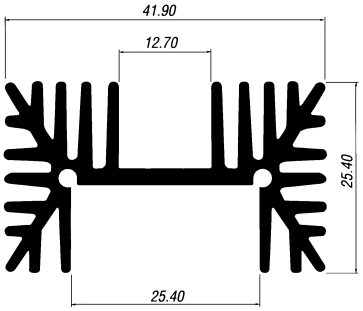


Length mm L	Part Number	Thermal Rating °C/W
50	PPT0500B	4.75
75	PPT0750B	3.52
100	PPT1000B	2.75
150	PPT1500B	2.10

PPX (TO220, TO3P, etc) AVAILABLE IN ANY LENGTH REQUIRED







Length mm L	Part Number Without Pins	Part Number With Pins	Thermal Rating °C/W
38	PPX38	PPX38P	6.70
50	PPX50	PPX50P	5.60
63	PPX63	PPX63P	4.70

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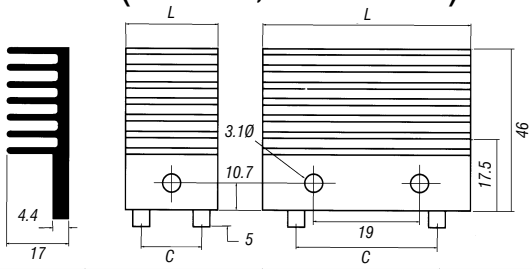
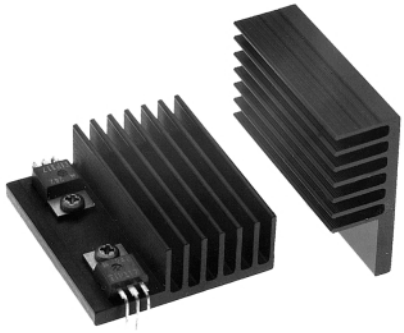
BOARD MOUNTING SERIES 23

270AB (TO220, TO3P etc)

AVAILABLE IN ANY LENGTH REQUIRED, WITH ONE OR MORE HOLES, POSITIONED TO SUIT ANY REQUIREMENT



Sketches show typical dimensions for hole and pin positions these can be any dimension to suit your own application.

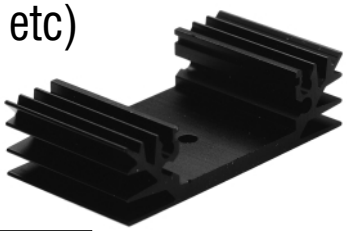


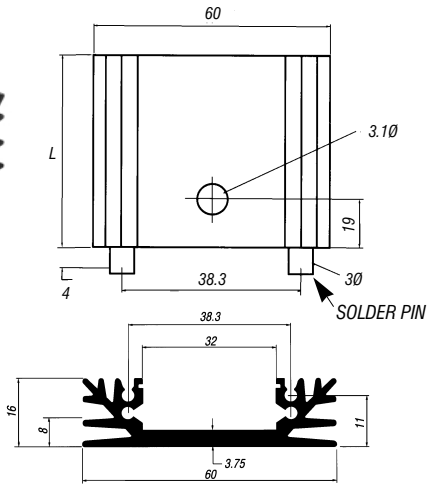
Length mm L	Part Number Without Pins	Part Number With Pins	Pin Centres 'C'	Thermal Rating ºC/W
34	270AB0340HB	270AB0340HBP	25.4	5.00
50	270AB0500HB	270AB0500HBP	38.3	4.00

SEE 200 SERIES FOR heatsink DIMENSIONS

505AB (TO3, TO220, TO3P etc)

AVAILABLE IN ANY LENGTH REQUIRED, WITH ONE OR MORE HOLES, POSITIONED TO SUIT ANY REQUIREMENT



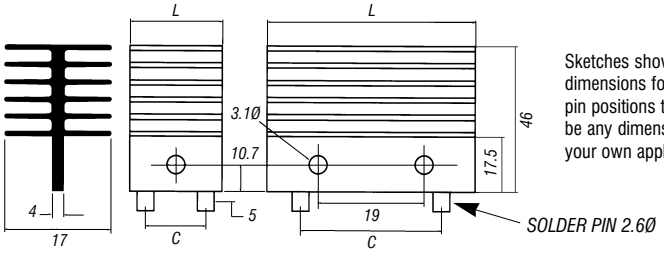


Length mm L	Part Number Without Pins	Part Number With Pins	Thermal Rating ºC/W
25	505AB0250HB	505AB0250HBP	9.5
32	505AB0320HB	505AB0320HBP	8.5
50	505AB0500HB	505AB0500HBP	5.0
70	505AB0700HB	505AB0700HBP	4.0

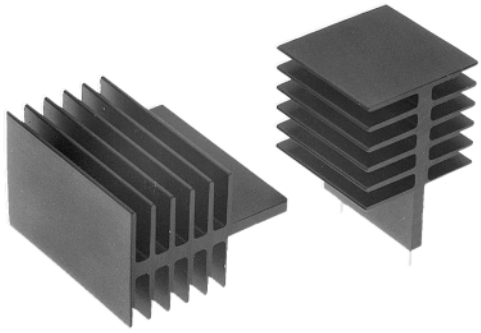
SEE 500 SERIES FOR heatsink DIMENSIONS

910AB (TO220, TO3P etc)

AVAILABLE IN ANY LENGTH REQUIRED, WITH ONE OR MORE HOLES, POSITIONED TO SUIT ANY REQUIREMENT



Sketches show typical dimensions for hole and pin positions these can be any dimension to suit your own application.



Length mm L	Part Number Without Pins	Part Number With Pins	Pin Centres 'C'	Thermal Rating ºC/W
34	910AB0340HB	910AB0340HBP	25.4	7.20
50	910AB0500HB	910AB0500HBP	38.3	5.50

SEE 900 SERIES FOR heatsink DIMENSIONS

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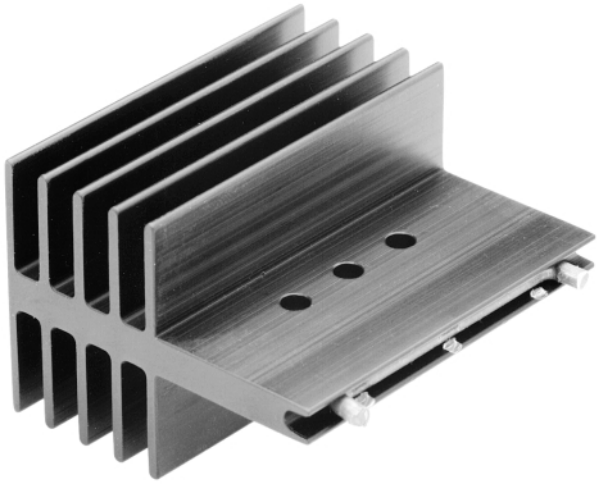
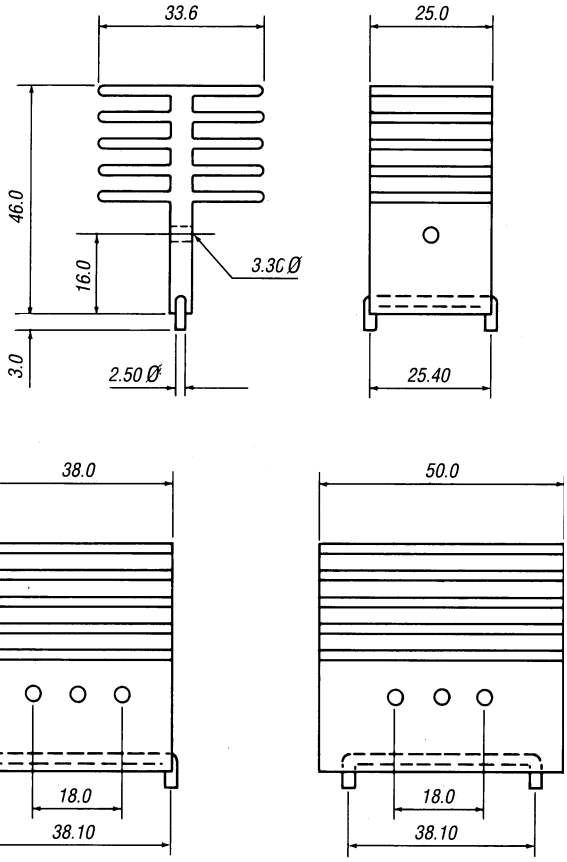
BOARD MOUNTING SERIES 24

915AB (TO3, TO220, TO3P etc)

AVAILABLE IN ANY LENGTH REQUIRED, WITH ONE OR MORE HOLES, POSITIONED TO SUIT ANY REQUIREMENT

Sketches show typical dimensions for hole and pin positions these can be any dimension to suit your own application.





Length mm L	Part Number Without Pins	Part Number With Pins	Pin Centres 'C'	Thermal Rating °C/W
25	915AB0250HB	915AB0250HBP	25.4	8.00
38	915AB0380HB	915AB0380HBP	38.1	6.90
50	915AB0500HB	915AB0500HBP	38.1	5.80

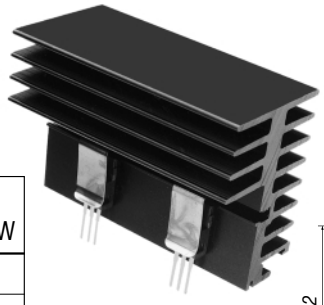
SEE 900 SERIES FOR heatsink DIMENSIONS

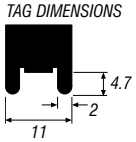
921AB (TO220, TO3P, etc)

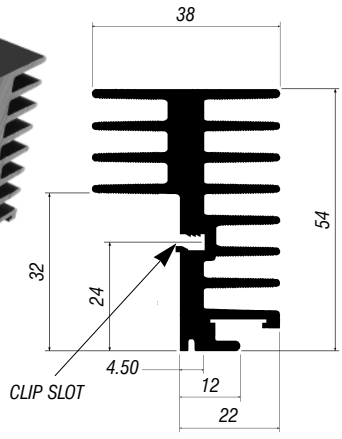
(DEVICE CLIPS AVAILABLE WITH THIS HEATSINK - CLIP 02)

Length mm L	Part Number without Solder Tags	Part Number with Solder Tags	Thermal Rating °C/W
25	921AB0250B	921AB0250B-TAG 05	5.40
38	921AB0380B	921AB0380B-TAG 05	4.20
50	921AB0500B	921AB0500B-TAG 02	3.20
75	921AB0750B	921AB0750B-TAG 02	2.70
100	921AB1000B	921AB1000B-TAG 02	2.35

AVAILABLE WITH OR WITHOUT SOLDER TAGS OR WITH WIRE FORMS







SEE 900 SERIES FOR heatsink DIMENSIONS

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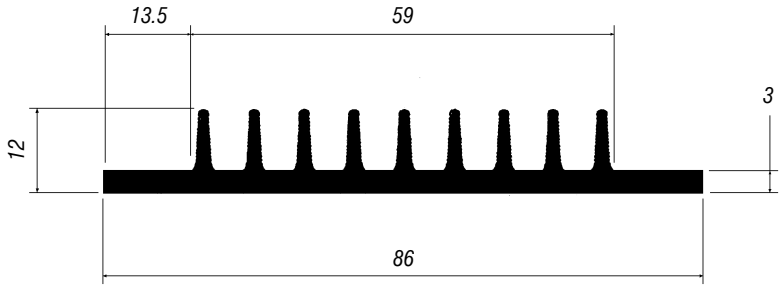
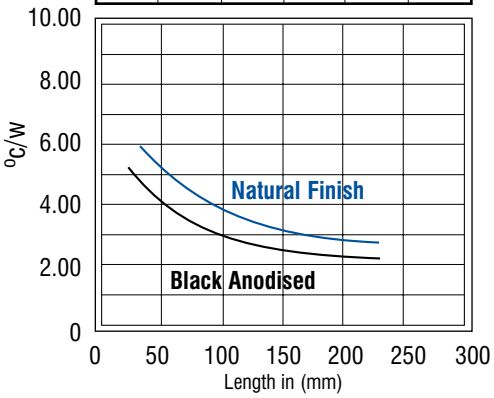
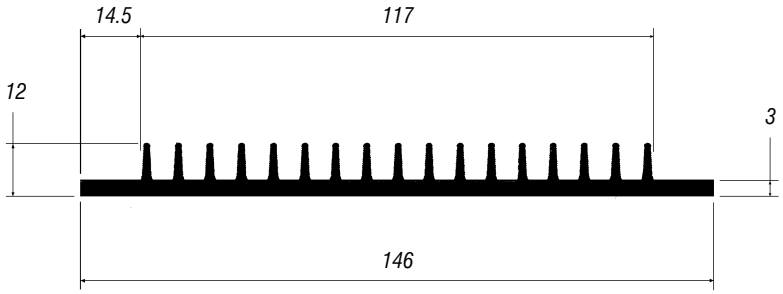
100 SERIES 25



83AB

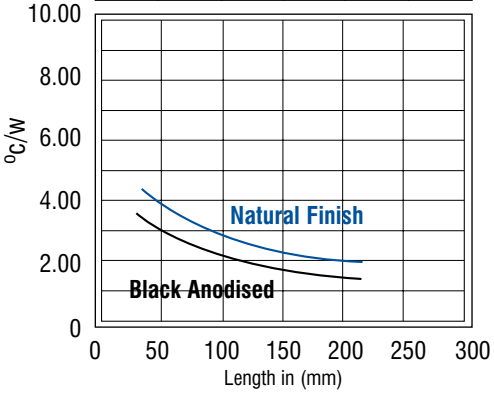
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	4.00	3.45	3.00	2.60	2.25

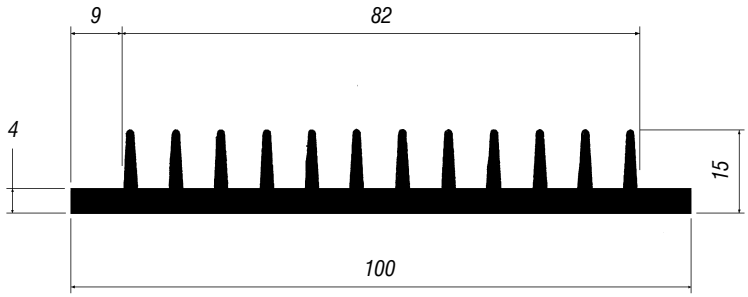




85AB

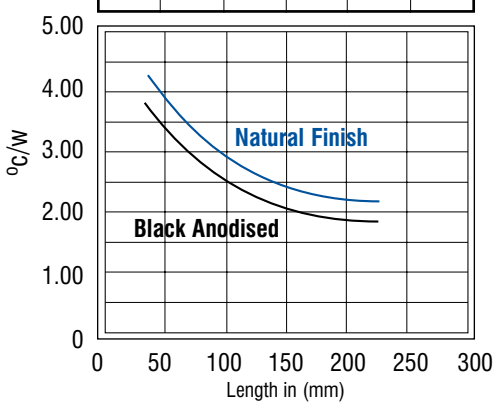
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.00	2.50	2.20	1.80	1.60





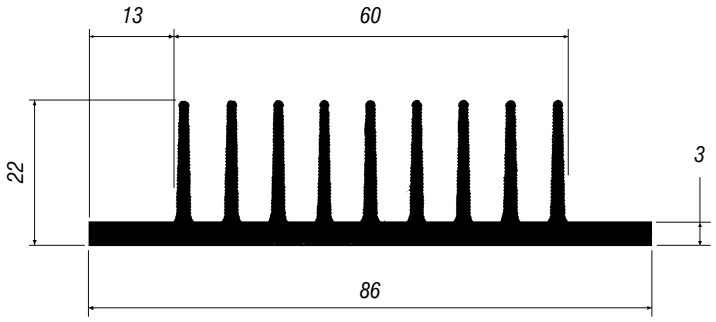
87AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.40	2.85	2.50	2.05	1.80



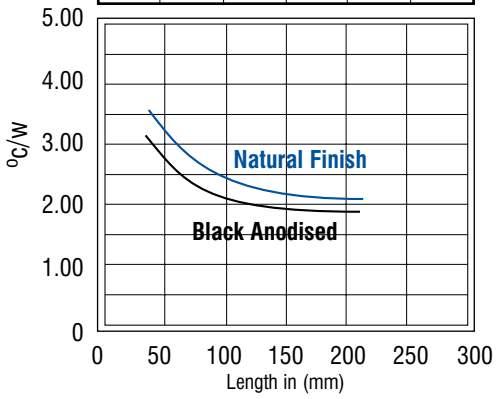
Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

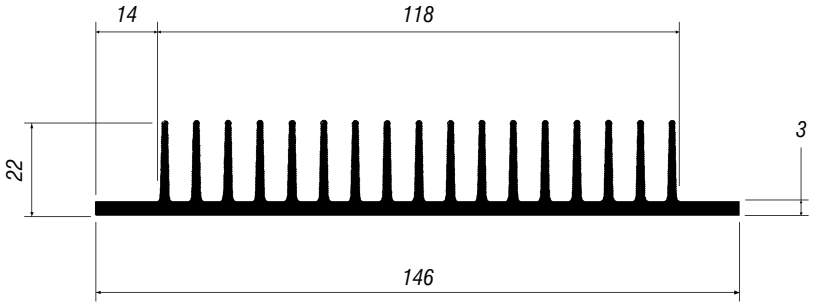
100 SERIES 26



89AB

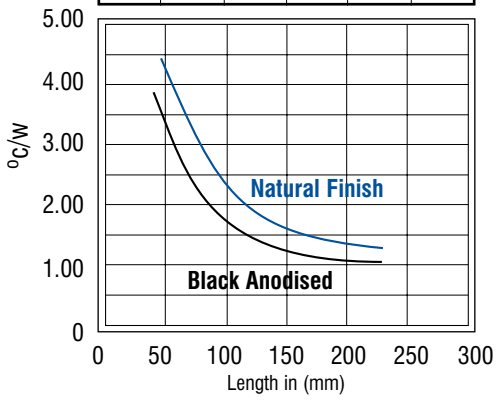
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.80	2.40	2.20	1.90	1.80

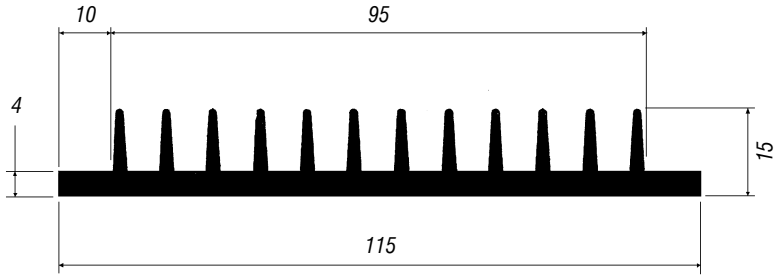




91AB

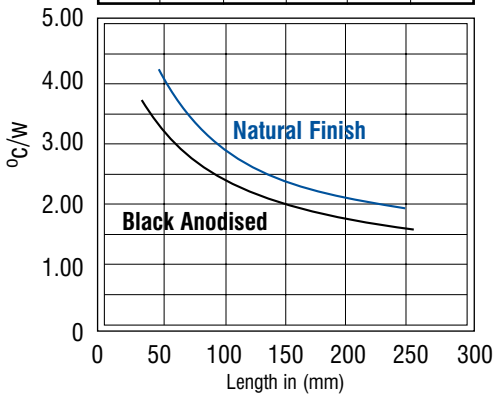
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.30	2.20	1.75	1.21	1.05





108AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.30	2.75	2.40	2.00	1.75



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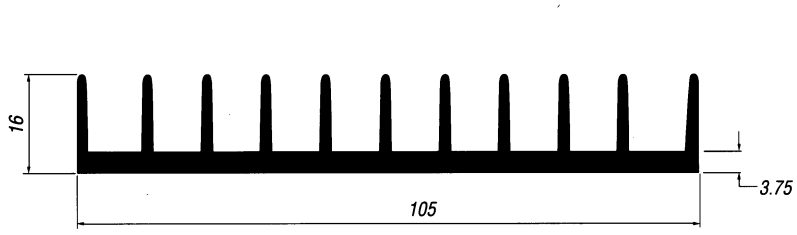
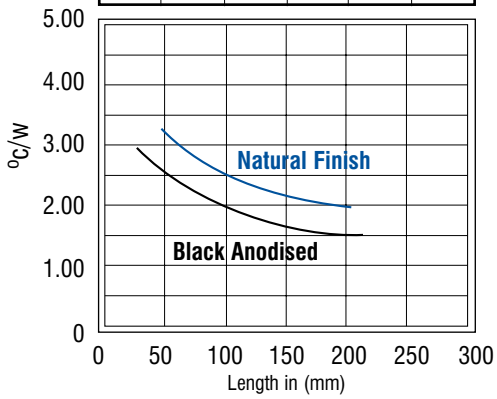
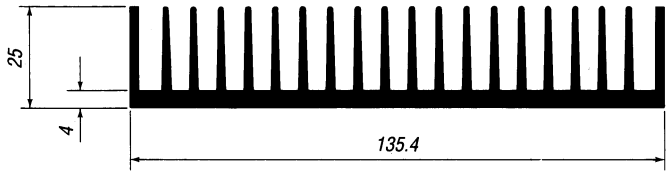
100 SERIES 27



110AB

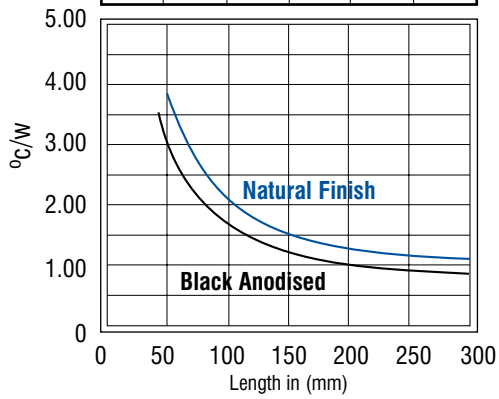
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.50	2.20	1.90	1.70	1.60

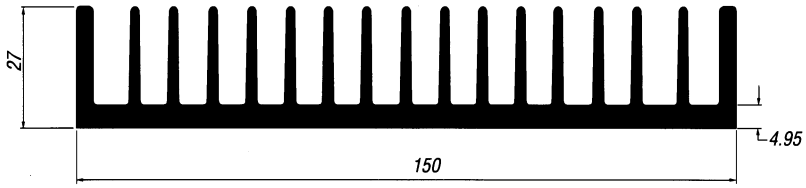




114AB

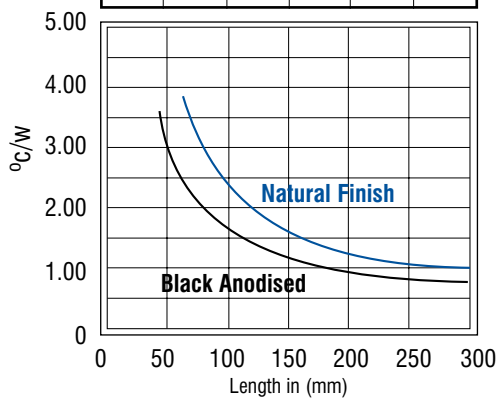
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.15	2.10	1.68	1.16	1.00





115AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.00	2.00	1.60	1.10	0.95



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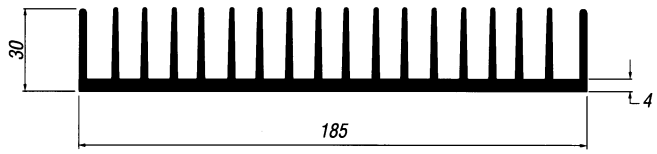
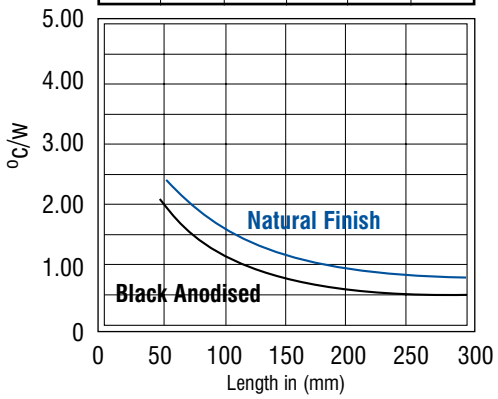
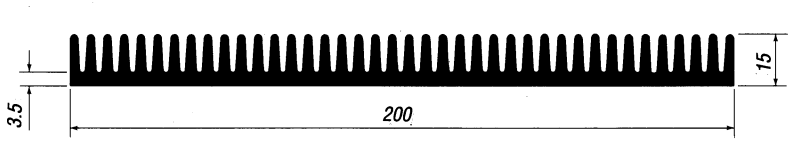
100 SERIES 28



120AB

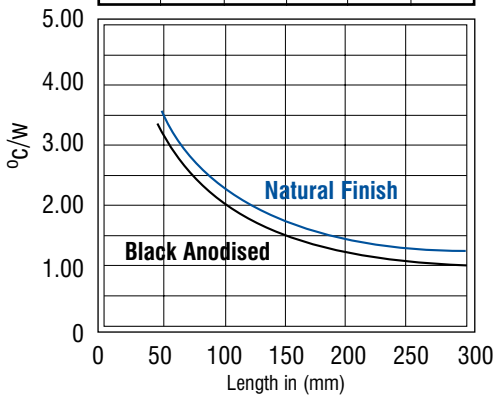
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.00	1.50	1.20	0.80	0.55

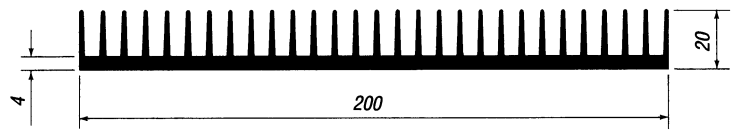




122AB

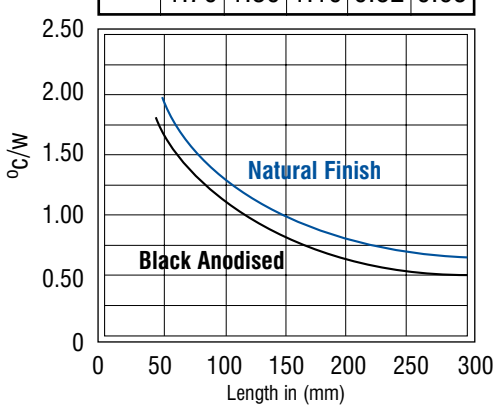
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.00	2.30	1.80	1.50	1.15





124AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.70	1.30	1.10	0.82	0.65



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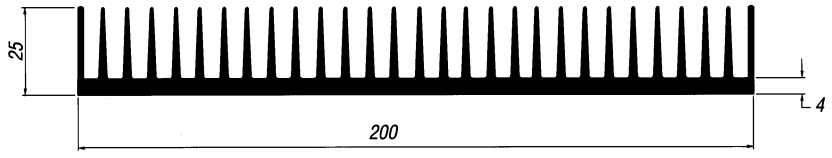
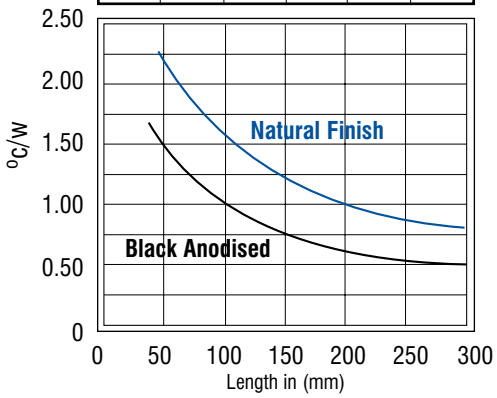
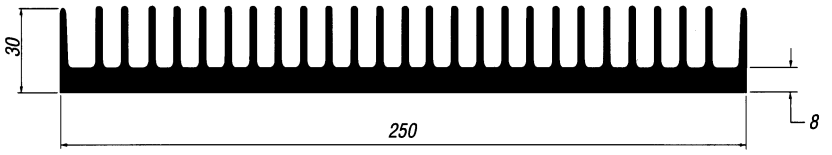
100 SERIES



125AB

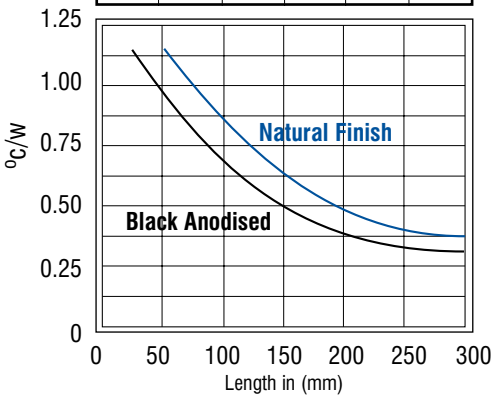
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.50	1.05	0.75	0.62	0.55

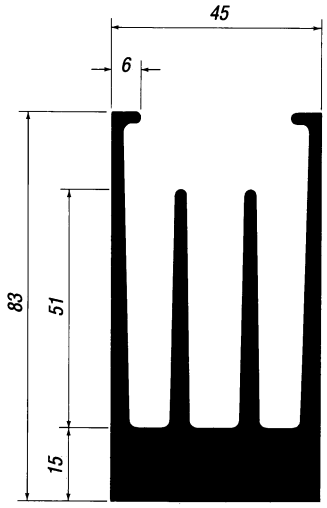




132AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.95	0.67	0.45	0.38	0.32

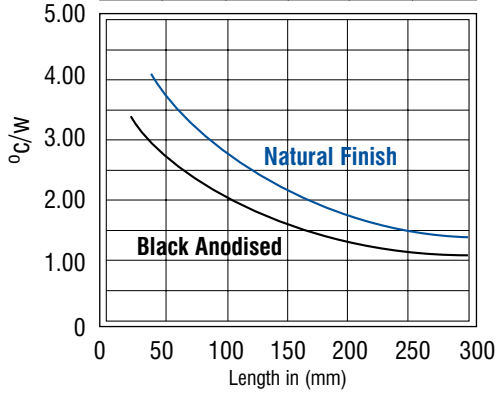




SUITABLE FOR DIN RAIL MOUNTING WITH ABL'S EXTRUDED DIN RAIL CLIP (SEE CLIP SECTION)

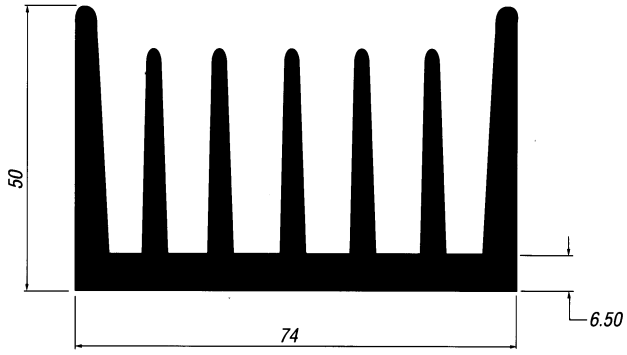
142AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.80	2.10	1.70	1.32	1.00



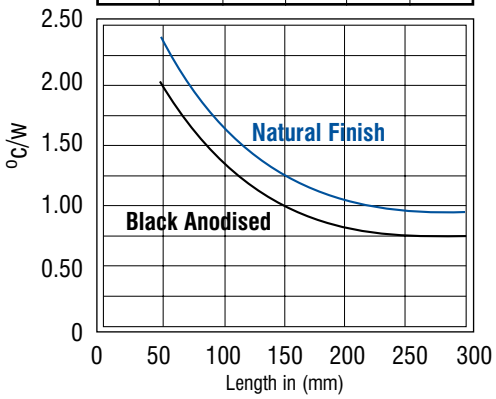
Performance figures are shown as an indication of a heatsinks actual performance. It is recommended that the effectiveness of any heatsink is tested in the specific operating environment in which it will be subjected

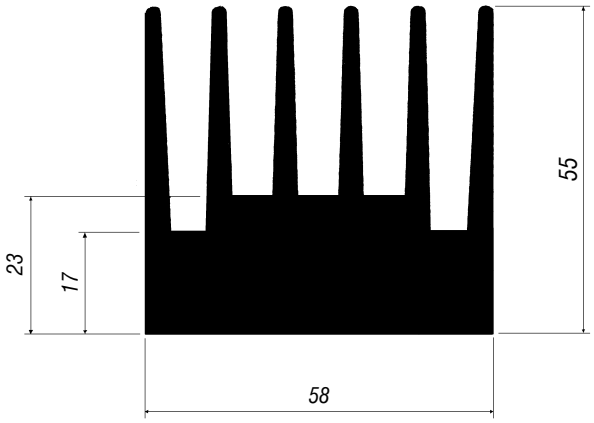
100 SERIES 30



143AB

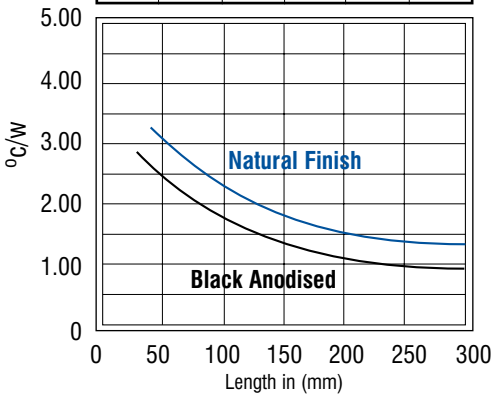
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.00	1.35	1.00	0.80	0.70

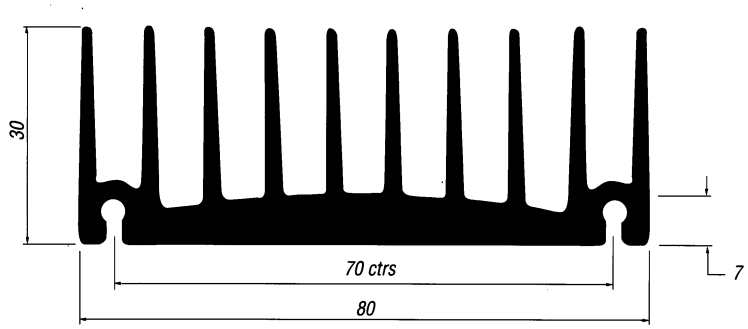




144AB

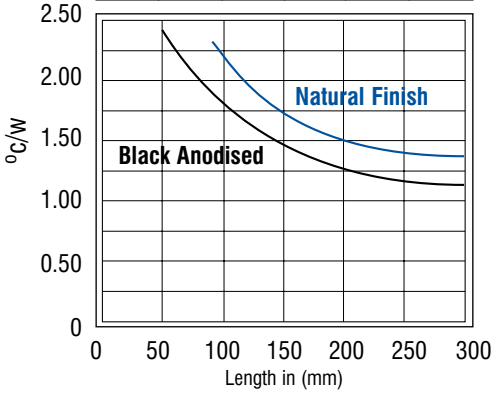
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.50	1.80	1.30	1.10	0.90





145AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.40	1.80	1.40	1.25	1.15



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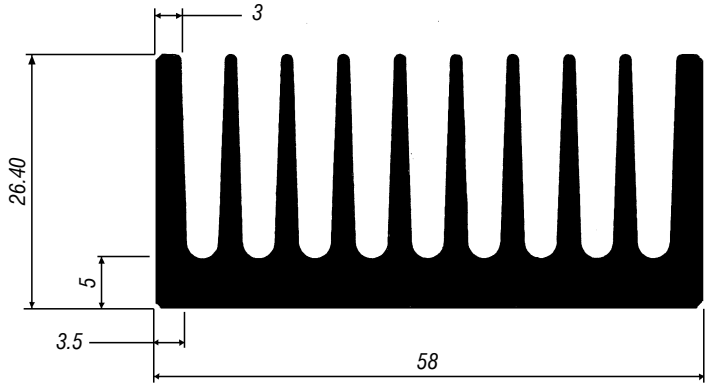
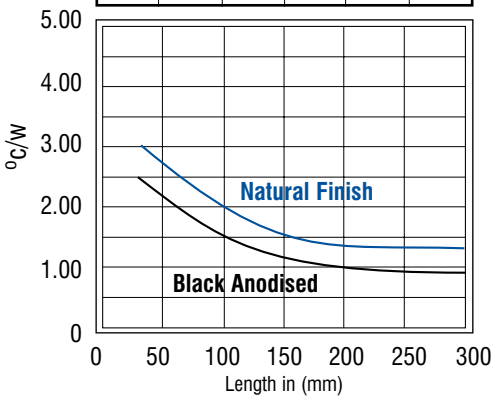
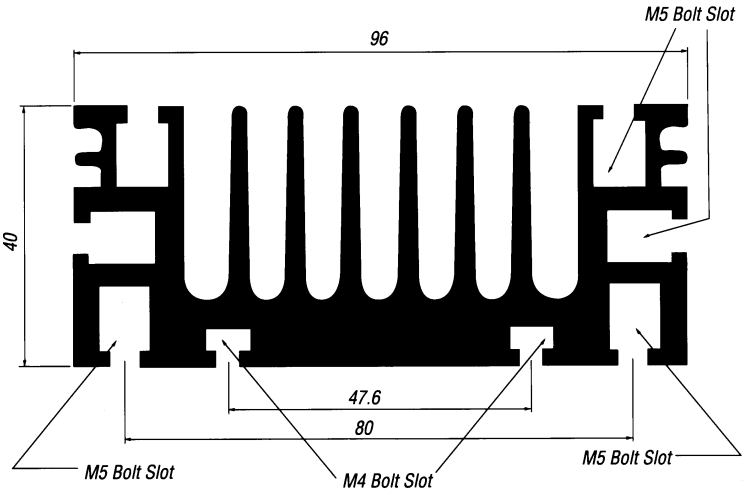
100 SERIES 31



146AB

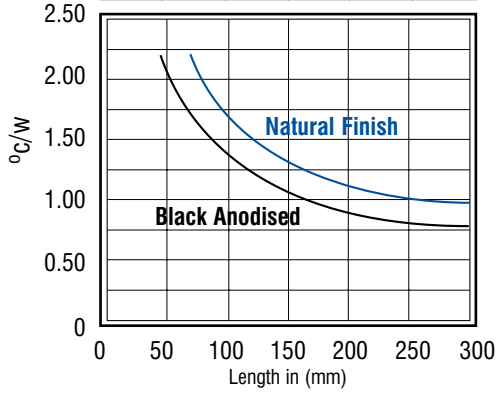
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.20	1.60	1.15	1.00	0.80

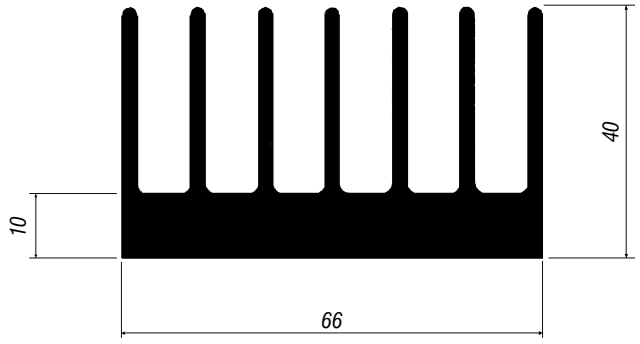




150AB

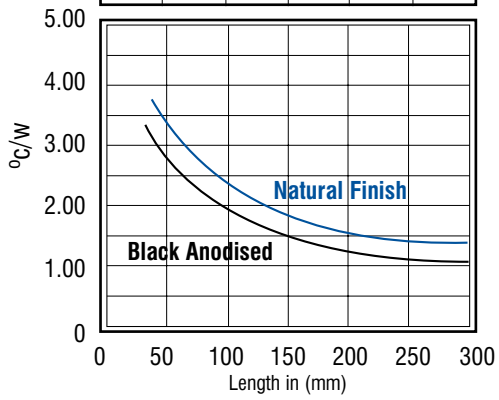
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.00	1.35	1.10	0.87	0.80





153AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.80	2.00	1.45	1.20	1.10



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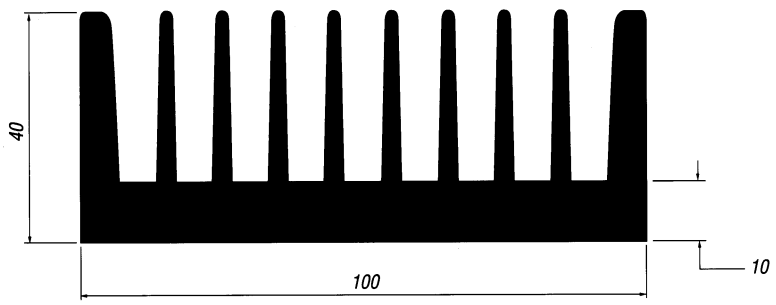
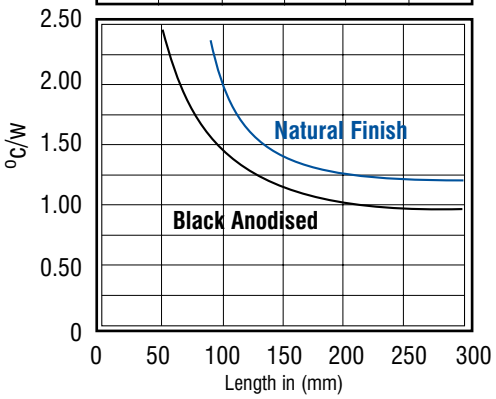
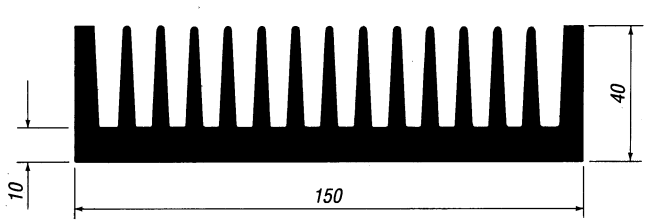
100 SERIES 32



155AB

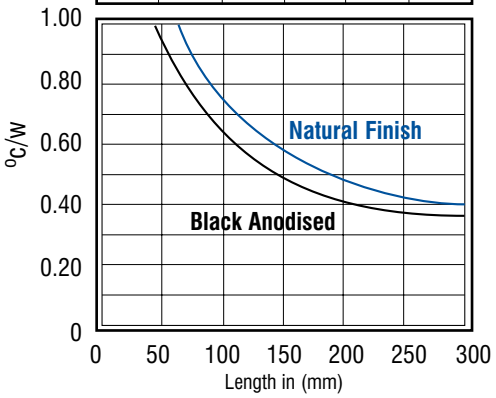
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.40	1.50	1.20	1.00	0.90

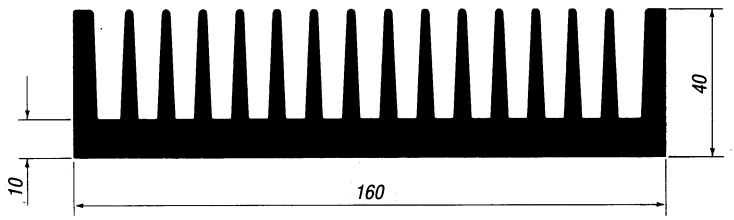




158AB

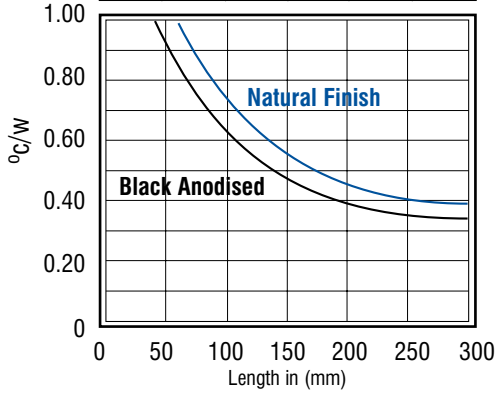
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.93	0.62	0.49	0.41	0.36





159AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.90	0.60	0.45	0.39	0.34



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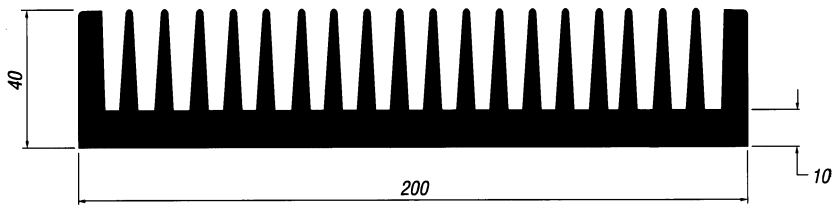
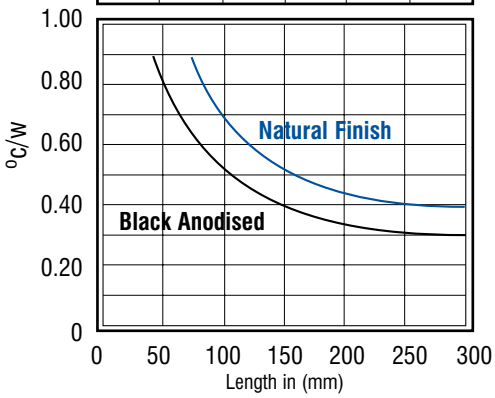
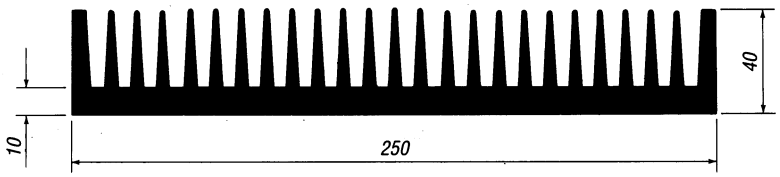
100 SERIES 33



160AB

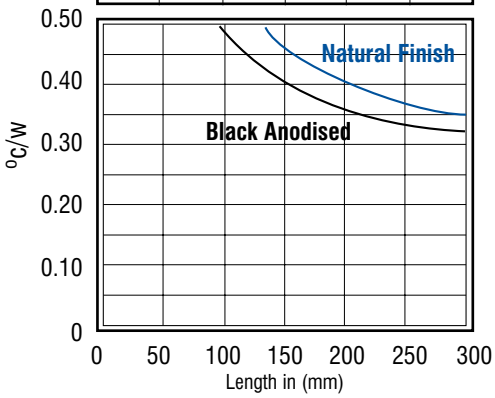
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.80	0.52	0.40	0.34	0.30

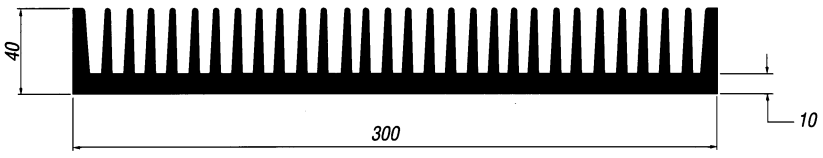




163AB

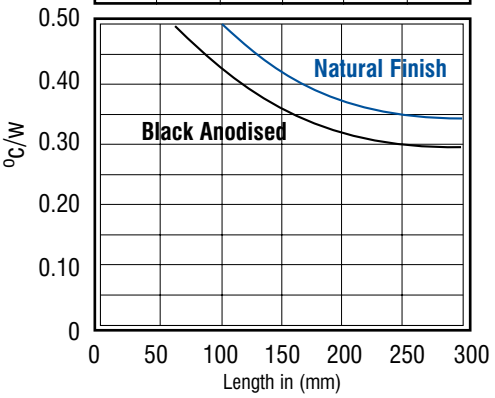
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.62	0.47	0.40	0.36	0.32





165AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.56	0.42	0.36	0.32	0.29



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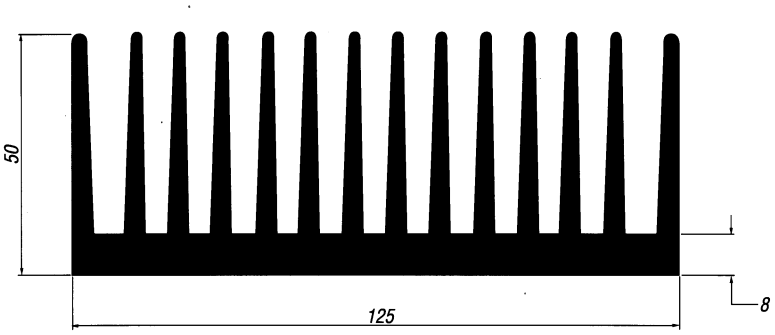
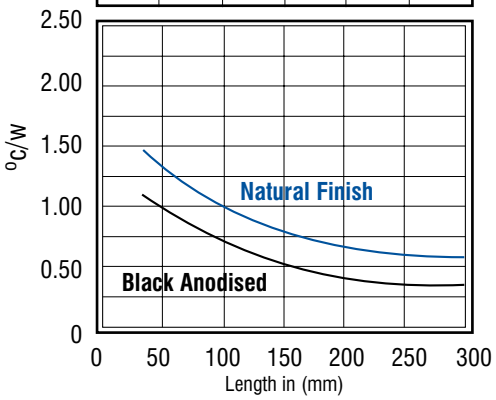
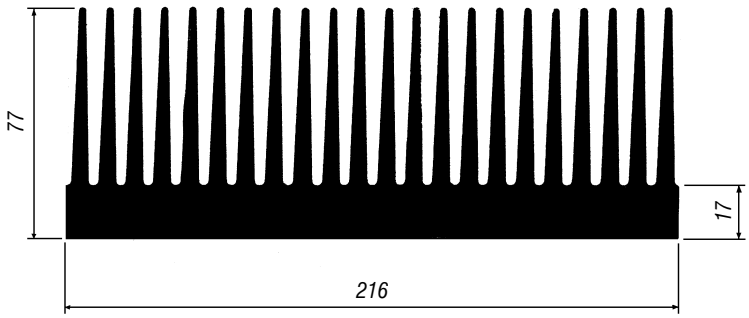
100 SERIES 34



166AB

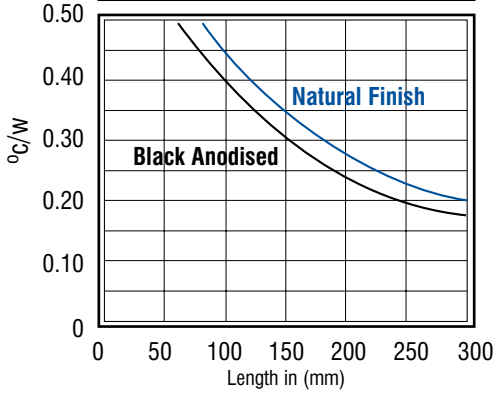
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.00	0.65	0.50	0.38	0.35

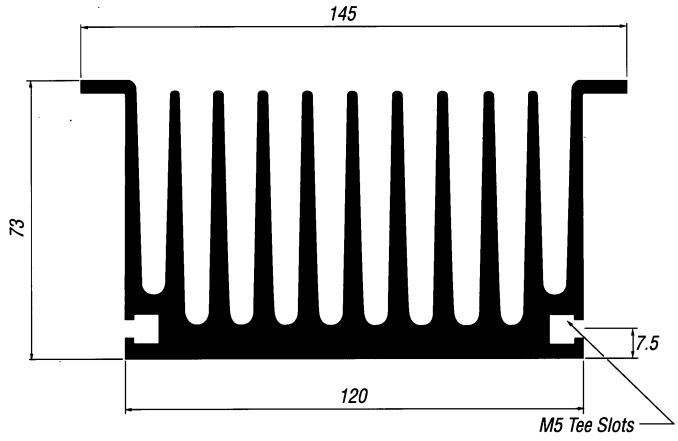




168AB

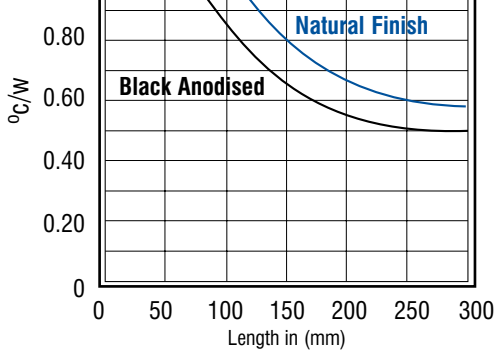
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.54	0.40	0.30	0.24	0.18





172AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.15	0.87	0.68	0.55	0.49



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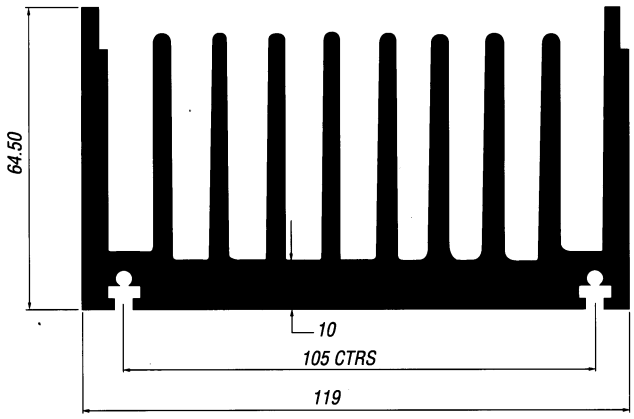
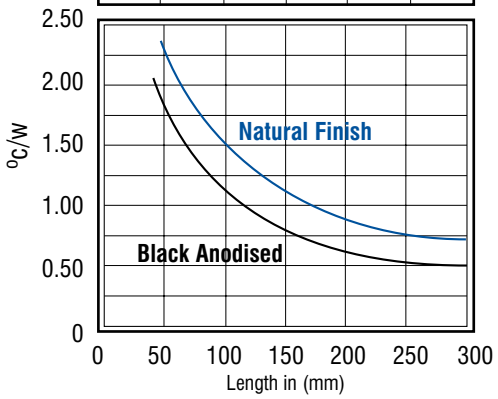
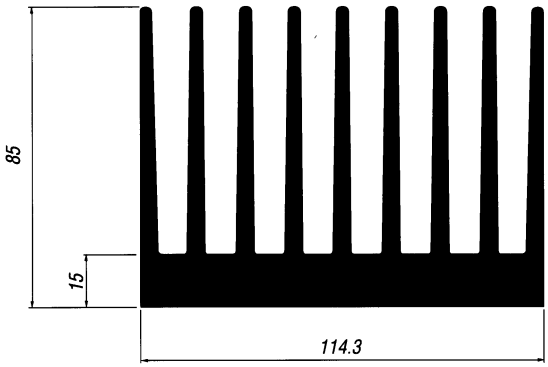
100 SERIES 35



173AB

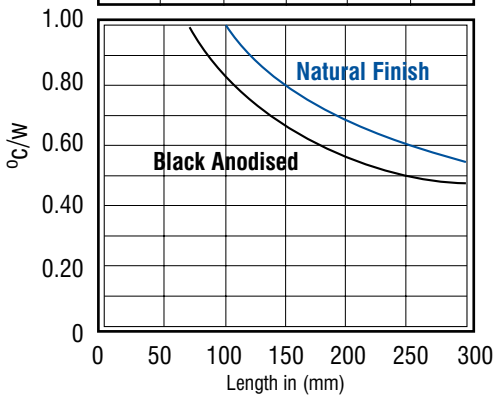
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.87	1.25	0.80	0.63	0.48

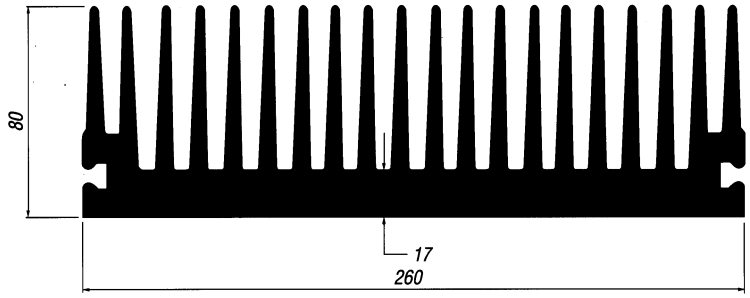




174AB

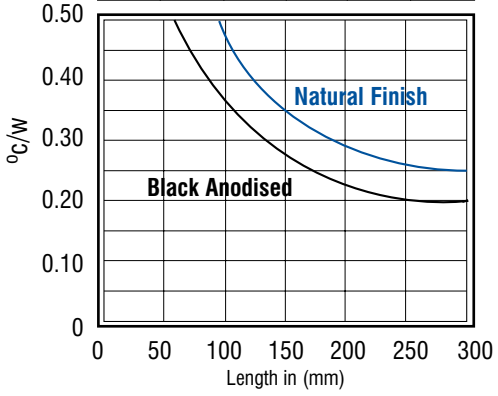
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.20	0.85	0.67	0.53	0.46





175AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.54	0.36	0.27	0.23	0.20



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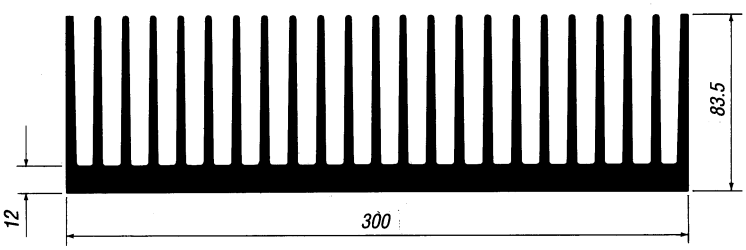
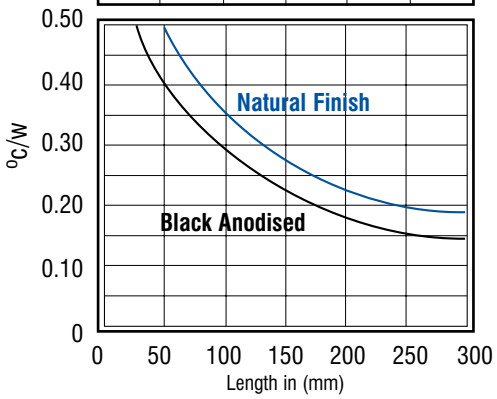
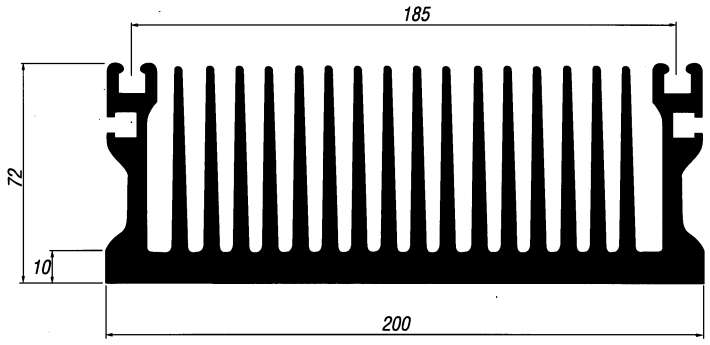
100 SERIES 36



177AB

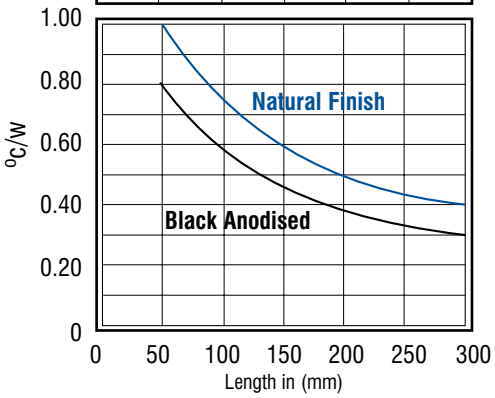
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.42	0.28	0.23	0.19	0.15

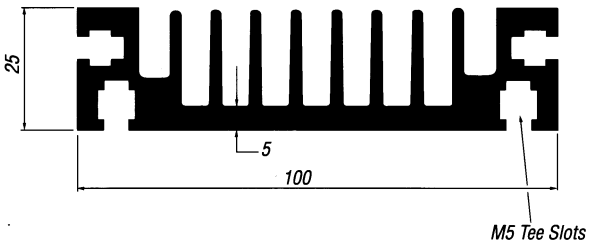




179AB

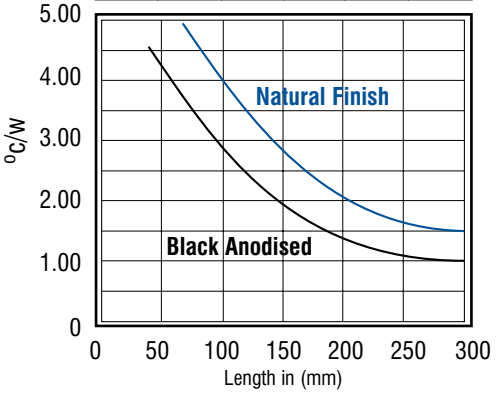
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.81	0.59	0.47	0.38	0.30





182AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	4.10	2.80	1.80	1.35	1.00



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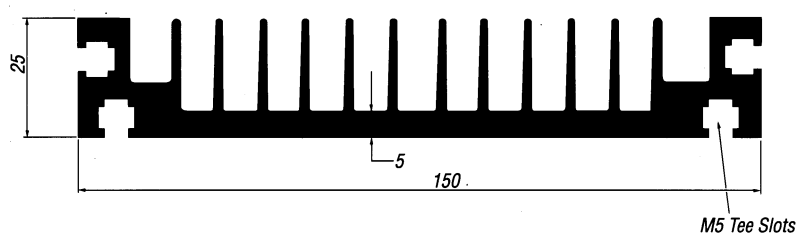
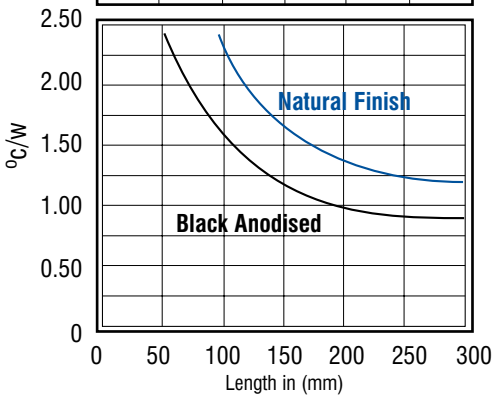
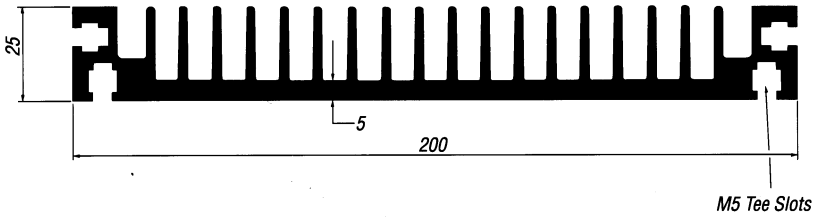
100 SERIES 37



183AB

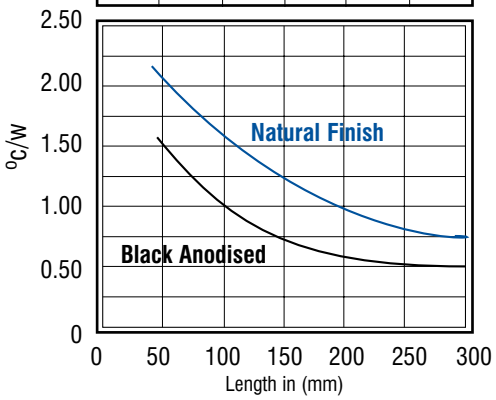
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	2.45	1.70	1.20	0.95	0.84

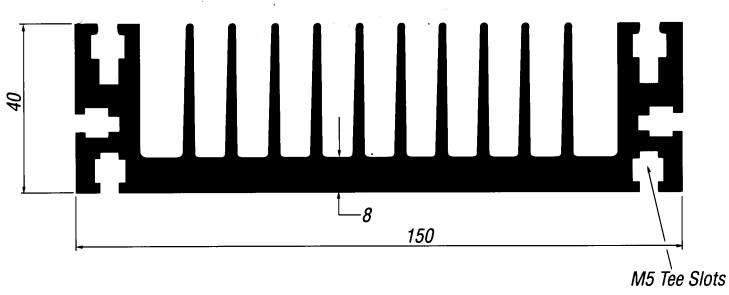




184AB

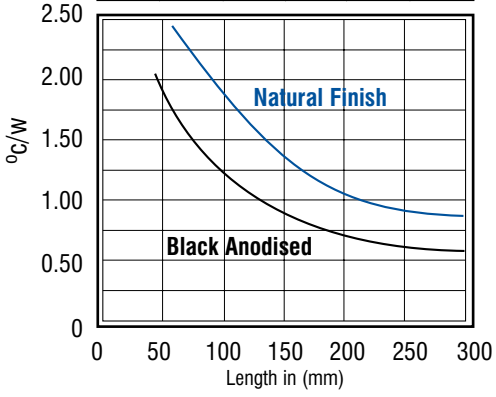
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.50	1.10	0.75	0.62	0.50





188AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.95	1.20	0.85	0.70	0.62



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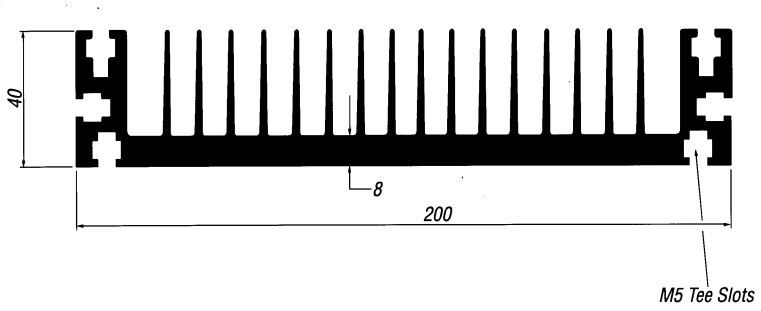
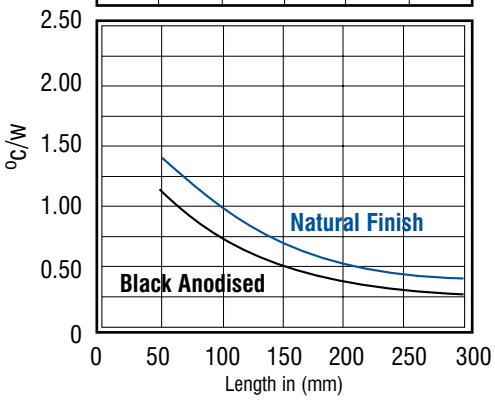
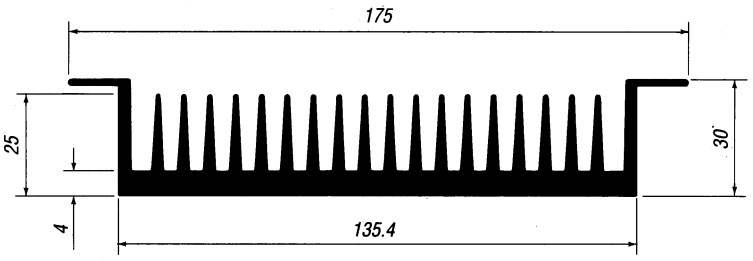
100 SERIES 38



189AB

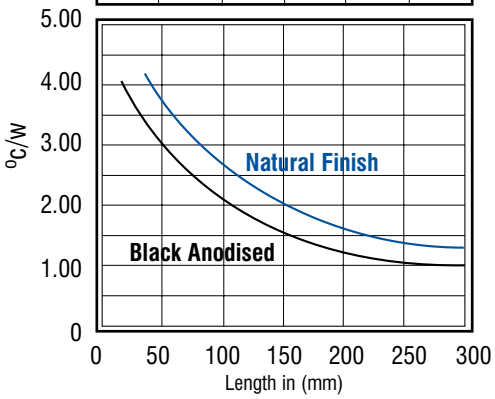
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.15	0.75	0.50	0.40	0.30

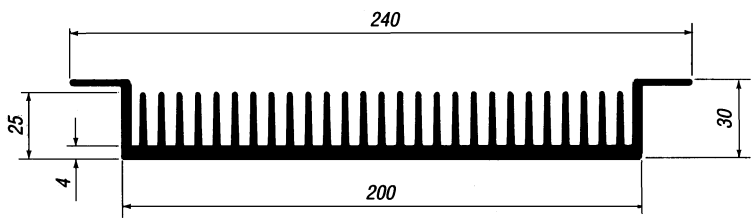




190AB

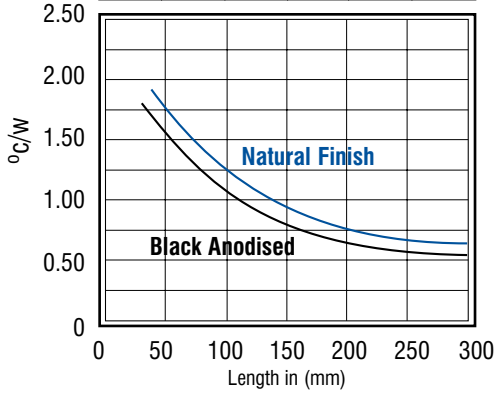
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	3.15	2.10	1.60	1.25	1.00





192AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.50	1.05	0.75	0.62	0.55



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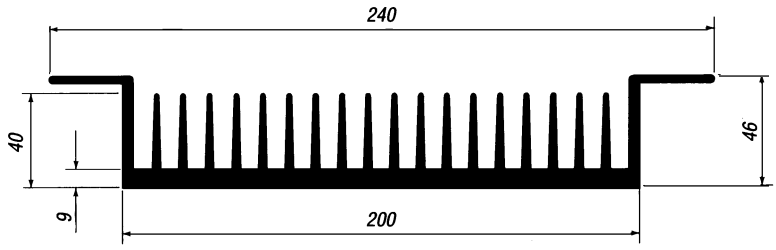
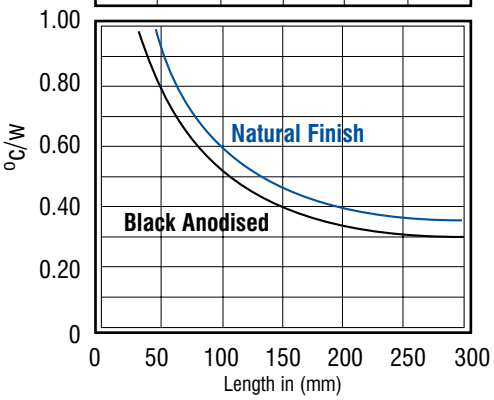
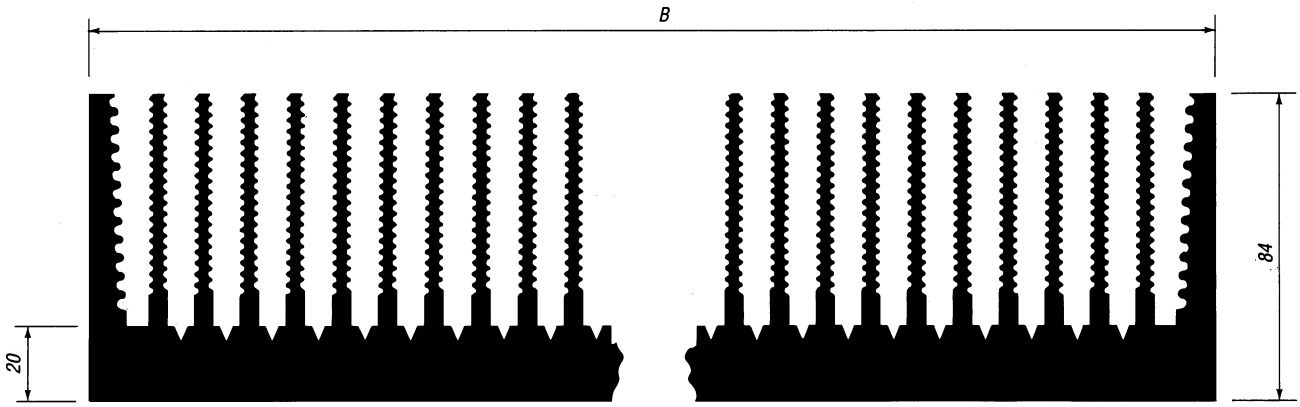


193AB

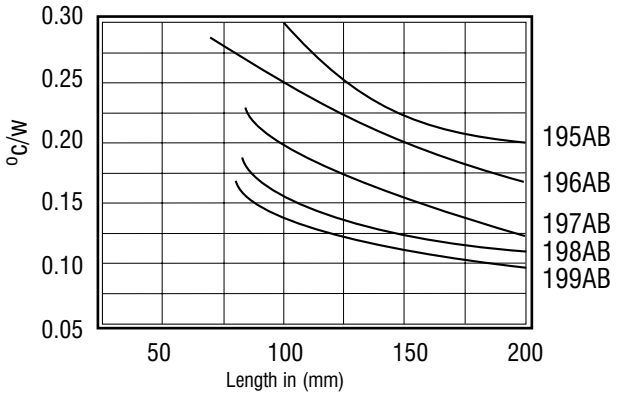
Typical Performance	°c/w Black				
Length	50	100	150	200	300
°c/w	0.80	0.52	0.40	0.34	0.30



HIGH POWER HEATSINKS



ABL REF	B	No.of Fins
195AB	300	22
196AB	400	30
197AB	500	38
198AB	600	46
199AB	750	58



195 - 199AB

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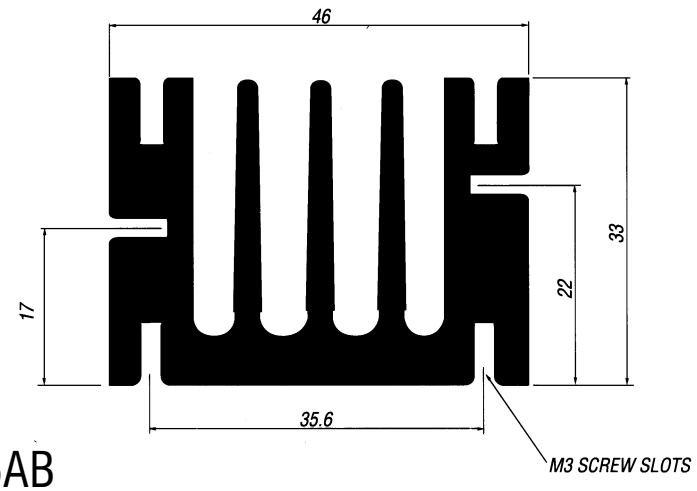
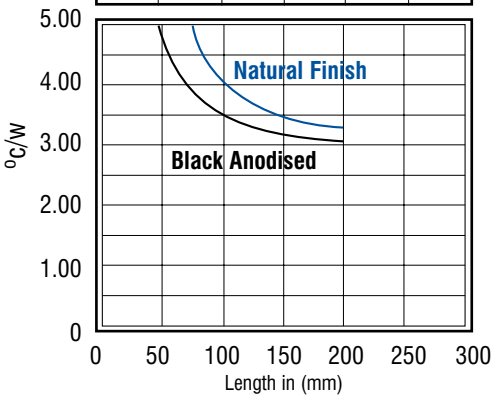
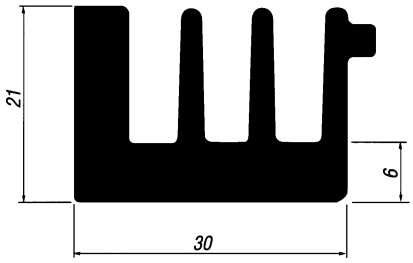
200 SERIES 40



205AB

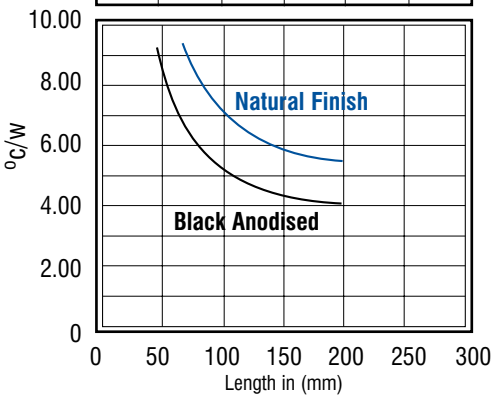
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	4.90	3.80	3.40	3.25	3.15

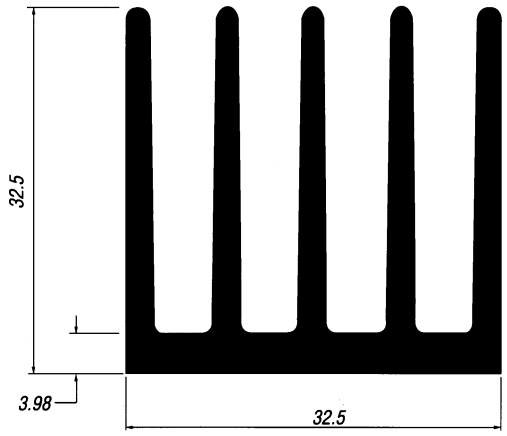




208AB

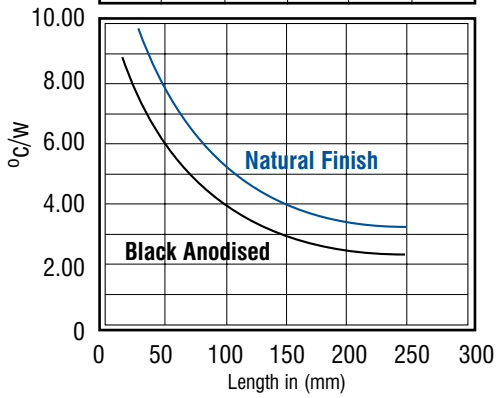
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	9.00	6.50	5.30	4.30	4.00





220AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	6.00	4.80	3.90	3.00	2.50



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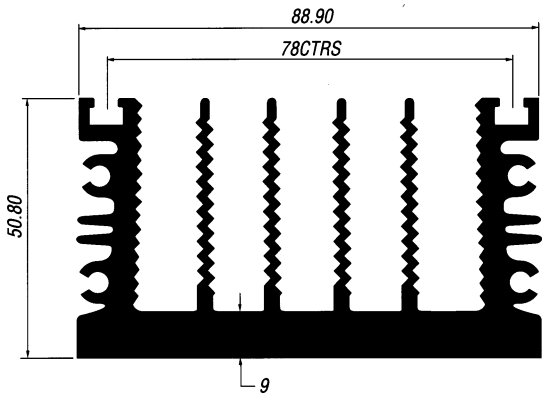
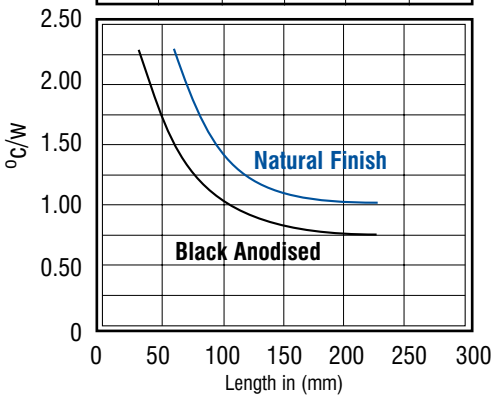
200 SERIES 41

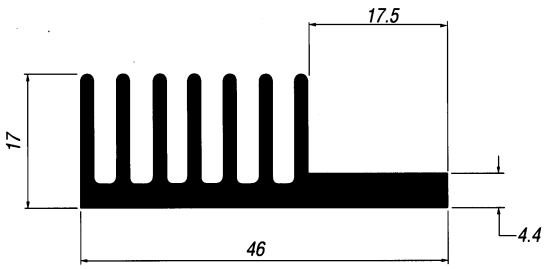


250AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.75	1.25	1.10	0.85	0.80

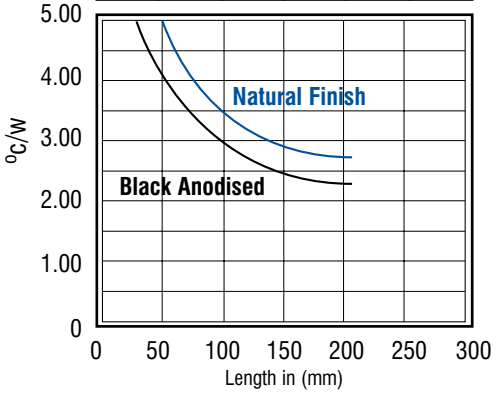


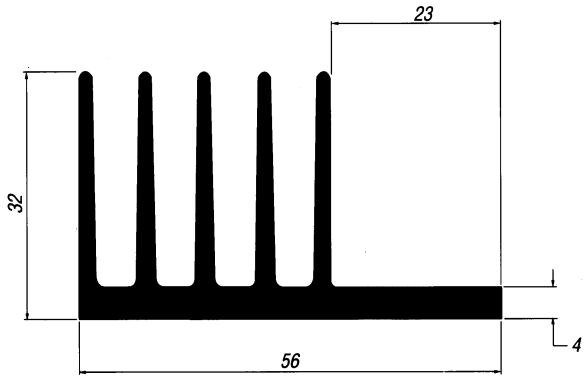
FOR MORE INFORMATION, SEE BOARD MOUNTING SECTION



270AB

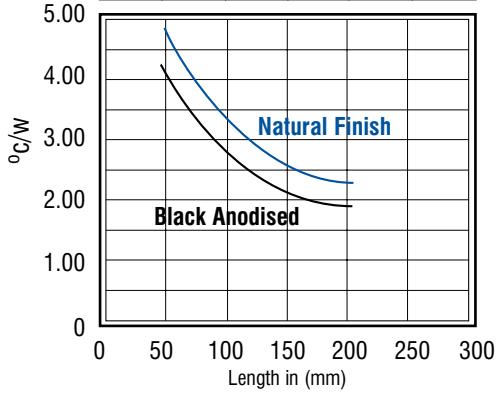
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	4.00	3.35	2.95	2.45	2.20





280AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	4.00	3.30	2.75	2.10	1.90



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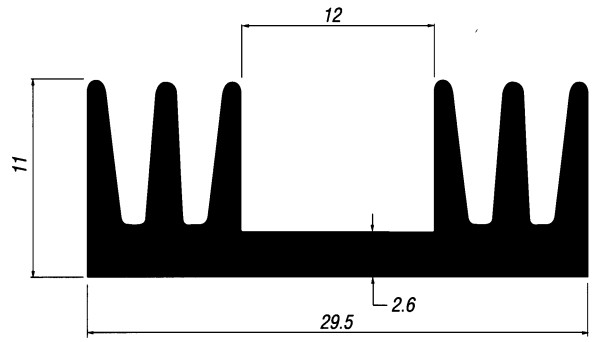
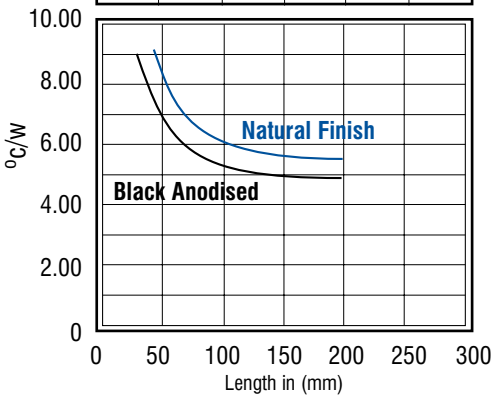
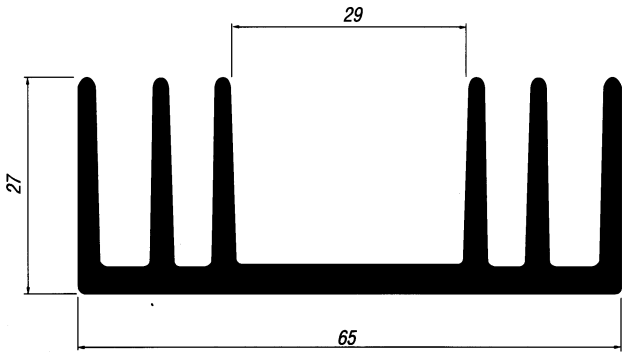
300 SERIES 42



305AB

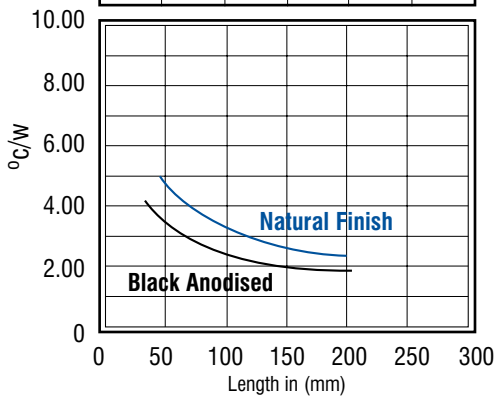
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	7.00	5.85	5.20	4.90	4.80

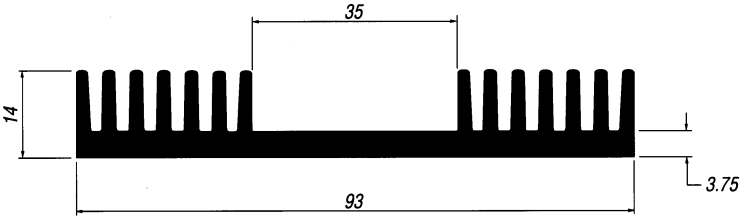




313AB

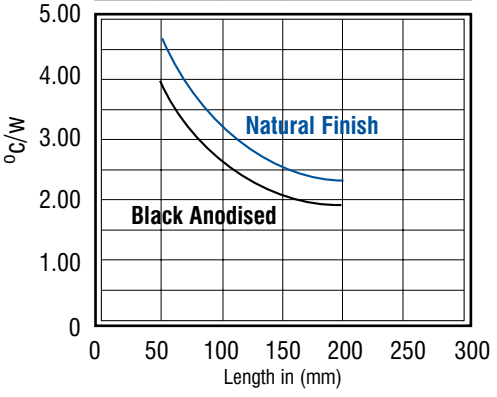
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.50	2.70	2.45	2.00	1.87





325AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.80	3.20	2.70	2.00	1.80



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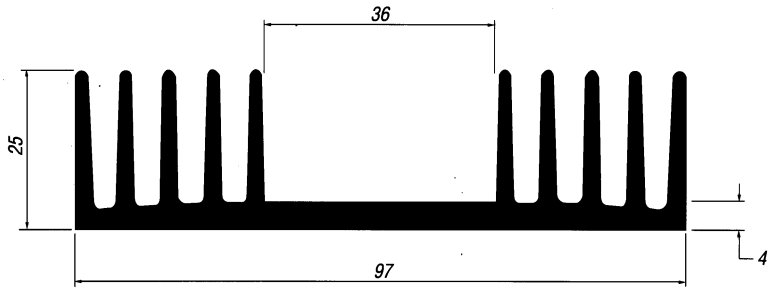
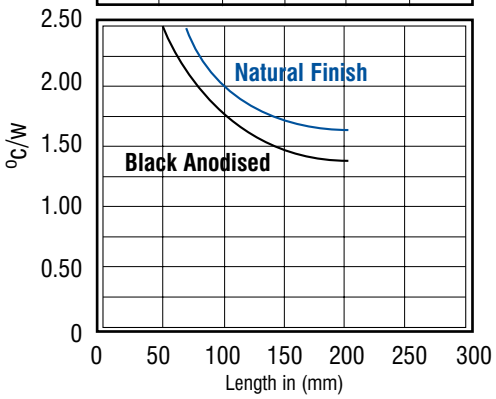
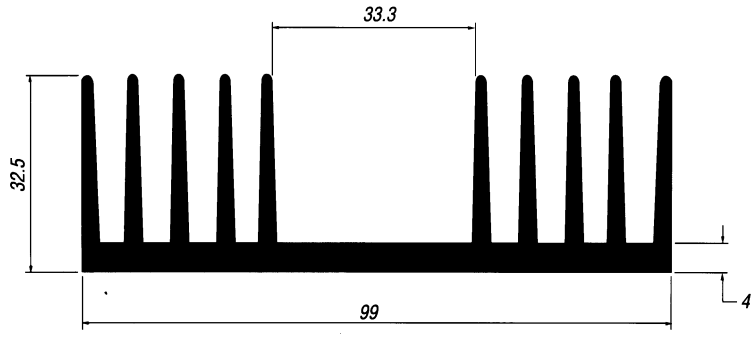
300 SERIES 43



333AB

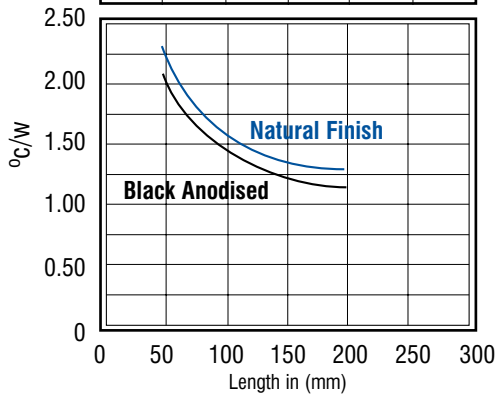
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.40	2.00	1.70	1.50	1.40

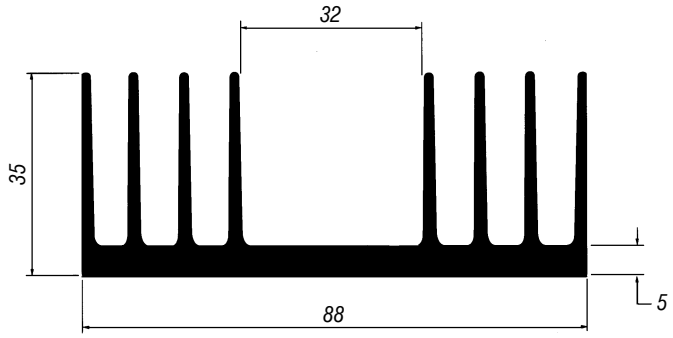




335AB

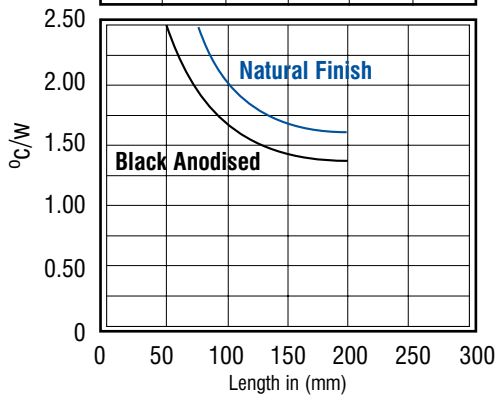
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.00	1.60	1.40	1.20	1.15





340AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.40	1.92	1.68	1.45	1.35



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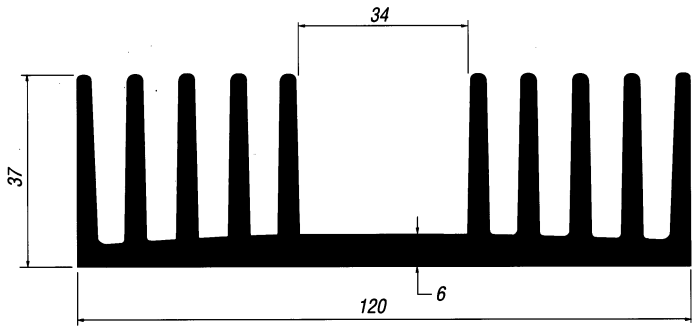
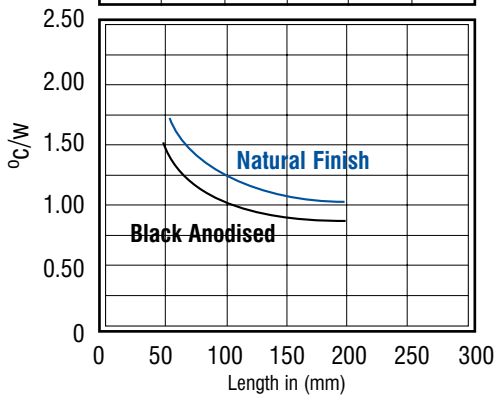
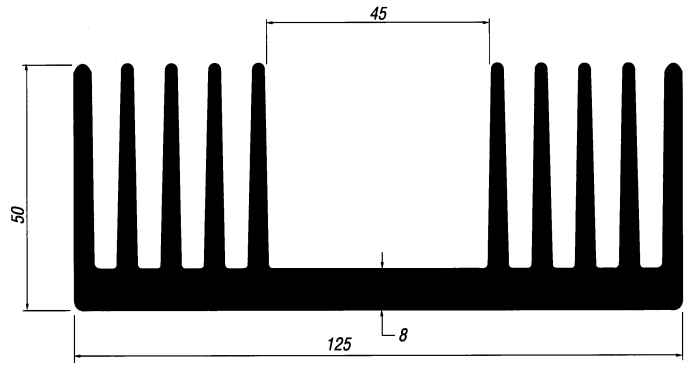
300/400 SERIES 44



345AB

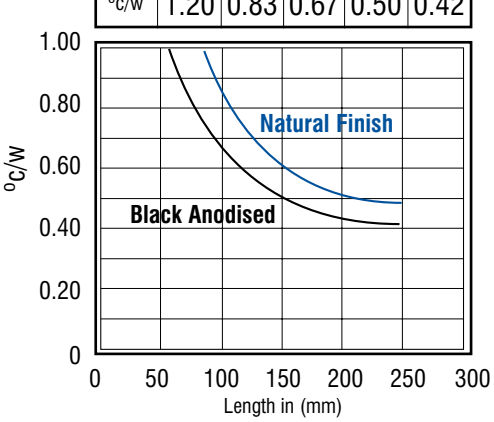
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.50	1.20	1.00	0.85	0.80

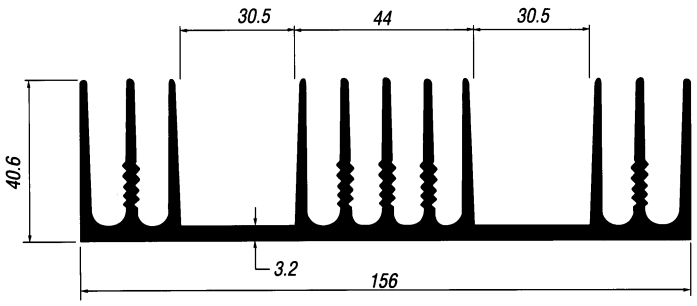




350AB

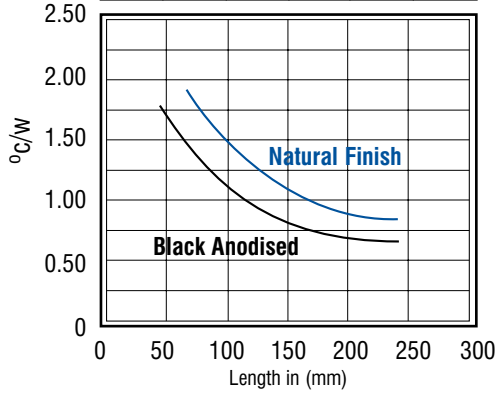
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.20	0.83	0.67	0.50	0.42





430AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.75	1.31	1.12	0.80	0.72



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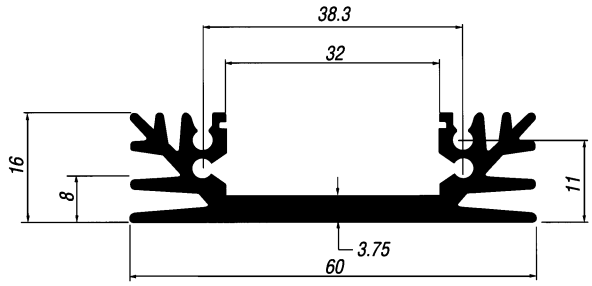
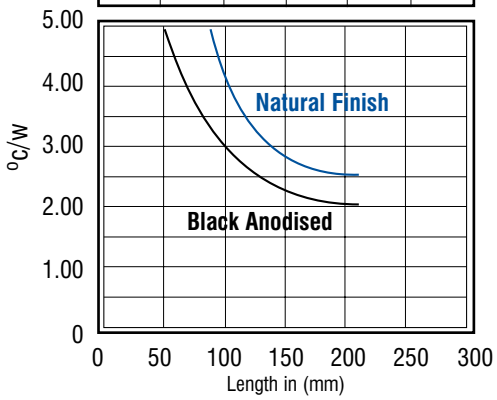
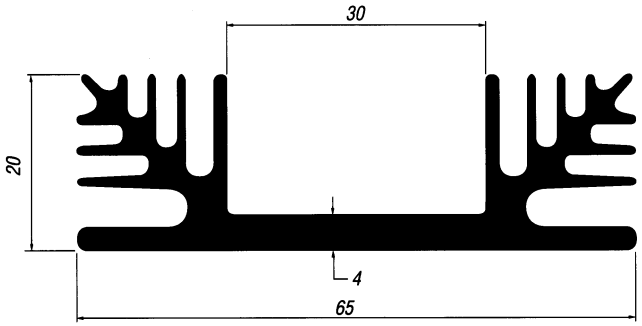
500 SERIES 45



505AB

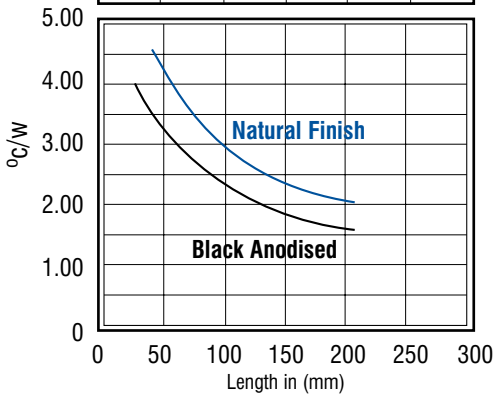
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	5.00	3.70	3.00	2.30	2.10

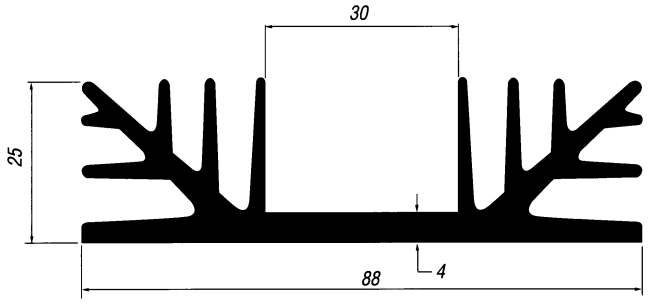




510AB

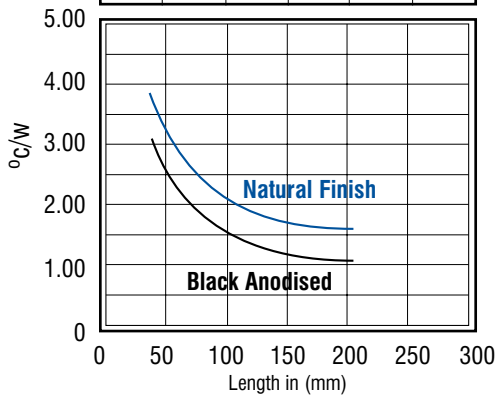
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	3.30	2.65	2.30	1.80	1.65





515AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.50	1.90	1.50	1.20	1.10



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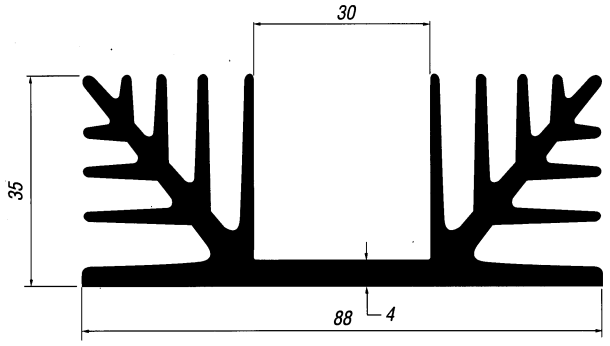
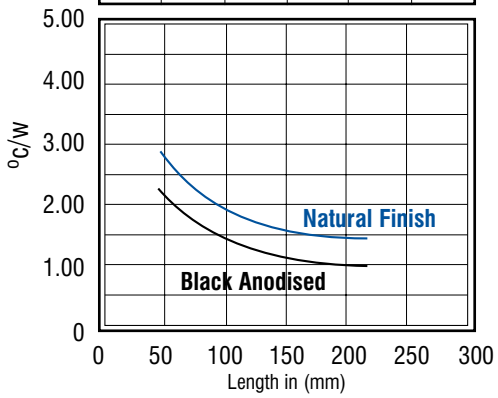
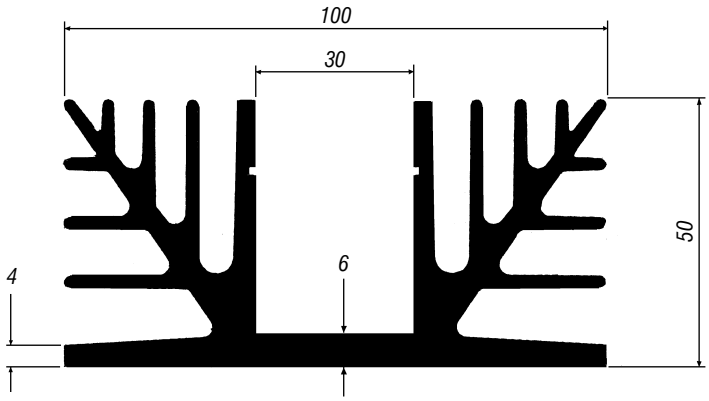
500 SERIES 46



520AB

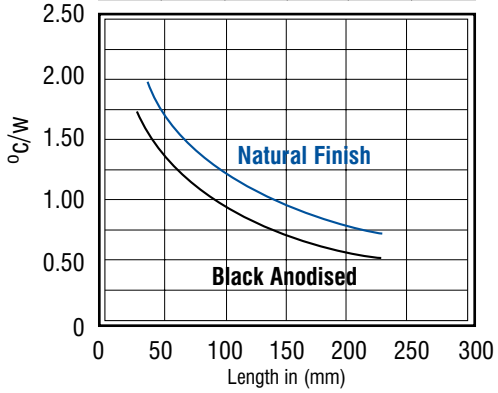
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.10	1.65	1.40	1.10	0.95

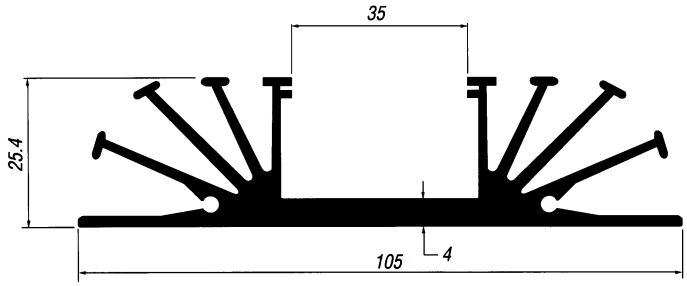




523AB

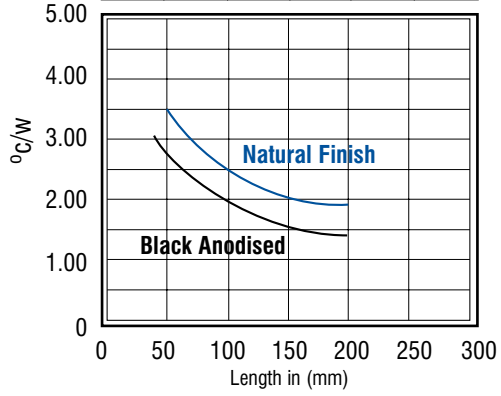
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.35	1.10	0.85	0.70	0.60





525AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.80	2.25	1.85	1.50	1.40



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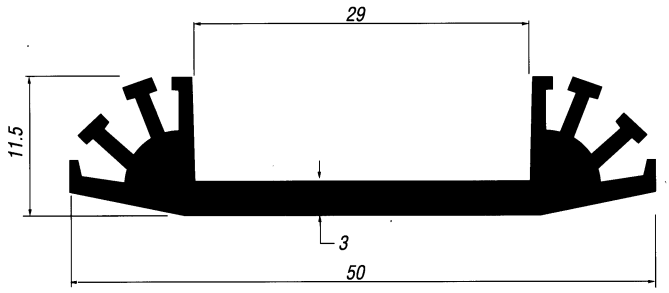
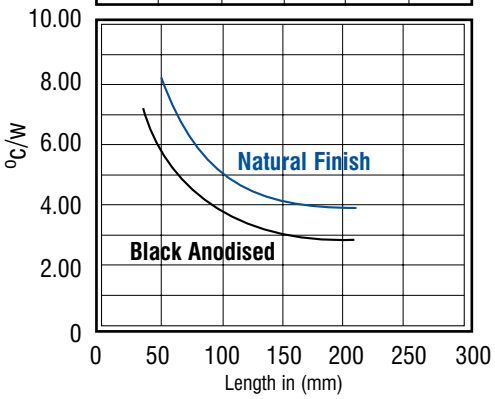
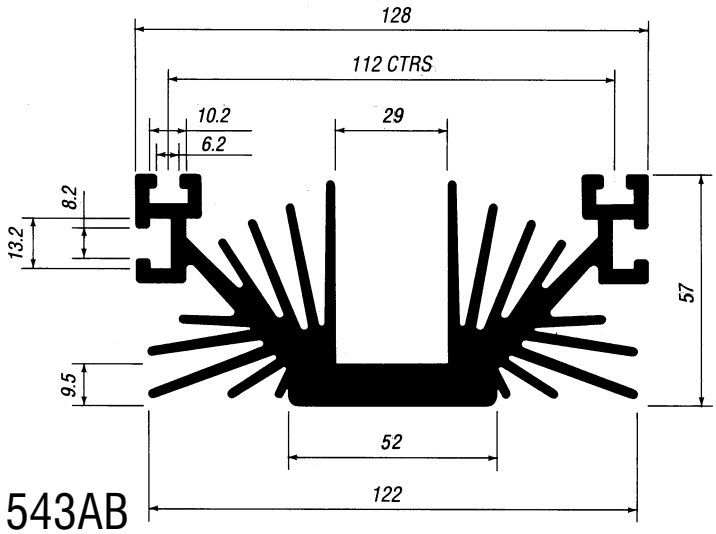
500 SERIES 47



532AB

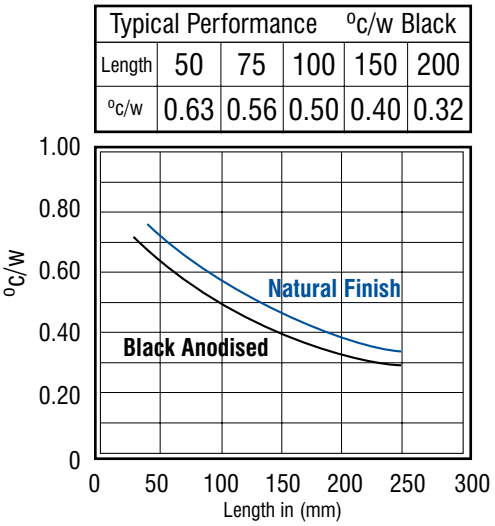
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	5.80	4.50	3.70	3.00	2.80

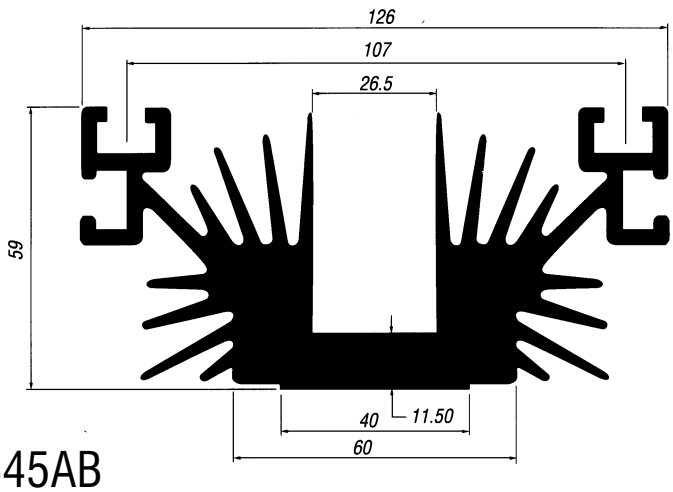




543AB

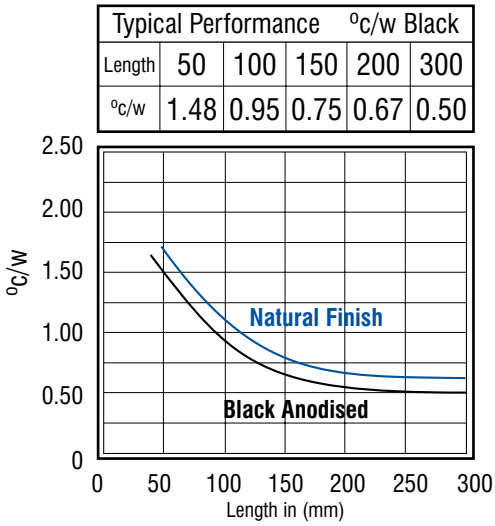
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	0.63	0.56	0.50	0.40	0.32





545AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.48	0.95	0.75	0.67	0.50



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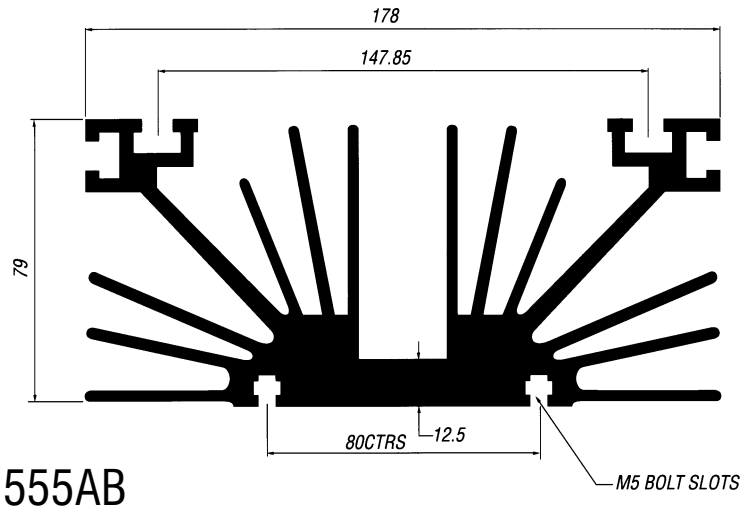
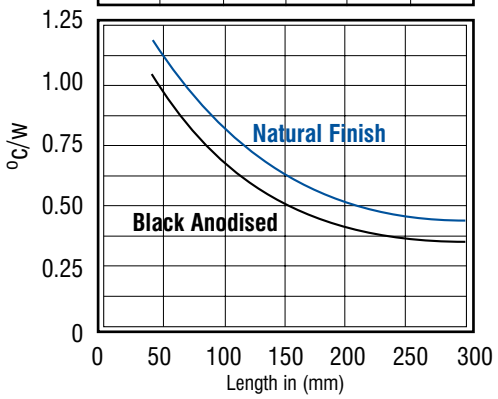
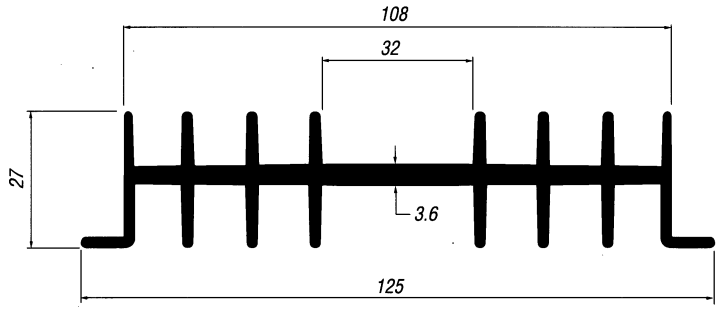
500/600 SERIES 48



555AB

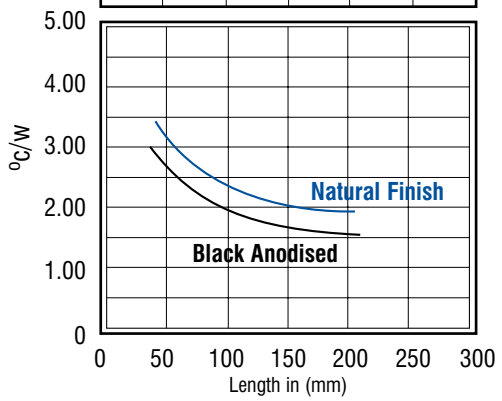
Typical Performance	°c/w Black				
Length	50	100	150	200	300
°c/w	1.00	0.74	0.50	0.38	0.35

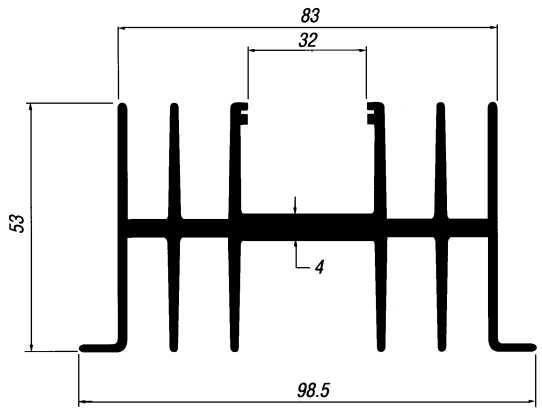




605AB

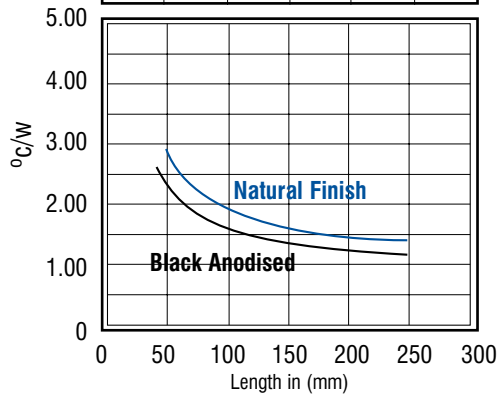
Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	2.75	2.30	2.00	1.60	1.50





610AB

Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	2.40	1.90	1.60	1.35	1.20



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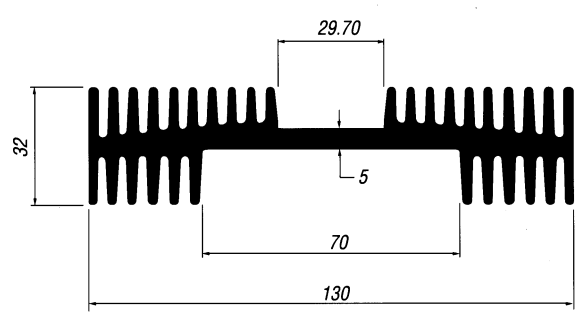
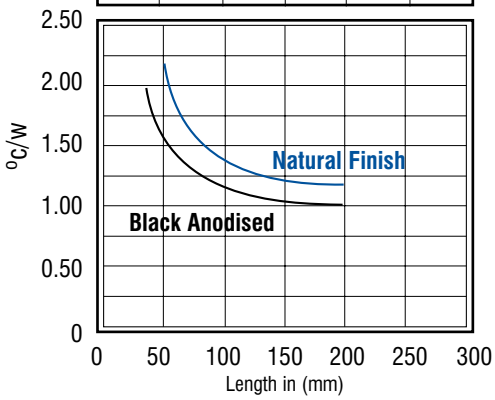
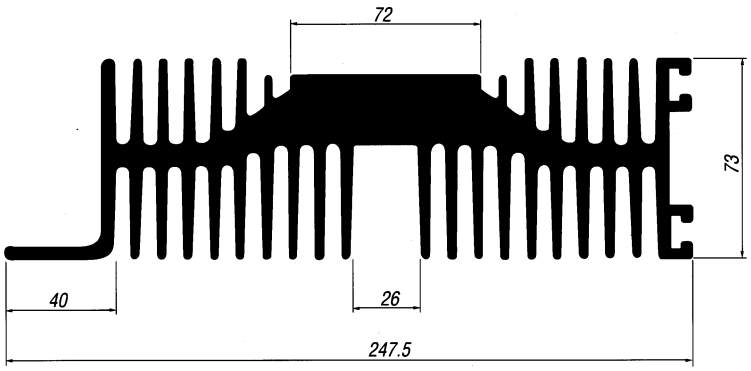
600/700 SERIES 49



665AB

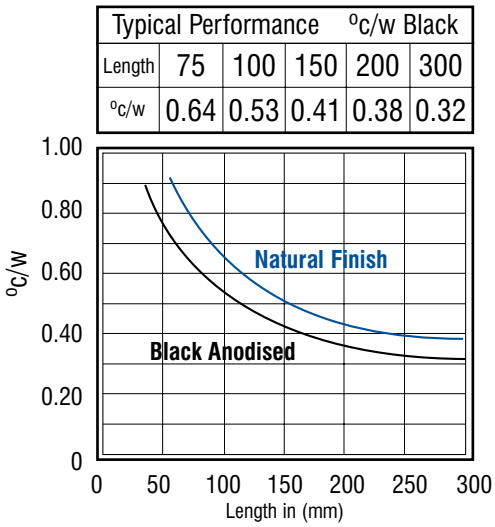
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.60	1.25	1.12	1.00	0.90

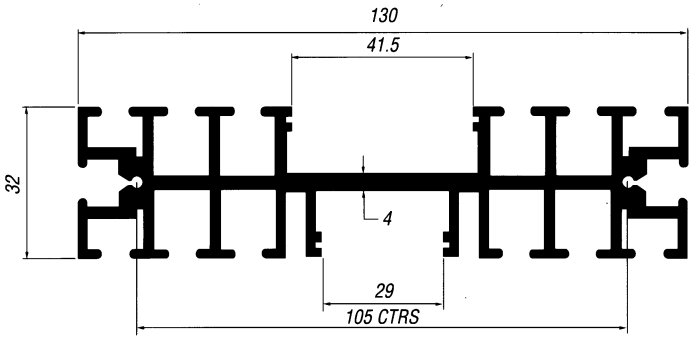




680AB

Typical Performance °c/w Black					
Length	75	100	150	200	300
°c/w	0.64	0.53	0.41	0.38	0.32

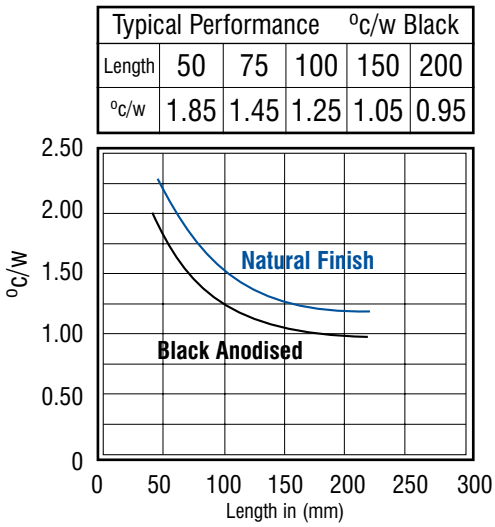




705AB

HOLE DIA. 3.30
TEE SLOTS TO SUIT M4 CAGE NUTS

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.85	1.45	1.25	1.05	0.95



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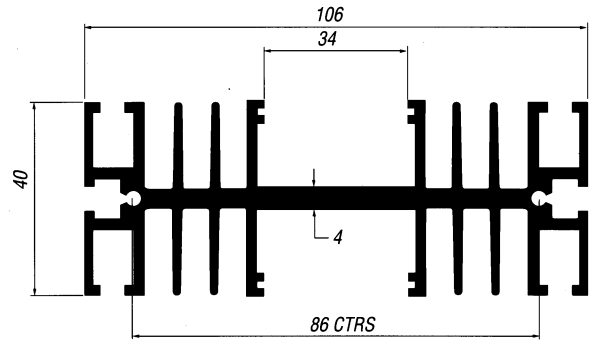
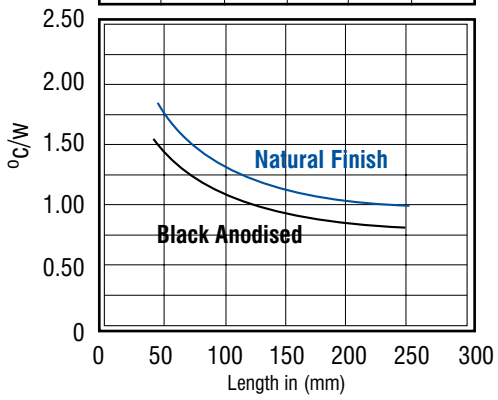
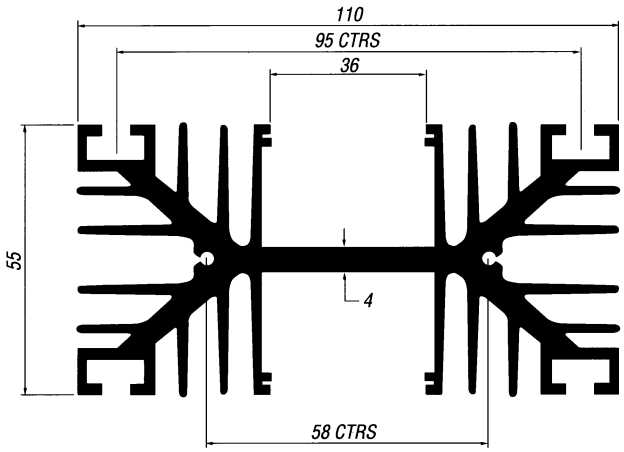


710AB

HOLE DIA. 3.30
TEE SLOTS TO SUIT M4 CAGE NUTS

Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	1.50	1.25	1.12	0.95	0.85

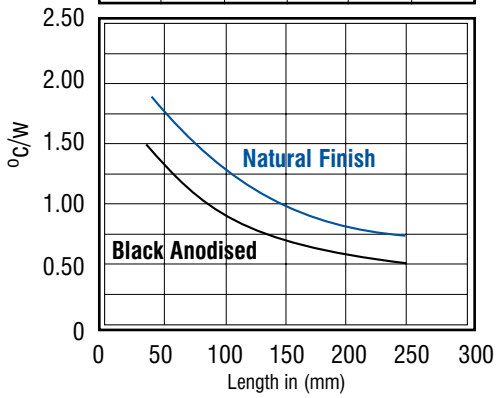


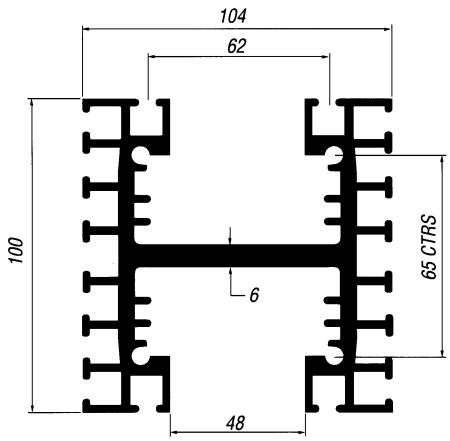


715AB

HOLE DIA 3.30

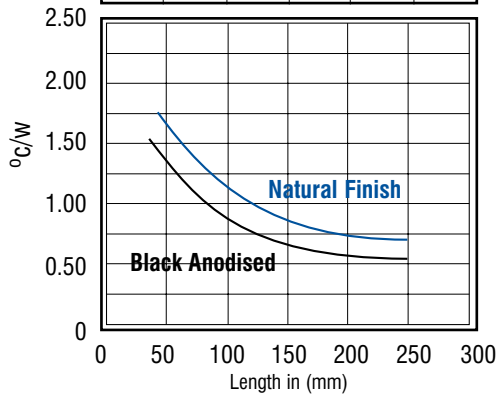
Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	1.30	1.10	0.88	0.70	0.60





725AB

Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	1.33	1.12	0.88	0.63	0.56



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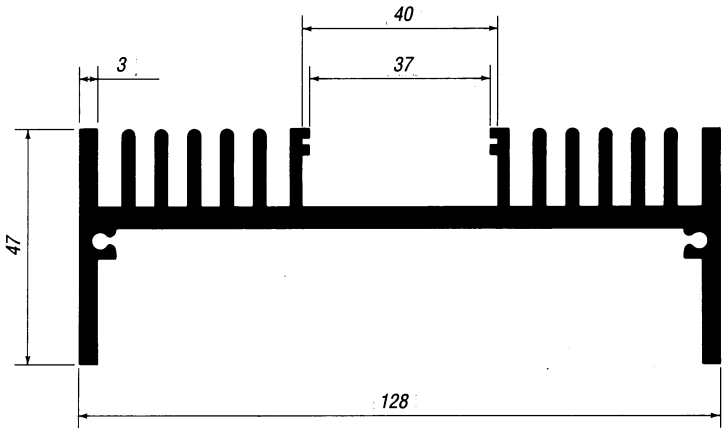
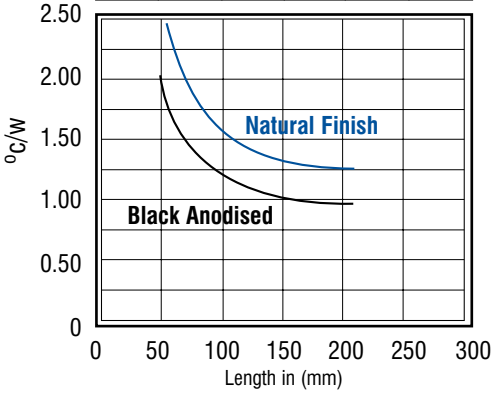
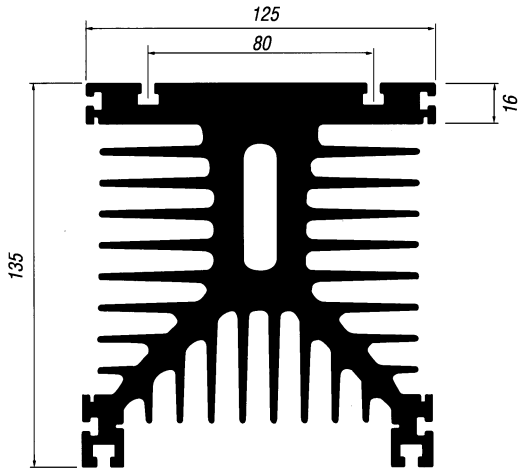
700 SERIES 51



732AB

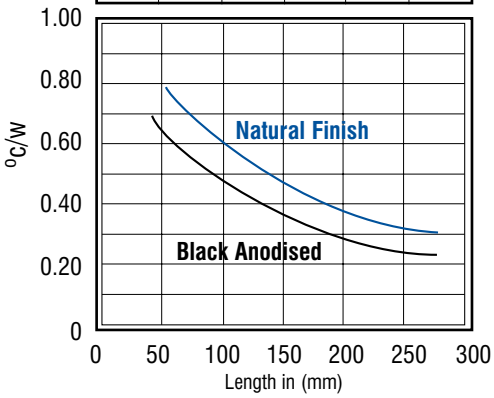
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	1.80	1.40	1.20	0.95	0.88

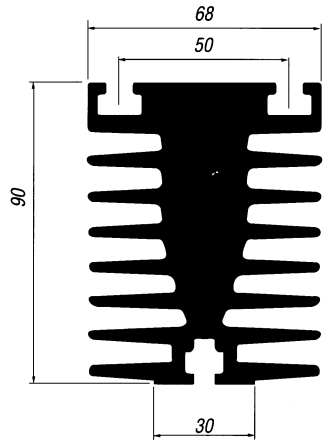




750AB

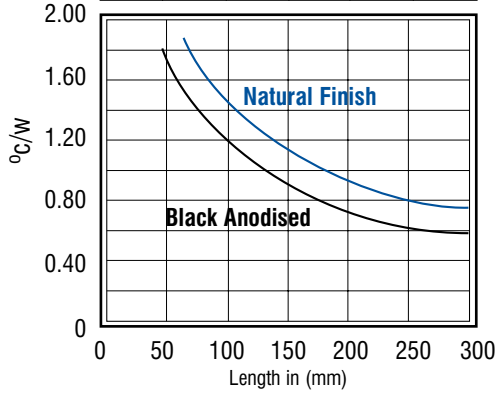
Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	0.64	0.46	0.35	0.28	0.24





762AB

Typical Performance °c/w Black					
Length	50	100	150	200	300
°c/w	1.80	1.20	0.83	0.67	0.58



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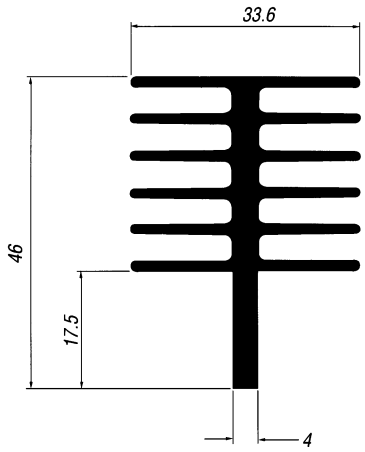
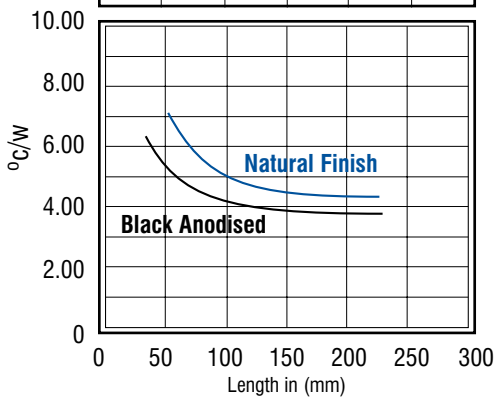
900 SERIES 52

FOR MORE INFORMATION, SEE BOARD MOUNTING SECTION



910AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	5.50	4.80	4.30	3.90	3.70



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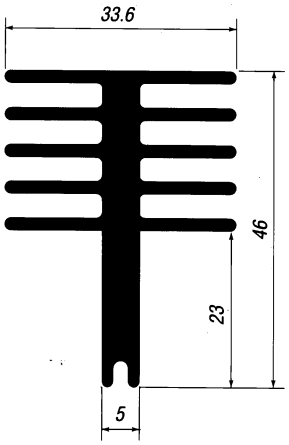
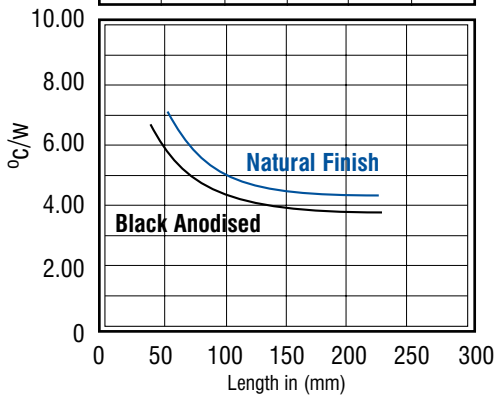
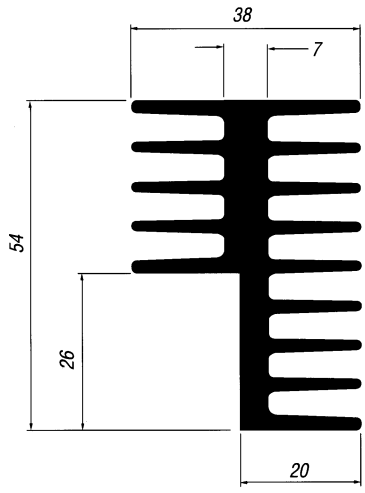


915AB

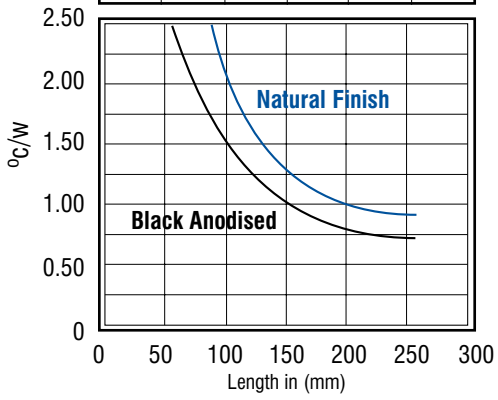
Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	5.80	5.00	4.40	4.00	3.80





920AB

Typical Performance °c/w Black					
Length	50	75	100	150	200
°c/w	2.70	2.00	1.60	1.00	0.70



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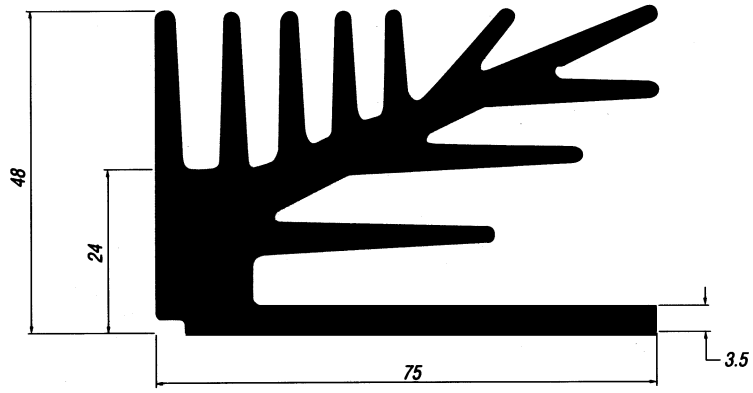
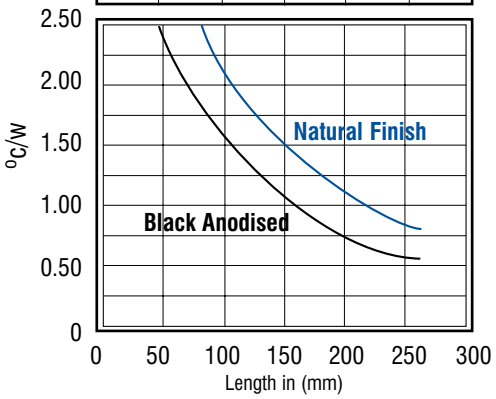
900 SERIES 53



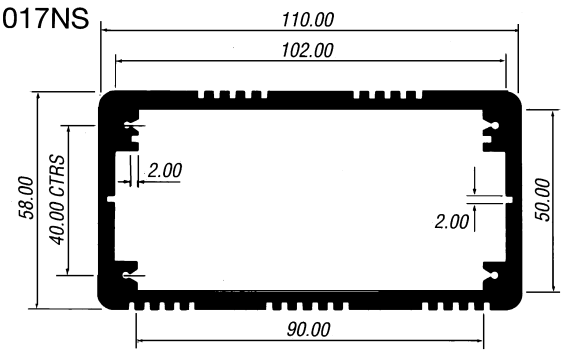
950AB

Typical Performance	°c/w Black				
Length	50	75	100	150	200
°c/w	2.50	2.00	1.60	1.10	0.75

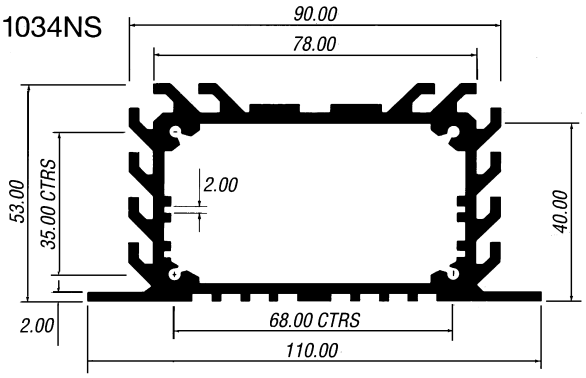


BOX SECTIONS

1017NS



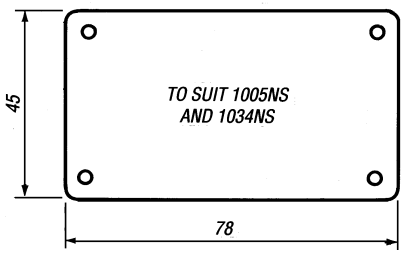
1034NS

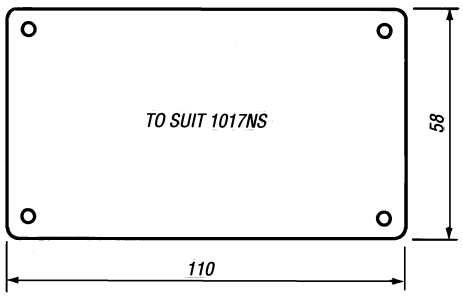


END PLATES

× STANDARD END PLATES

× NON STANDARD END PLATES AND HOLE PATTERNS AVAILABLE UPON REQUEST





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