

# **PRODUCT CHANGE NOTIFICATION**

PCN-SSR-231214

This Product Change Notification serves to inform the Purchaser and Consumer of certain design and or specification changes, described herein, that Sensata will make to its line of Solid State Relay model numbers indicated in the attachment and in accordance with the described timeline.

**Issue Date:** December 14<sup>th</sup>, 2023

Effective Date: December 14th, 2023

### Subject:

## Temporary change on Thermal Pad for hockey puck SSRs

### Scope:

Our supplier for thermal pad **HSP-1** hasn't been able to procure the thermal material originally used on this thermal pad. This material is produced by Henkel, and they are currently in a global allocation mode and haven't been able to confirm when this material will become available again.

Our Engineering team has evaluated an alternative material from a different supplier, and they have confirmed that the thermal performance is equivalent to the one of the original material.

### **Description of Changes:**

The original material used on this thermal pad is **TCF1000AL**, while the new proposed material is **JRFT-FC200**.

The main differences between the thermal pads made with these 2 materials are as follows:

a. There is a color difference between these 2 materials. The original thermal pad has a gray color while the thermal pad made with the new proposed material is pink, as shown in the images below.



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Thermal Pad with Original Material

Thermal Pad with Alternative Material

- b. The alternative thermal pad has a protective film on both sides (one clear and one blue), which needs to be removed before installation. Failure to do so will affect the thermal performance, preventing the SSR from properly transferring the dissipated heat.
- c. The original material is basically an aluminum foil sheet, while the alternative material is phase change material.

Here you can see the recommended steps to properly install this new thermal pad:

1. Have a clean surface on both the SSR backplate and the heat sink.





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2. Remove the clear protective film of the thermal pad and line it up with the SSR.



3. Scrap the surface of the thermal pad with a soft tool to get out bubbles trapped inside the surface and improve adherence. Let it sit for 5 minutes before peeling off the other protective film.



4. Using the pull tab carefully remove the blue protective film to expose the thermal pad.



5. Line up the SSR mounting holes to threaded holes in the metal plate or heat sink where it will be mounted and torque it down to 20 lb-in (2.2 Nm).



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This change will be in effect until further notice since we don't have a clear timeframe of when the supply of the original material will be re-established.

# Applicability:

Design/Specification changes described herein apply only to specific models produced as of the effectivity date indicated in the PCN.

## Products/Models this PCN applies to:

This notification applies to the following products:

HSP-1

HSP-1-FAR1

HSP-1-RSC1

## **Stock Returns:**

Standard annual stock rotation and warranty provisions per contract apply. There is no need to return stock.

If there are any questions or concerns regarding the changes described in this document, please do not hesitate to reach out to us.

Jesus Miranda Product Manager Solid State Relays (Industrial Solutions) Sensata Technologies



# THERMAL PADS | HSP-1 SERIES



ACCESSORIES



### Features

- Thermal Pad suitable for single phase SSRs
- Easy to use thermal interface material
- Excellent alternative to thermal grease



# GENERAL SPECIFICATIONS

Description	Parameters
Material	JRFT-FC200
Color	Pink
Thickness [inch (mm)]	0.005 (0.127)
Adhesive	NO
Thermal Impedance [°C-in²/W] (1)	0.08 @ 10psi / 0.05 @ 50psi
Thermal Conductivity [W/m-K] (1)	0.7 - 1.3
Phase-Change Temperature [°C]	45-55
Continuous Temperature Range [°C]	-20 to 120
Volume Resistivity [Ohm-cm]	$4 \times 10^{13}$
Specific Gravity	NA

# MOUNTING SURFACE PREPARATION

The mounting surface, usually the heat sink, should be clean and free from machining oils and aluminum dust, and may be cleaned with any common solvent, such as isopropyl alcohol (IPA) if necessary. The surface of the heat sink may be anodized, chromate coated or unfinished aluminum.



# **INSTALLATION OF HSP-1 PADS**

HSP-1 material does not require pre-heating of the heat sink prior to installing the HSP-1 pad onto the heat sink, because of the phase change nature of the HSP-1 material, please follow the process temperature/pressure guidelines below to ensure the best results for a specific assembly process:

Temperature / Pressure			
Process Step	Recommended Range		
Removing pad from clear carrier liner	Temp. of Roll: less than 38°C (100°F)		
	Heat Sink Temp: 16°C to 38°C (60°F to 100°F)		
Installing pad onto "cold" heat sink	Roll Temp: 21°C to 38°C (70°F to 100°F)		
	Installation Pressure: 25 to 50 psi (2)		
	Heat Sink Temp: 24°C to 38°C (75°F to 100°F)		
Installing pad onto "warm" heat sink	Roll Temp: 21°C to 38°C (70°F to 100°F)		
	Installation Pressure: 25 to 50 psi (2)		
Removing protective blue release liner	Temp of Heat Sink/Pad Assembly: Less than 38°C (100°F)		

When removing the pull-tab, use a quick, lifting motion. This is preferable over peeling the pull-tab from the HSP-1 pad and heat sink. To ensure optimal "wetting" of the HSP-1 pad to the heat sink. It is recommended that the parts be allowed to dwell one hour prior to attempting release liner removal.









# GENERAL NOTES

(1) This value is provided for reference only. Follow installation instructions for accurate thermal performance.

(2) Apply pressure to the HSP-1 pad with a soft "press-pad" for 2 to 3 seconds.

# WARNINGS



#### RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE

- The product's side panels may be hot, allow the product to cool before touching
- Follow proper mounting instructions including torque values
- Do not allow liquids or foreign objects to enter this product Failure to follow these instructions can result in serious
- injury, or equipment damage.



HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH
Disconnect all power before installing or working with this equipment

Verify all connections and replace all covers before turning on power

Failure to follow these instructions will result in death or serious injury

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