



Silicone Free Heat Sink Compound

Heat Sink Compound

1978

Introduction

A silicone free compound applied under power transistors and other devices that generate heat to assist in transferring heat from generating objects to metal chassis for dissipation. Product will not harden, dry out, melt, or contaminate wave solder baths. Designed to eliminate the phenomenon of silicone migration. Product has a functional temperature range from -40°C (-40°F) to 200°C (392°F).

Features / Benefits

- Functional Temperature Range (-40°C - 200°C)
- Will Not Harden
- Silicone Free

Technical Data	
Color	Smooth White
Solids Content:	WT. % 65 % Min
Thermal Conductivity	@ 36°C 16.7x10 ⁻⁴ CAL/SEC Cm C, Min.
Interface Thermal Resistance	(Recs) 0.043 C/W
Bleed	24 Hrs. @ 200°C, WT.% 0.09% Max
Evaporation	24 Hrs. @ 200°C, WT.% 0.06% Max.
Volume Resistivity	2.3x10 ¹² OHMS/CM
Dielectric Strength	200 volts/Mil
Specific Gravity	2.7 @ 25°C per ASTM D70 test method
Penetration	360
Operating Range	-40°C (-40°F) to 200°C (392°F)

Chemical Components

Zinc Oxide, USP.....(1314-13-2) <70%
 00840600 Trade Secret # 5000P
 00840600 Trade Secret # 5001P
 00840600 Trade Secret # 5002P
 Trade Secret Registered with State of New Jersey.
 Zinc oxide in paste form and does not exhibit a dust hazard.
 This product does not contain any hazardous ingredients as per OSHA 29 CFR 1910.1200 Subpt.(z).

Environmental Policy

Techspray® is committed to developing products that have minimal effects on the environment. We will continue to meet and sustain the regulations of all federal, state and local government agencies.

Packaging and Availability

Silicone Free Heat Sink Compound is available in the following sizes:

1978-DP	4 Ounce Squeeze Tube
1978-1	1 Pound Tub

Resources

Techspray® products are supported by a global sales, technical and customer services resources.

For additional technical information on this product or other Techspray® products in the United States, call the technical sales department at 800-858-4043, email tsales@techspray.com or visit our web site at: www.techspray.com.

North America
Tech Spray L.P.
P.O. Box 949
Amarillo, TX 79105
800-858-4043
email: tsales@techspray.com

Europe
Techspray International
UNIT 4, 44/46 Bunyan Road, Kempston
Bedford MK42 8HL United Kingdom
+44 (0) 1234 855443
email: tseurope@techspray.com

Countries Outside US
Call to locate a distributor
in your country.

Important Notice to Purchaser/User: The information in this publication is based on tests that we believe are reliable. The results may vary due to differences in tests type and conditions. We recommend that each user evaluate the product to determine its suitability for the intended application. Conditions of use are outside our control and vary widely. Techspray's only obligation and your only solution is replacement of product that is shown to be defective when you receive it. In no case will Techspray® be liable for any special, incidental, or consequential damages based on breach of warranty, negligence or any other theory.



Tech Spray, L.P.
P.O. Box 949
Amarillo, TX 79105
www.techspray.com



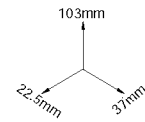
Solid State Relays Accessories Type RHS... Heatsink Assemblies



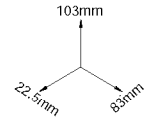
RHS23A and RHS23B

Heatsink assembly with DIN-rail adapter for RX type SSR.
Type RHS23A and RHS23B are a complete kit not including the SSR.

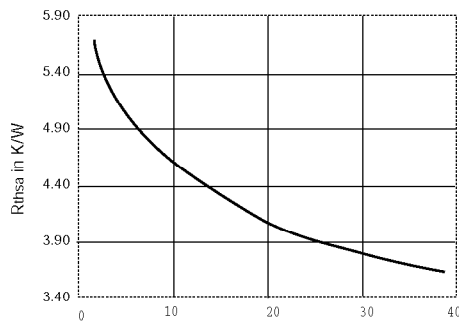
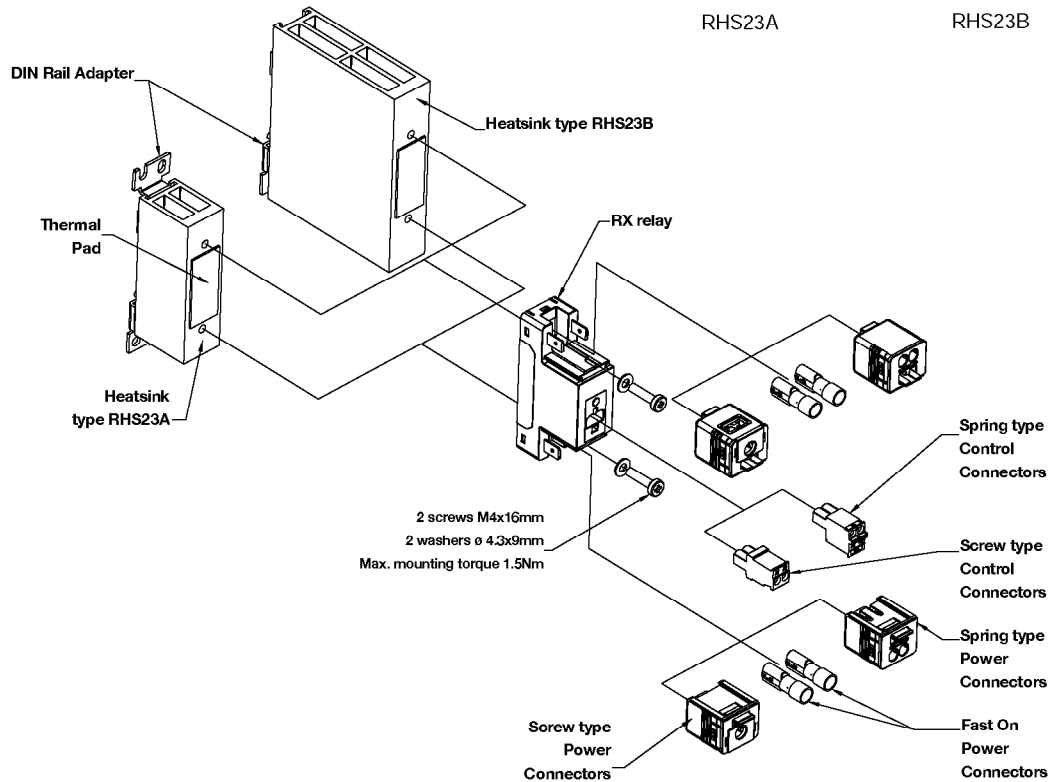
Dimensions not including the SSR



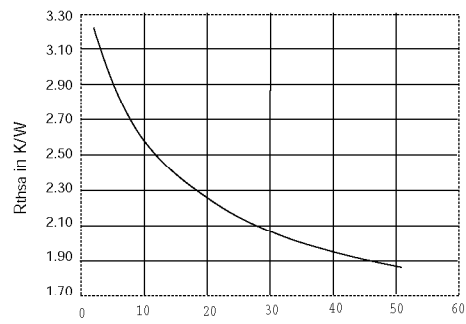
RHS23A



RHS23B



RHS23A



RHS23B



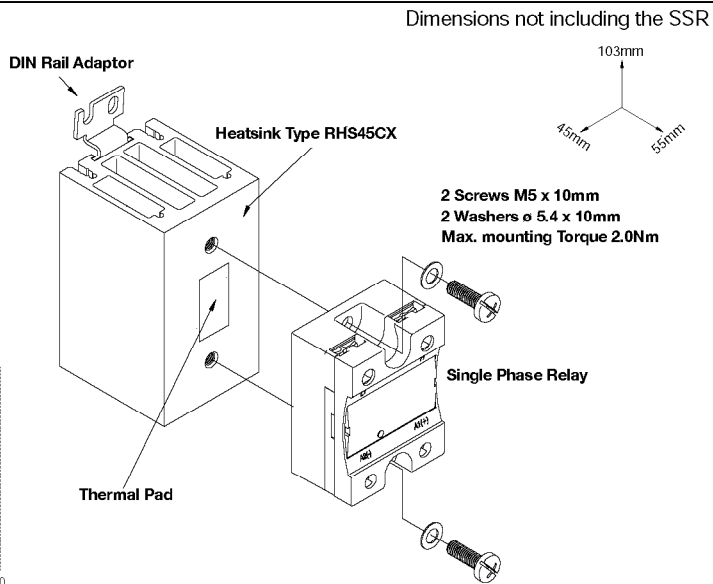
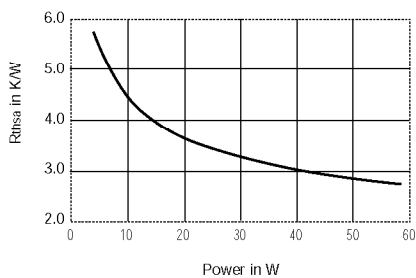
Heatsink Assemblies (cont.)

RHS45C

Heatsink assembly with DIN-rail adapter for 1-phase SSRs. Type RHS45C is a complete heatsink kit not including the SSR. A 40x40 mm fan may be mounted onto the heatsink.

RHS45CD

RHS45C assembly without BBR cover and without heatsink compound.

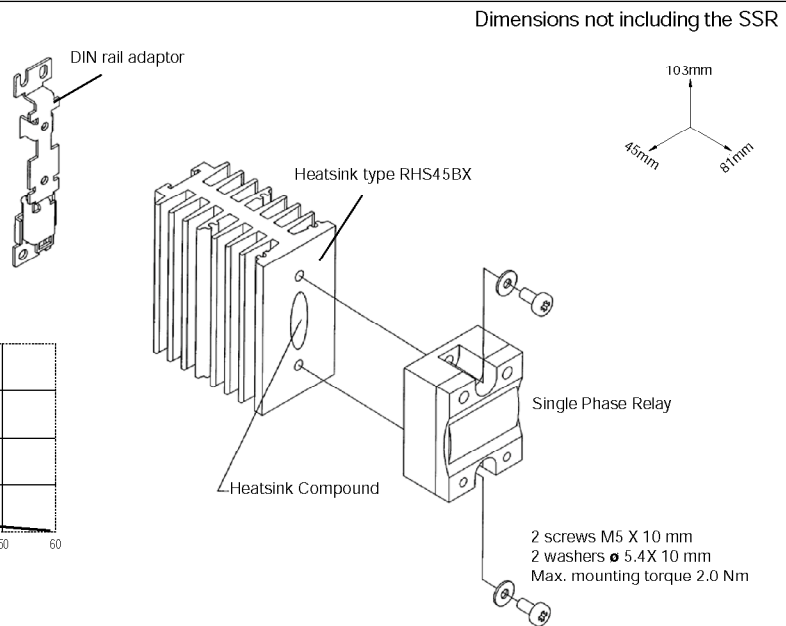
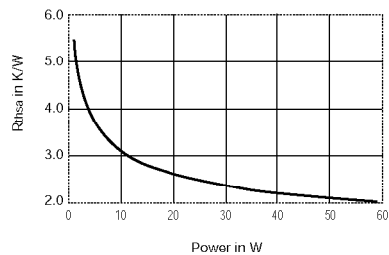


RHS45B

Heatsink assembly with DIN-rail adapter for 1-phase SSRs. Type RHS45B is a complete heatsink kit not including the SSR. A 40x40 mm fan may be mounted on to the heatsink.

RHS45BD

RHS45B assembly without BBR cover and without heatsink compound.

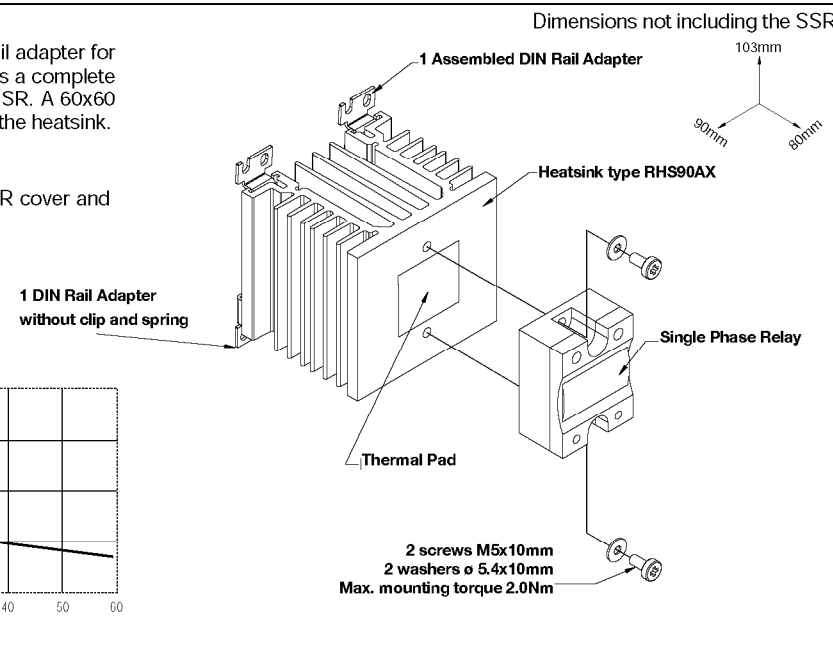


Heatsink Assemblies (cont.)

RHS90A
Heatsink assembly with DIN-rail adapter for 1-phase SSRs. Type RHS90A is a complete heatsink kit not including the SSR. A 60x60 mm fan may be mounted onto the heatsink.

RHS90AD
RHS90A assembly without BBR cover and without heatsink compound.

Dimensions not including the SSR



1 Assembled DIN Rail Adapter

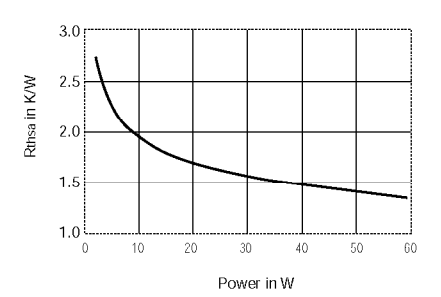
Heatsink type RHS90AX

Single Phase Relay

Thermal Pad

2 screws M5x10mm
2 washers ø 5.4x10mm
Max. mounting torque 2.0Nm

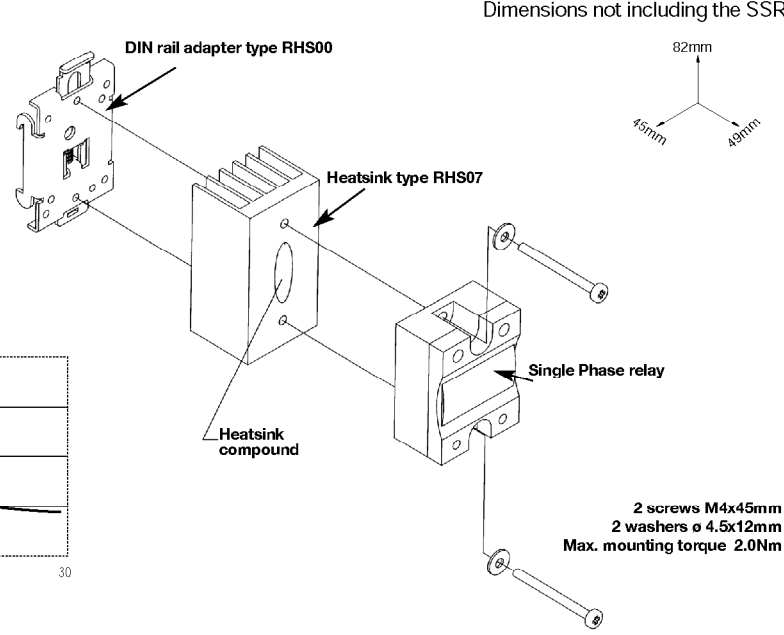
1 DIN Rail Adapter without clip and spring



Power in W	Rthsa in K/W
0	2.8
10	2.0
20	1.7
30	1.55
40	1.45
50	1.4
60	1.35

RHS100
Heatsink assembly with DIN-rail adapter for 1-phase SSRs. Type RHS100 is a complete heatsink kit not including the SSR.

Dimensions not including the SSR



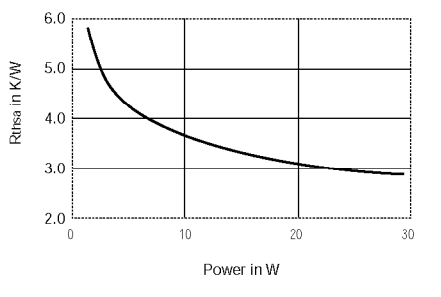
DIN rail adapter type RHS00

Heatsink type RHS07

Single Phase relay

Heatsink compound

2 screws M4x45mm
2 washers ø 4.5x12mm
Max. mounting torque 2.0Nm



Power in W	Rthsa in K/W
0	5.8
10	4.0
20	3.2
30	2.9



Heatsink Assemblies (cont.)

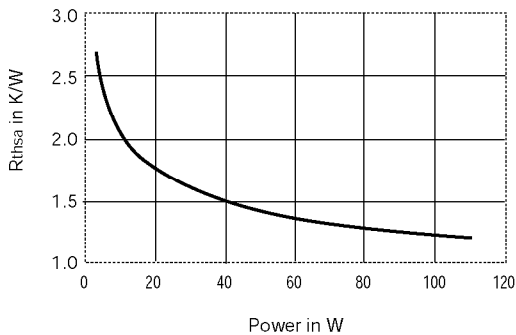
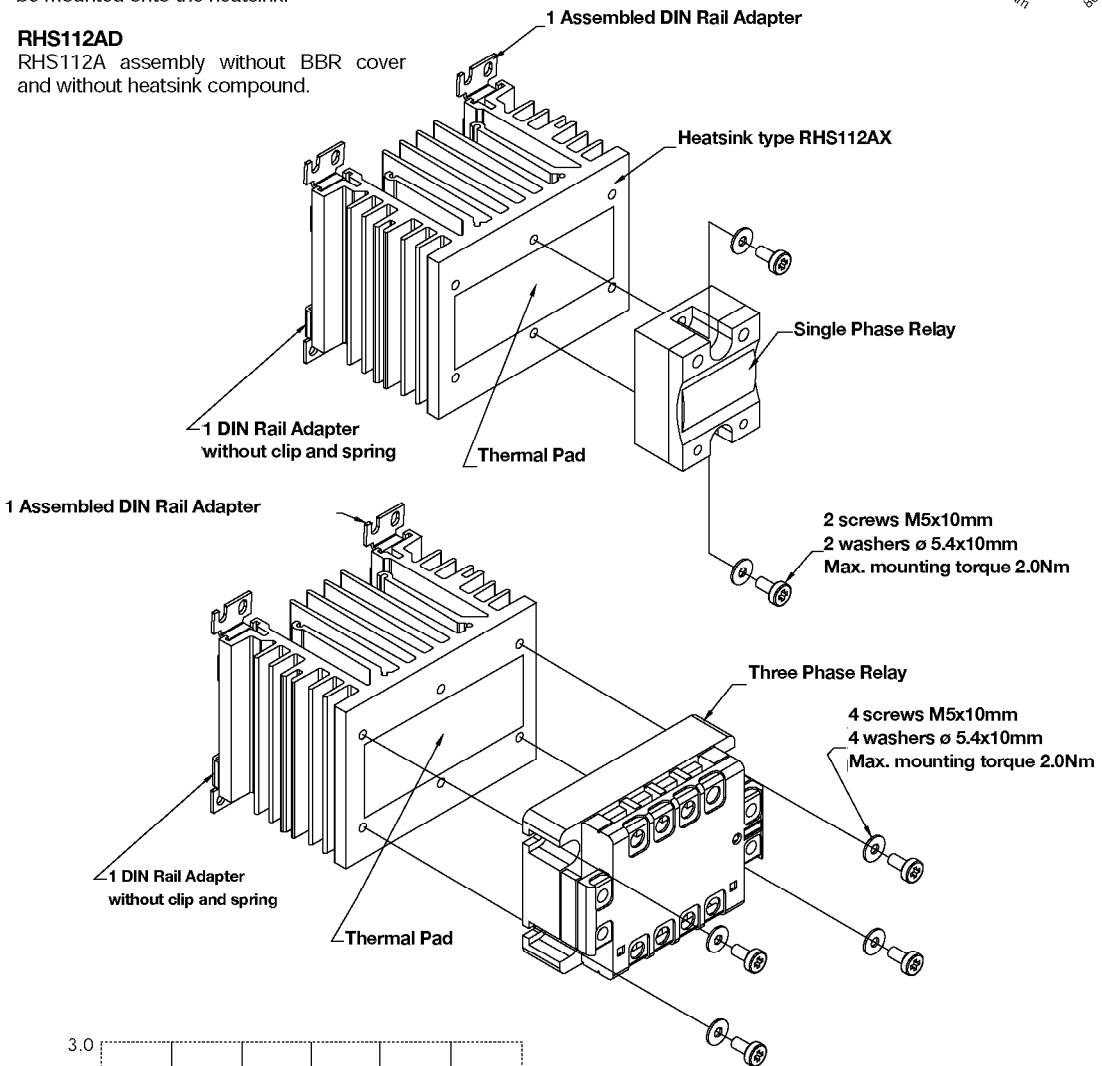
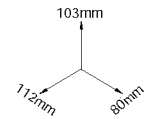
RHS112A

Heatsink assembly with DIN-rail adapter for 1-phase and 3-phase SSRs. Type RHS112A is a complete heatsink kit not including the SSR. A 60x60 mm fan may be mounted onto the heatsink.

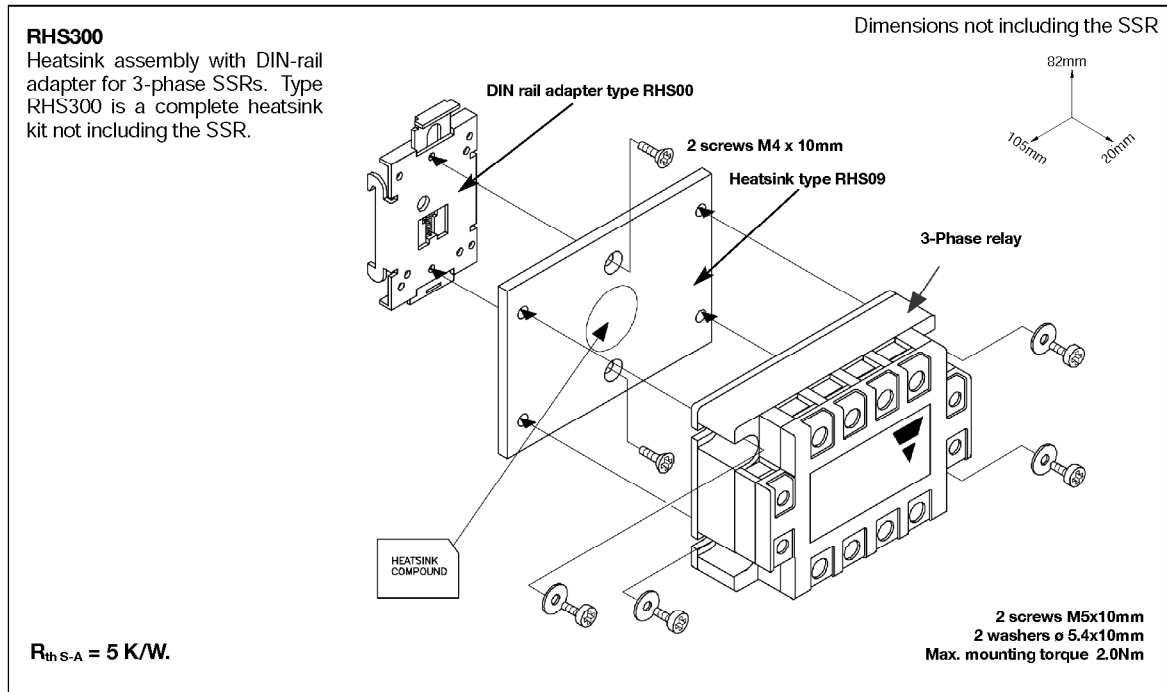
RHS112AD

RHS112A assembly without BBR cover and without heatsink compound.

Dimensions not including the SSR



Heatsink Assemblies (cont.)

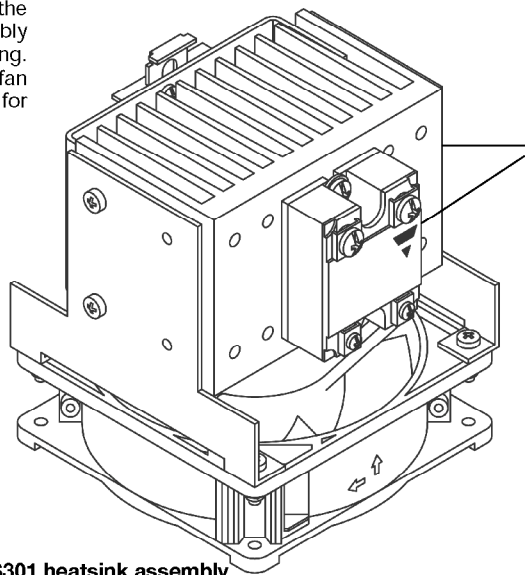




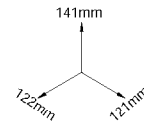
Heatsink Assemblies (cont.)

Fan Kit RHS301F115, RHS301F230

Not including the SSR and the RHS301 heatsink assembly shown on the drawing. RHS301F115 for 115 VAC fan supply and RHS301F230 for 230 VAC fan supply.



Dimensions not including the SSR

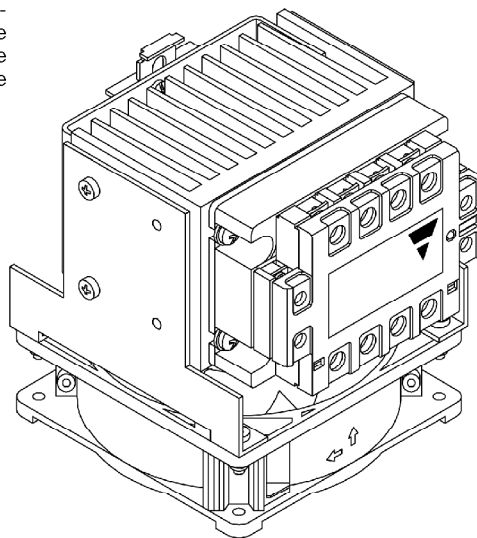


Note:
High-quality fan with full metal bearings.

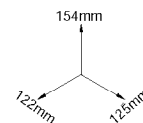
$R_{th\ S-A} = 0.25\ K/W$,
when attached to the RHS301 heatsink assembly

RHS301F115/230C (115/230 VAC fan supply)

Heatsink assembly with DIN-rail adapter for 1-phase or 3-phase SSRs. Type RHS301F...C is a complete heatsink kit not including the SSR.



Dimensions not including the SSR



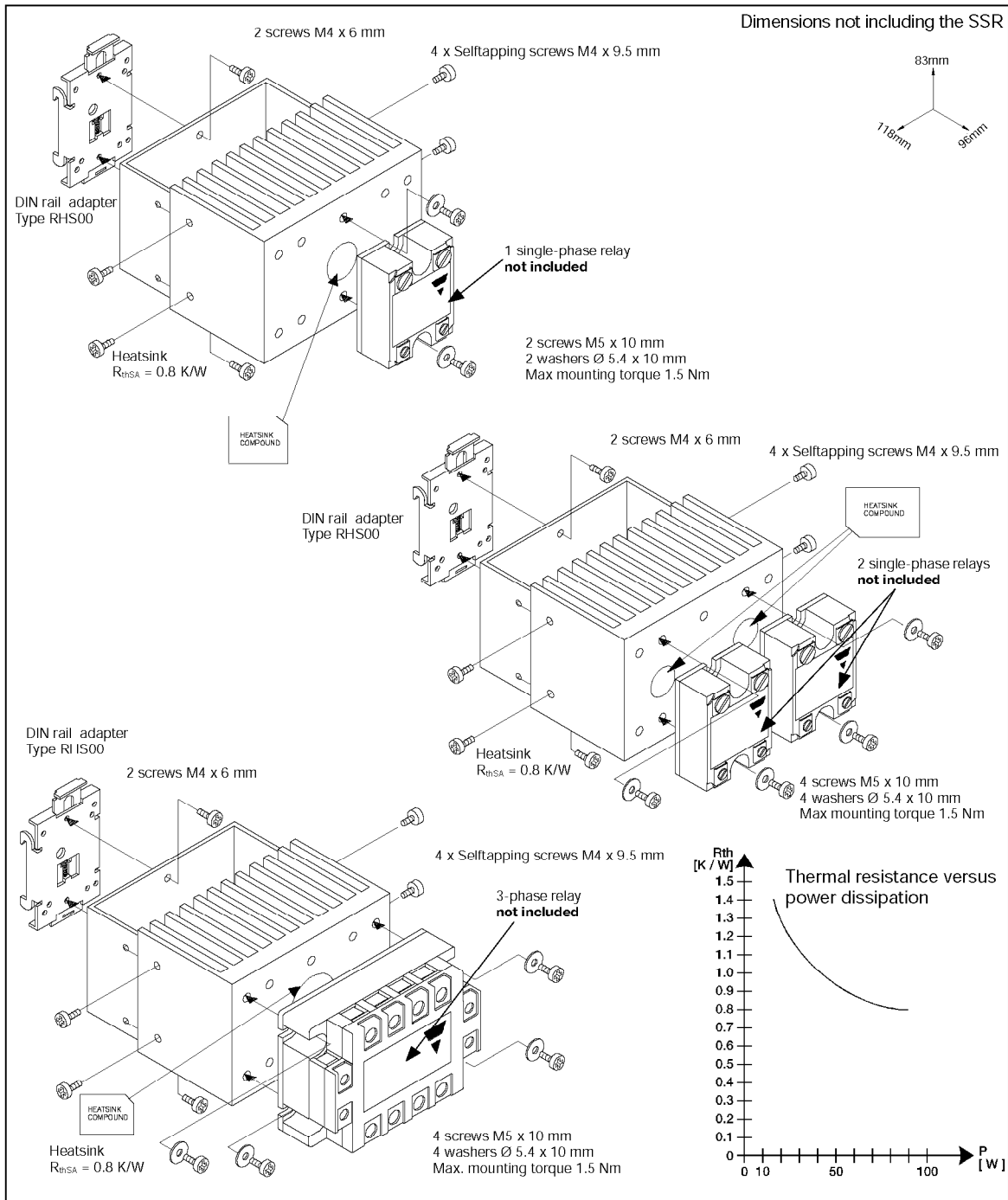
Note:
High-quality fan with full metal bearings.

$R_{th\ S-A} = 0.25\ K/W$.

Heatsink Assemblies (cont.)

Type RHS301

Heatsink assembly for 1-phase and 3-phase SSRs. Type **RHS301D** is an RHS301 assembly without the heatsink compound.



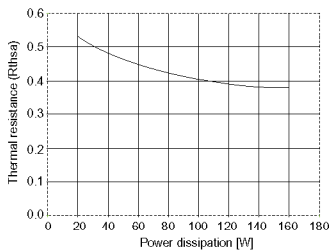
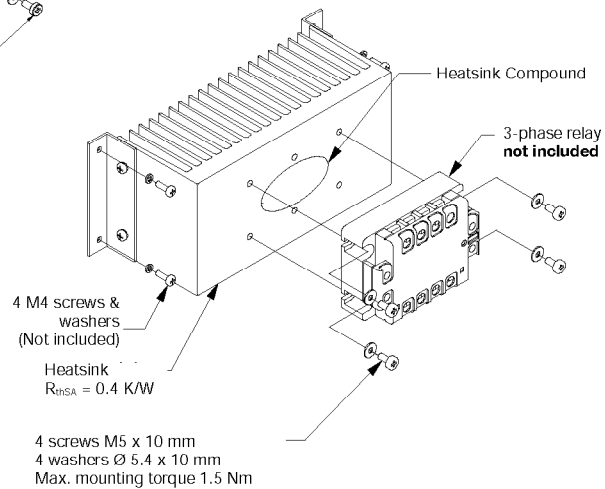
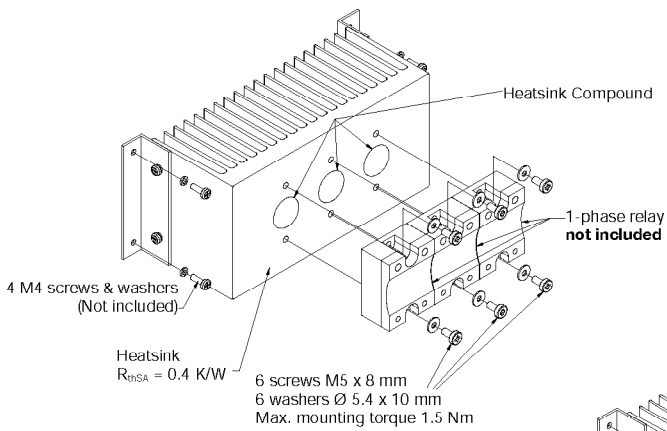
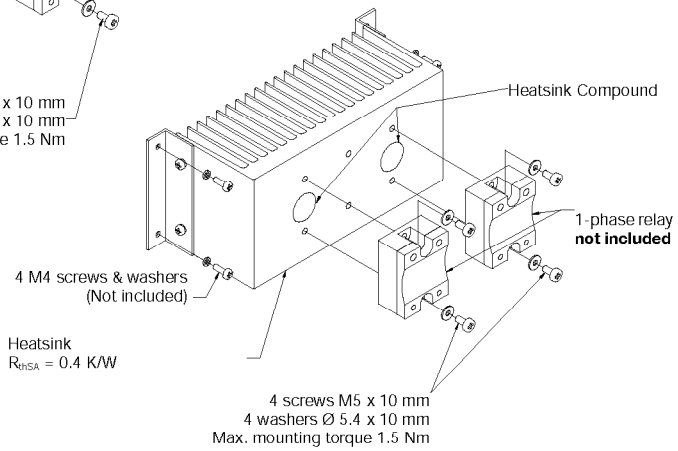
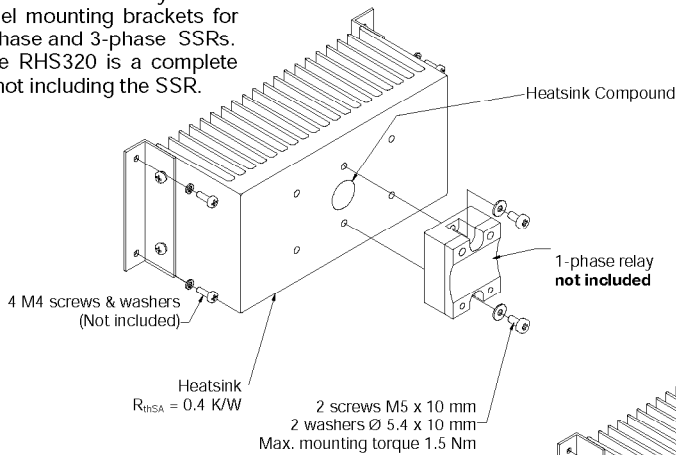
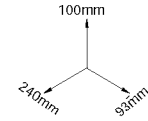


Heatsink Assemblies (cont.)

RHS320

Heatsink assembly with panel mounting brackets for 1-phase and 3-phase SSRs. Type RHS320 is a complete kit not including the SSR.

Dimensions not including the SSR

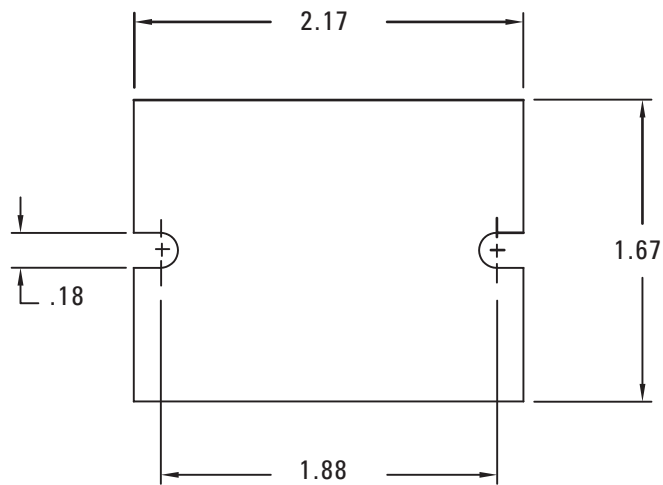


- Maximize Thermal Conductivity
- Low Thermal Resistance
- 100% Grease Free
- Precut to Fit Industry Standard Size Packages
- Easy Application

Crydom Heat Transfer Pads offer a clean, ease-to-use and grease-free alternative to conventional mica or grease while maximizing the thermal conductivity. Installation is simple, pads are die cut to fit perfectly with Crydom SSR's. To order heat transfer pad attached to panel mount relays, add suffix "H" to part number.

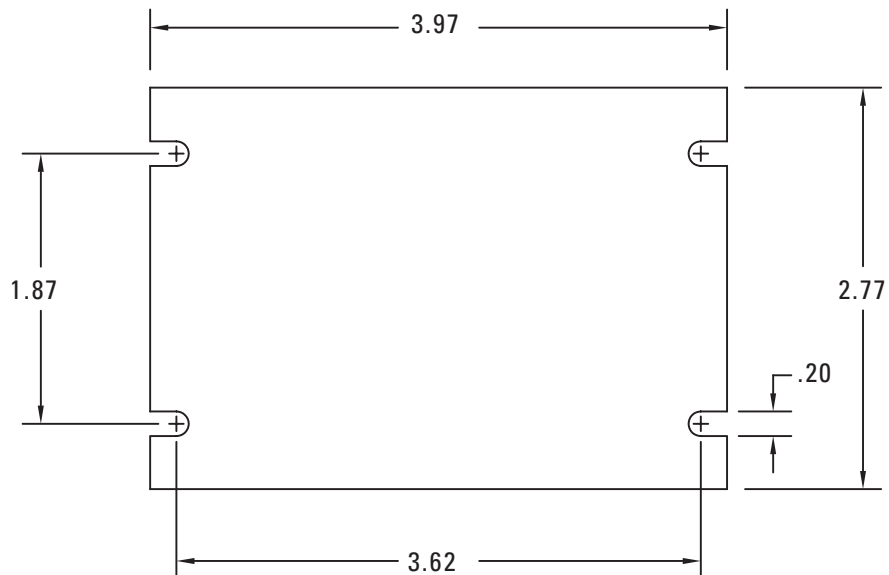
TP01

All Single Phase Panel Mount SSRs, Auxiliary Function Modules and M50 Power Modules.



TP03

Three Phase (53TP)



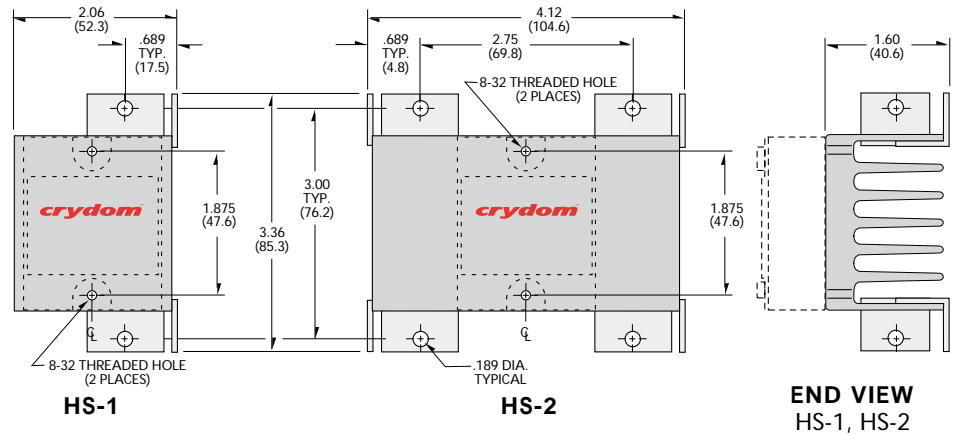
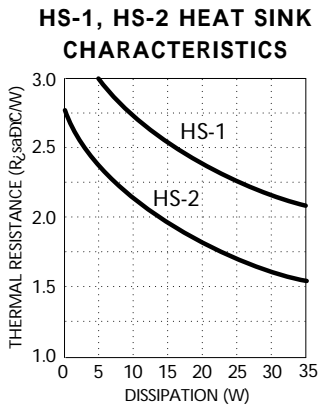
All dimensions are in inches

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A major consideration in the use of Solid-State Relays is the thermal design. It is essential that the user provide adequate heat sinking for the application.

Crydom heat sinks are designed for excellent thermal management when used with Crydom's Series 1 type package of SSR's and Controllers.

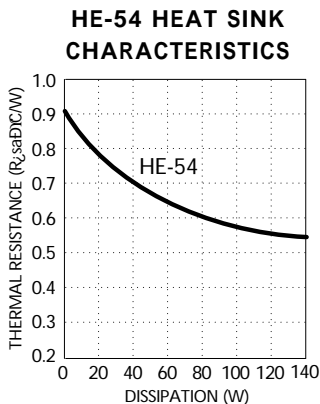
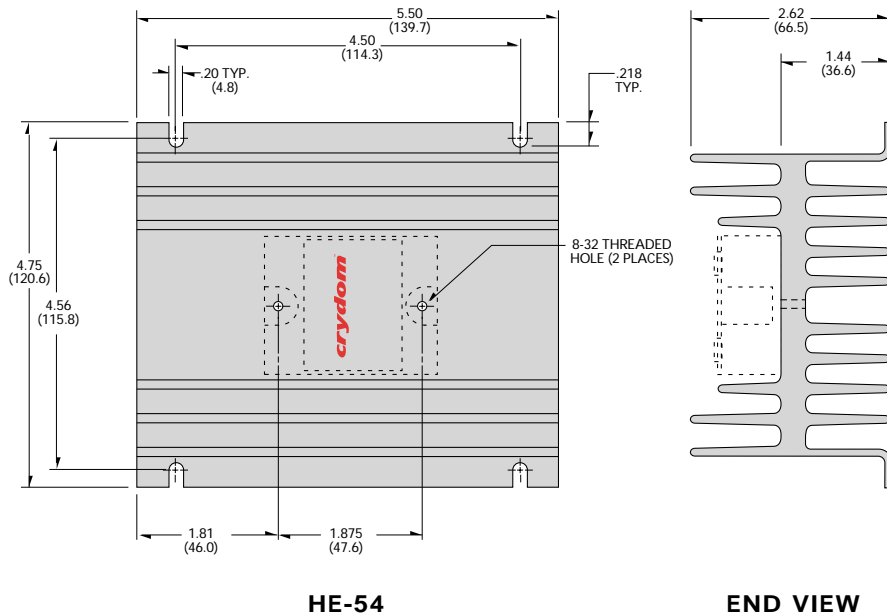
Correct installation is important to assure heat is dissipated correctly. The Crydom SSR should be firmly (20 in-lbs.) mounted on a clean, smooth heat sink surface using thermally conductive grease.



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COMPATIBLE CRYDOM PRODUCTS:

- | | |
|-------------|-----------------|
| Series 1 | Series CS |
| Series CT | Series HA |
| Duals | Series HD |
| Quad | Series 1-DC |
| Series DC60 | Series CPV |
| Series SST | Series DSD, DLD |
| Series DLD | Series RPC |
| Series PCV | Series 53TP* |
- *Requires HE-90 (see pg 2)



For recommended applications and more information contact:
USA: Sales Support (877) 502-5500 Tech Support (877) 702-7700 FAX (619) 710-8540
 Crydom Corp, 2320 Paseo de las Americas, Ste. 201, San Diego, CA 92154
Email: sales@crydom.com **WEB SITE:** http://www.crydom.com
UK: +44 (0)1202 365070 • FAX +44 (0)1202 365090 Crydom International Ltd., 7 Cobham Road, Ferndown Industrial Estate, Ferndown, Dorset BH21 7PE, **Email:** intsales@crydom.com.
GERMANY: +49 (0)180 3000 506

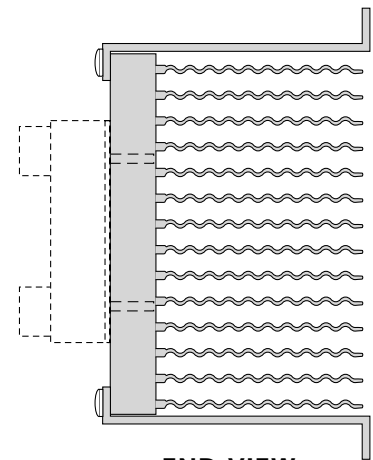
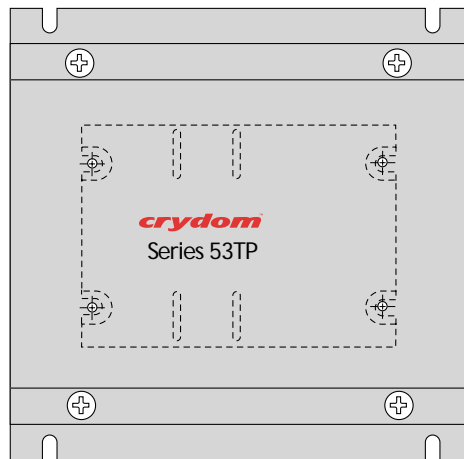
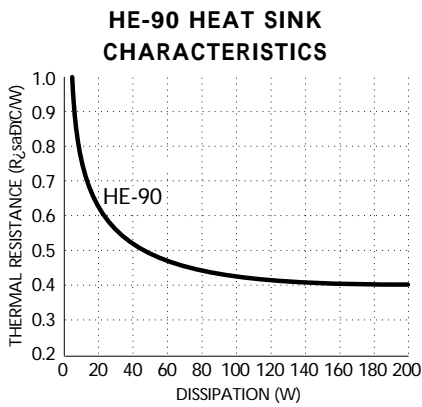


MECHANICAL SPECIFICATIONS

Model Number	HS-1	HS-2	HE-54	HE-90
Weight: (typical) [ounces]	3.0	5.0	10.0	24.0
Material	Aluminum			
Finish	Chromate Coating & Gold			
Mounting Holes	8-32 threaded			

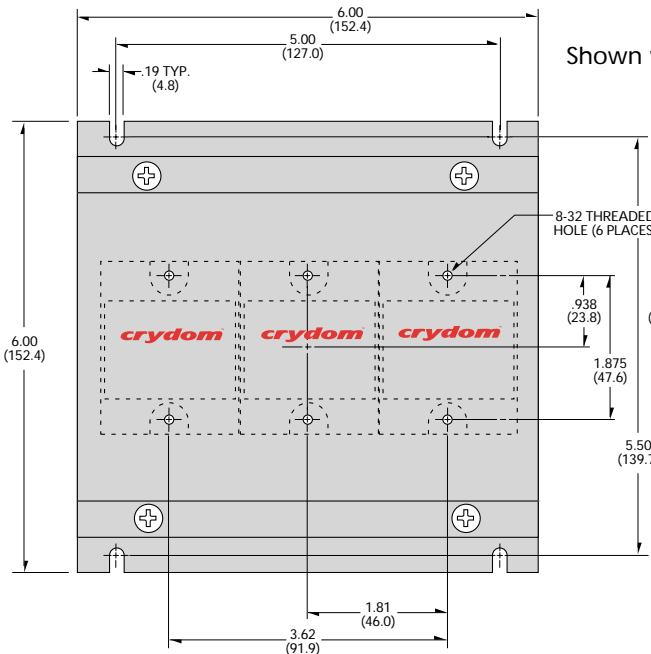
HE-90

Shown with Series 53TP Mounted



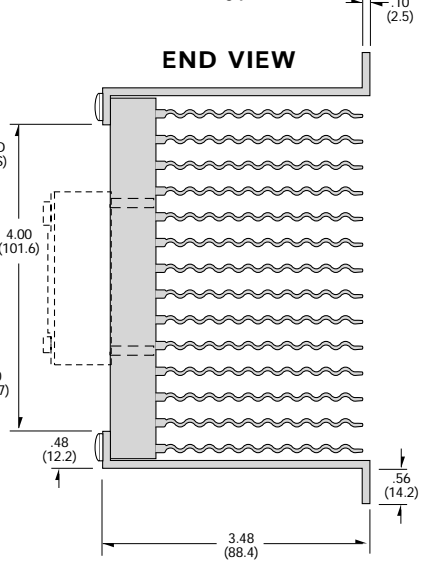
END VIEW

The HE-90 heat sink offers excellent thermal management for up to three Series 1 type package SSRs or a single three phase SSR (Model 53TP). All mounting holes are predrilled & tapped and are user configurable depending on the specific application.



HE-90

Shown with three Series 1 type SSRs



END VIEW

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- Protection From Electric Shock
- Fit Standard Crydom SSRs
- Single and Three Phase SSR Covers

PRODUCTION DESCRIPTION

The KS100 and KS300 are protective covers made of clear polycarbonate material, which are designed to fit over standard CRYDOM SSRs. They provide added protection from electric shock when installing or checking equipment.

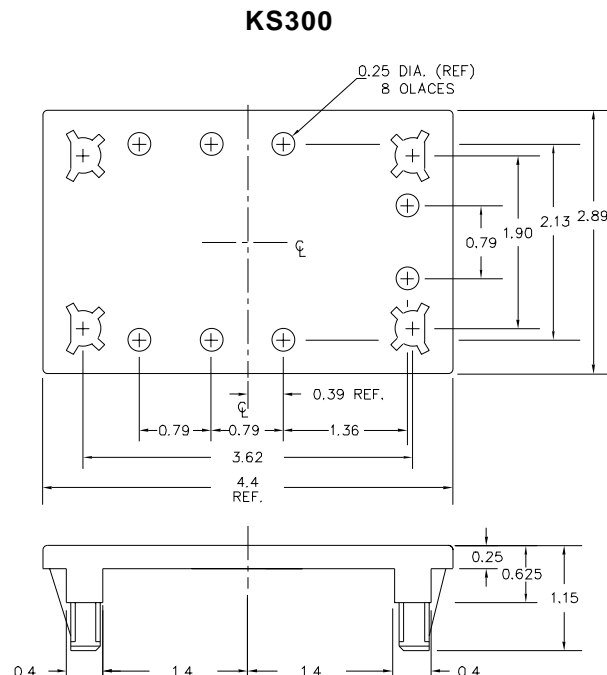
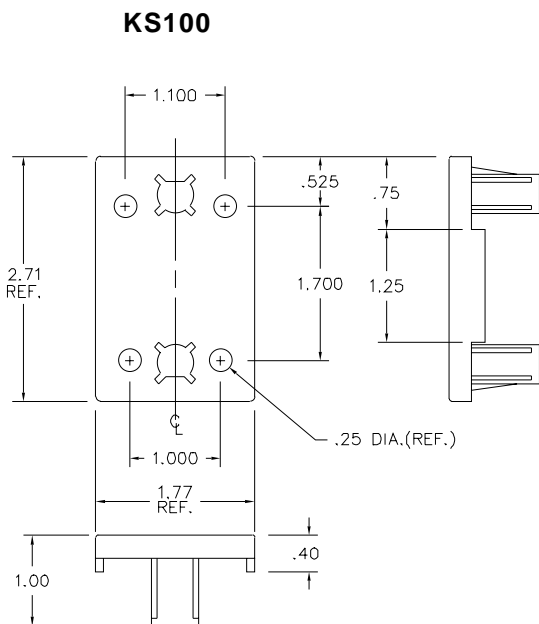
USE GUIDE

Care should be taken to fit the KS100 or KS300 as per instructions to ensure maximum protection.

DESIGN ADVANTAGE

The CRYDOM KS100 and KS300 protective covers have been designed specially for Crydom Solid State Relays, and have been made simple to install. The polycarbonate material used is UL94V-0 approved.

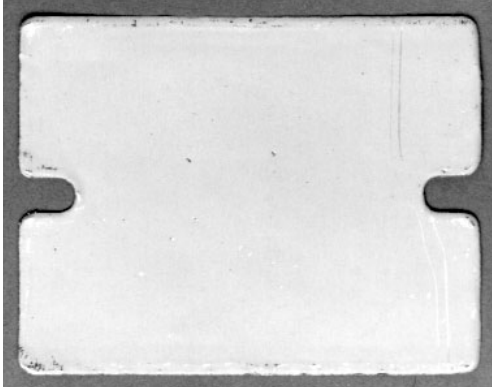
MECHANICAL OUTLINE



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SOLID STATE RELAY ACCESSORIES

THERMAL PADS



HSP1
Series: Single Phase



HSP3
Series: Three Phase
GAO and **GA3**

HSP1 for Single Phase Relay.
HSP3 for 3 phase **GAO** Series and **GA3** Series.
Sold in multiples of 25 (1 package) per part number.

®Thermstrate is a registered Trademark of Power Devices, Inc.

Solid State Relay Cover



FEATURES:

- Snaps onto Crouzet Single Phase SSRs
- Provides "Finger Safe Operation" of SSRs
- Made of High Impact, Flame Retardant Polycarbonate.

ORDERING INFORMATION:

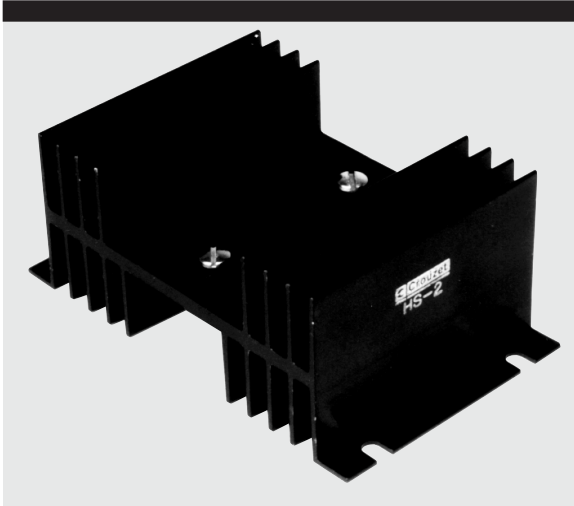
Model #	Description
84136500	Solid State Relay Cover

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

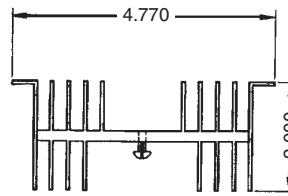
SOLID STATE RELAY ACCESSORIES

HS2 HEATSINK

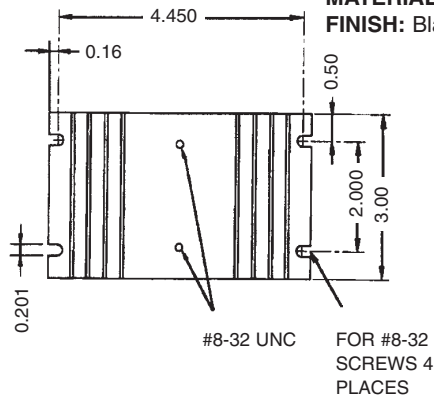


ORDERING INFORMATION:

Model #	Description
HS2	Heatsink 2.0°C/W (For Single Phase SSR's)

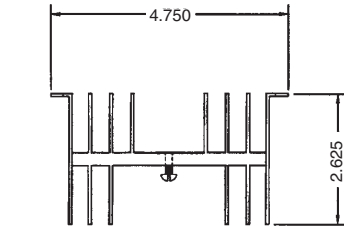
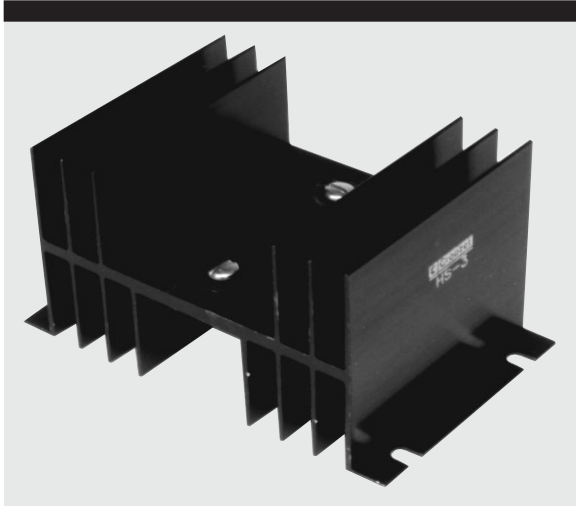


DIMENSIONS: inches
TOLERANCES: ±0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized

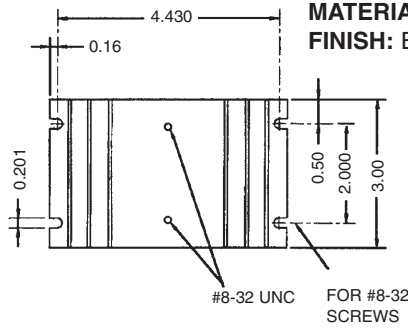


SOLID STATE RELAY ACCESSORIES

HS3 HEATSINK



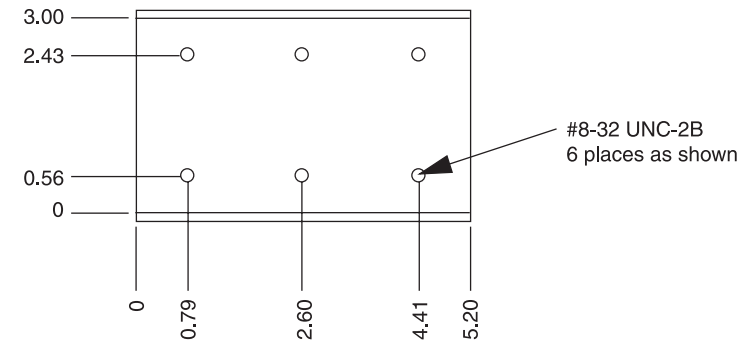
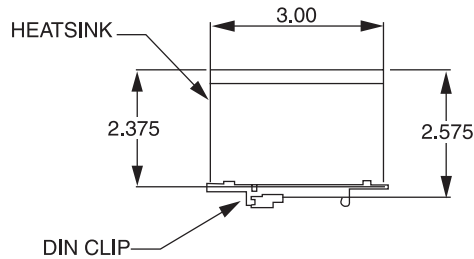
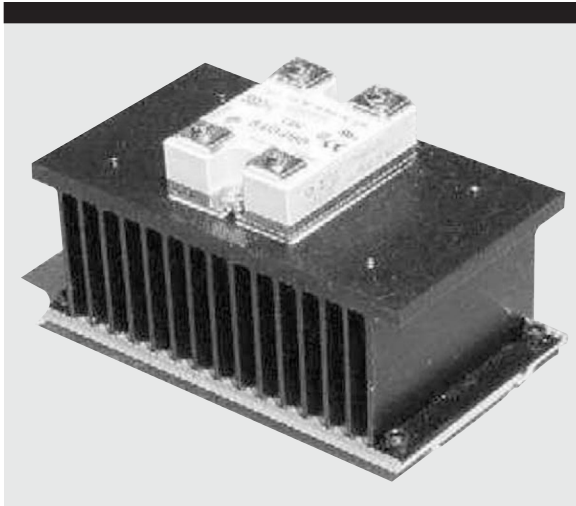
DIMENSIONS: inches
TOLERANCES: ±0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized



ORDERING INFORMATION:

Model #	Description
HS3	Heatsink 1.5°C/W (For Single Phase SSR's)

HS13 HEATSINK



ORDERING INFORMATION:

Model #	Description
HS13	Heatsink 0.8°C/W (For Single Phase and Three Phase SSR's)

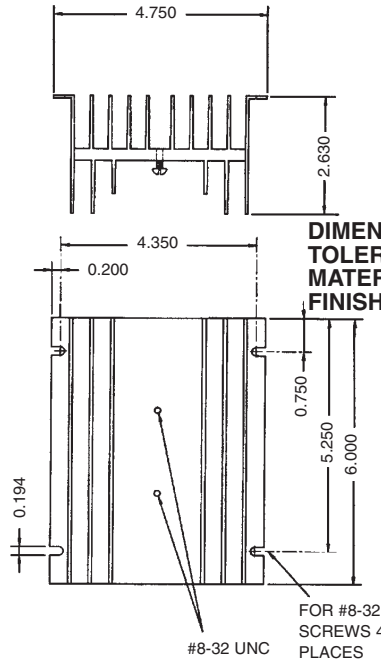
DIMENSIONS: inches
TOLERANCES: ±0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

SOLID STATE RELAY ACCESSORIES

HS5 HEATSINK

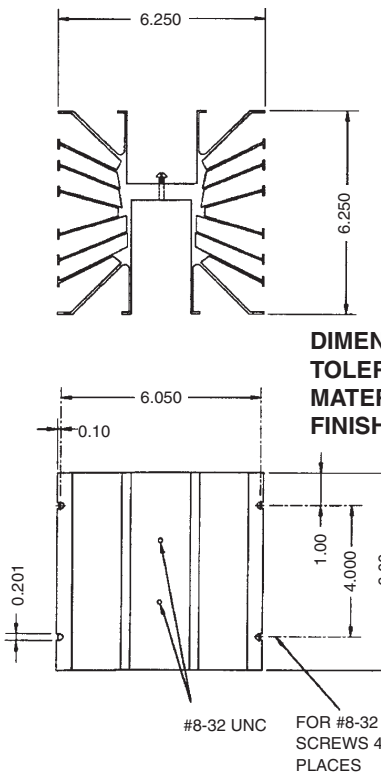
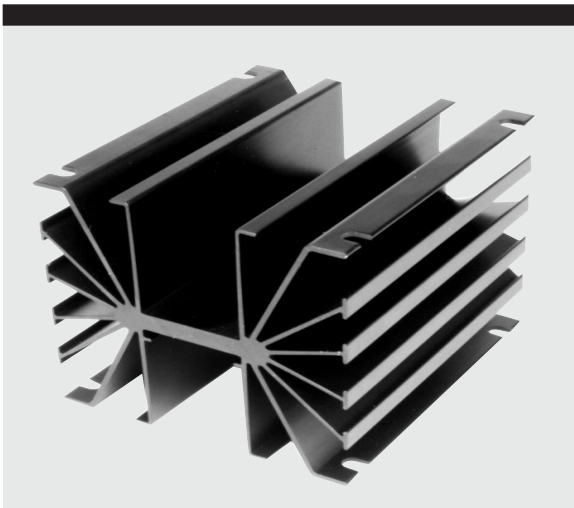


DIMENSIONS: inches
TOLERANCES: ± 0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized

ORDERING INFORMATION:

Model #	Description
HS5	Heatsink 0.7°C/W (For Single Phase SSR's)

HS6 HEATSINK



DIMENSIONS: inches
TOLERANCES: ± 0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized

ORDERING INFORMATION:

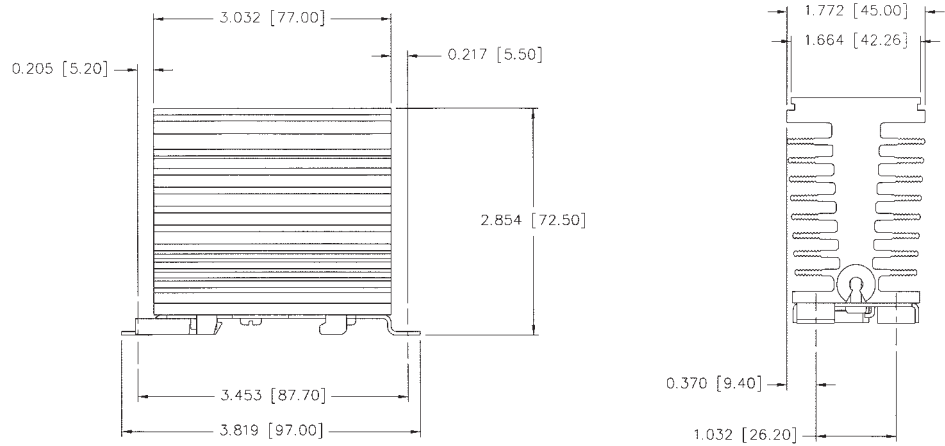
Model #	Description
HS6	Heatsink 0.5°C/W (For Single Phase SSR's)

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

SOLID STATE RELAYS

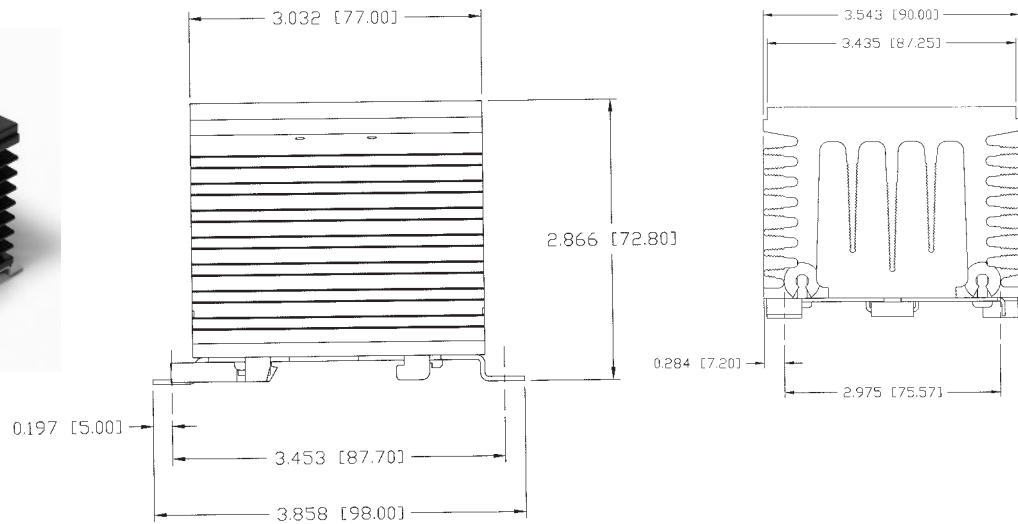
HS8 HEATSINK



ORDERING INFORMATION:

Model #	Description
HS8	Heatsink 2.1°C/W (For Single Phase SSR's)

HS9 HEATSINK



ORDERING INFORMATION:

Model #	Description
HS9	Heatsink 1.5°C/W (For Single Phase SSR's)

DIMENSIONS: inches (mm)

TOLERANCES: ±0.02 inches

MATERIAL: AISI 6063-T5 Aluminum

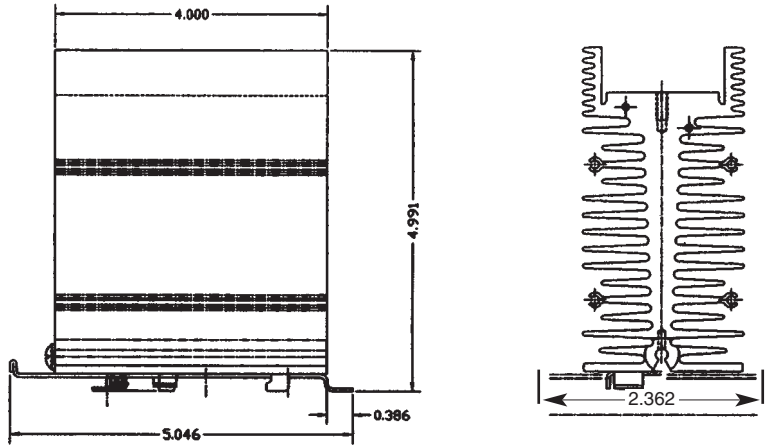
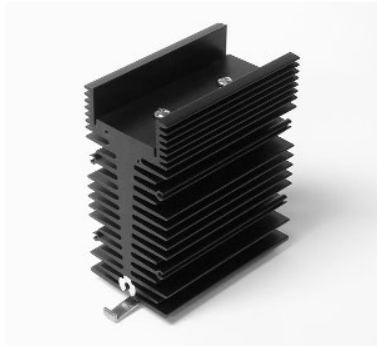
FINISH: Black Anodized

Products and specifications subject to change without notice.

Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

SOLID STATE RELAYS

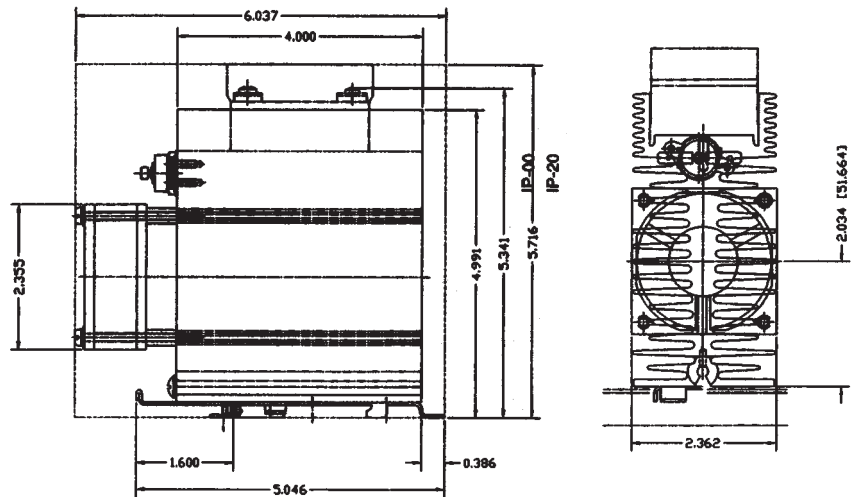
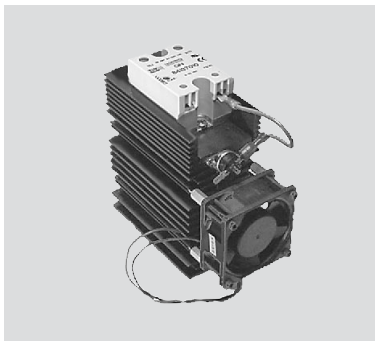
HS10 HEATSINK



ORDERING INFORMATION:

Model #	Description
HS10	Heatsink 1.1°C/W (For Single Phase SSR's)

HS12 HEATSINK



(Relay Optional)

ORDERING INFORMATION:

Model #	Description
HS12	Heatsink 0.55°C/W (For Single Phase SSR's)

DIMENSIONS: inches (mm)
TOLERANCES: ±0.02 inches
MATERIAL: AISI 6063-T5 Aluminum
FINISH: Black Anodized

Products and specifications subject to change without notice.

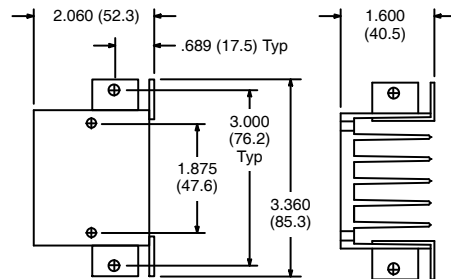
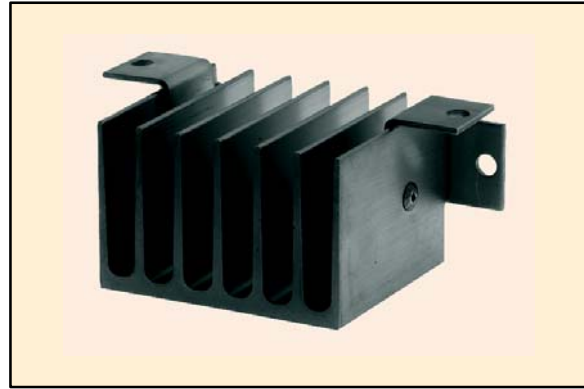
Order/Technical Support – Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com

R95-186

Heat Sink for Solid State Relay

Features

- For RS3 Type Relays

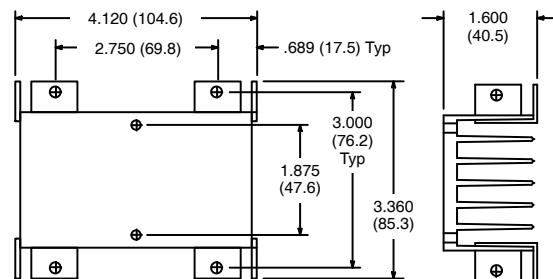
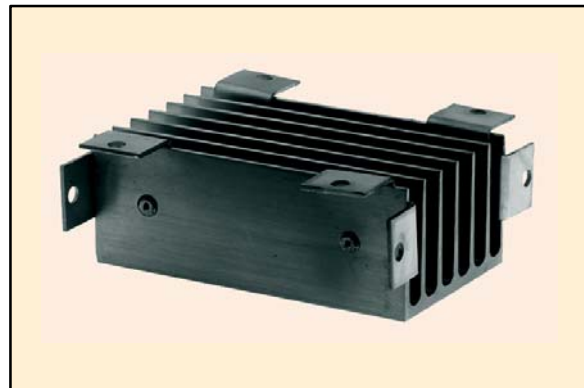


R95-187

Heat Sink for Solid State Relay

Features

- For RS3 Type Relays



R95-182

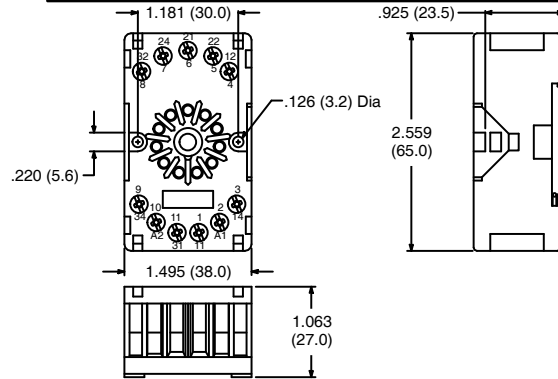
11-Pin Octal Socket

Features

- DIN Rail Mount
- Finger Safe
- 3PDT Applications

Electrical Rating:

300 Volts (UL Rating for US), 10 Amps



R95-184

Dust Cover, Plastic

Features

- Clear Polycarbonate
- For RS3 Type Relays

