

Figure 1

1. INTRODUCTION

The NanoRF coaxial contacts shown in Figure 1 are designed to be soldered to the cable shown in Table 1. The NanoRF contacts are to be used in TE Connectivity Backplane and Plug-in Modules. Representative part numbers are listed in Table 2.

Type	TE Part Number	Cable Type
Socket	2302339-1	.047 Flex with Ø.059 MAX Jacket or .047 Semi-Rigid Cable
Pin	2302345-1	
Pin	2332772-1	.086 Flex with Ø.109 MAX Jacket or .086 Semi-Rigid Cable

Table 1

Standard Modules	Backplane Module			Plug-in Module		
	Contact(qty)	Stainless Steel	Aluminum	Contact(qty)	Stainless Steel	Aluminum
8 Position Custom Module	2302345-1(8)	2828434-1	2828434-2	2302339-1(8)	2828431-1	2828431-2
8 Position 67.3 D Module		2332627-1	2332627-2			
12 Position Custom Module	2302345-1(12)	2313228-1	2313228-2	2302339-1(12)	2313225-1	2313225-2
12 Position 67.3 D Module		2313376-1	2313376-2			
16 Position Custom Module	2302345-1(16)	2828395-1	2828395-2	2302339-1(16)	2828392-1	2828392-2
16 Position 67.3 C Module		2341106-1	2341106-2			
18 Position Custom Module	2302345-1 (18)	2322337-1	2322337-2	2302339-1(18)	2322335-1	2322335-2
18 Position 67.3 C Module		2343040-1	2343040-2			
9 Position 67.3 C Module	2302345-1 (1) 2332772-1 (8)	--	2357971-1	2302339-1(9)	--	2357976-1

Table 2

NOTE *Contacts designed for .047 and .086 cables have unique module cavities. Therefore, contacts of different cable types cannot be interchanged within modules.*

2. DESCRIPTION

The NanoRF Socket contact consists of a housing subassembly with outer contact fingers at the mating interface and a center contact with mating pin.

The NanoRF pin contact consists of a solid tapered outer contact at the mating interface and a socket center contact that is inside the housing. The pin contact is packaged with a spring that must be assembled onto the cable prior to termination.

Both contacts have a captured center contact with a socket in the backend that accepts the center conductor of the coaxial cable. The outer conductor or braid of the cable is soldered into the housing assembly.

NOTE *If there is a conflict between the information contained in the Customer Drawings and this specification or with any other technical documentation supplied, the information contained in the Customer Drawings takes priority.*

Contact your local sales representative or the Product Information Center (PIC) for additional module options.

NOTE *Dimensions in this instruction sheet are in millimeters [with inches in brackets].*
i *Figures are not drawn to scale.*

DANGER *To avoid personal injury, make sure to follow all local practices and safety precautions when working with soldering equipment.*

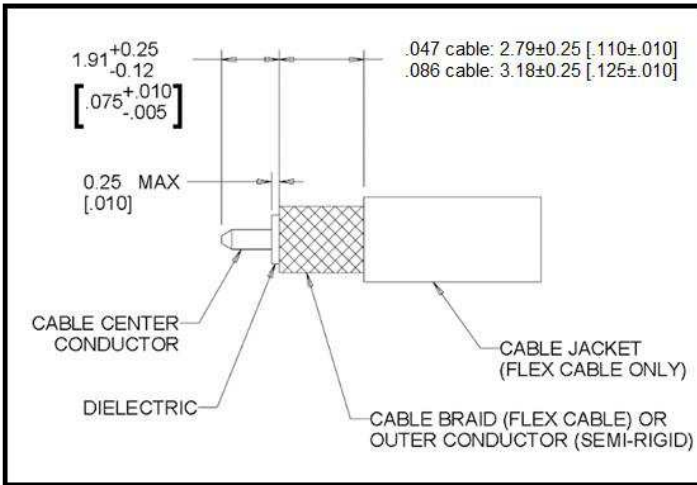


Figure 2

3. CABLE ASSEMBLY PROCEDURE

3.1. Strip the Cable

Strip the cable to the dimensions shown in Figures 2 and 3. The center conductor should be straight and concentric to the outer conductor so that it slides into the captured center contact inside the connector.

Optional (Flex Cable): The braid may be tinned prior to stripping the center conductor and dielectric steps.

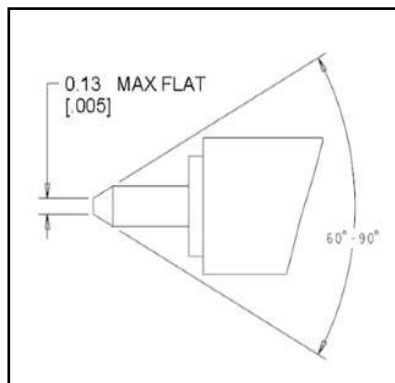


Figure 3

3.2. Pin Contact Spring

When working with the Pin Contact, place the spring on the stripped cable end. Spring should be able to move freely on cable. Assemble the cable into the back end of the contact assembly.

3.3. Assembly into the Solder Fixture

Place the cable assembly with the NanoRF connector into the solder fixture as shown in Figure 4 using tooling from Table 3. Gently tighten the locator tool so that the cable is bottomed inside the connector.

Tool Description	Part Number	Notes
Fixture Base	1055439-1	
Locator Tool	2319466-1	Socket Contact 2302339-1
	2319465-1	Pin Contact 2302345-1
Clamp Insert	1055543-1	.047 Semi-Rigid Cable
	2326000-1	.047 Flex Cable Ø.059 MAX OD
	1055441-1	.086 Semi-Rigid Cable
	2371982-1	.086 Flex Cable Ø.109 MAX OD

Table 3

3.4. Solder Cable

Solder the cable outer conductor/braid to the NanoRF connector. Avoid excessive solder wicking up the braid particularly if the cables will be bent near the rear plate. Remove excess solder.

3.5. Bending the Cable

On the plug-in module cable assemblies, keep a minimum of 3 mm [.12 in.] length of straight cable behind the module prior to bending. Follow the cable manufacturers recommended minimum bend radius.

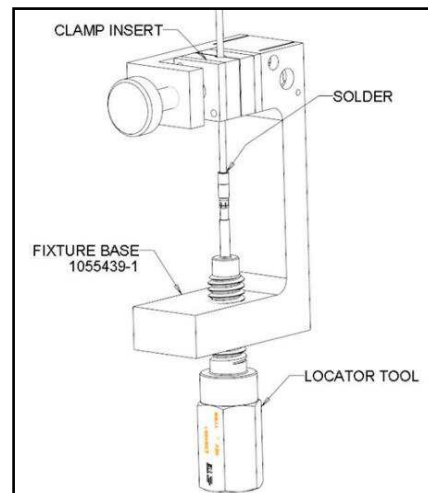


Figure 4

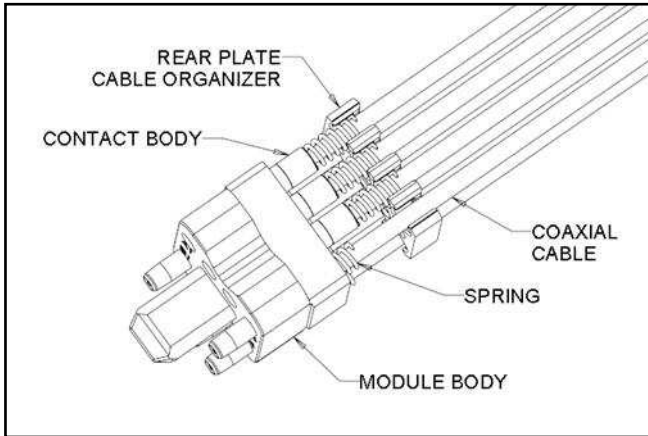


Figure 5

4. MODULE ASSEMBLY

4.1. Assemble Cables

Place the completed cable assemblies inside the rear module body cavities. Carefully organize the cables inside the rear plate. On the backplane module, be sure to capture the spring inside the rear plate cavity. See Figure 5.

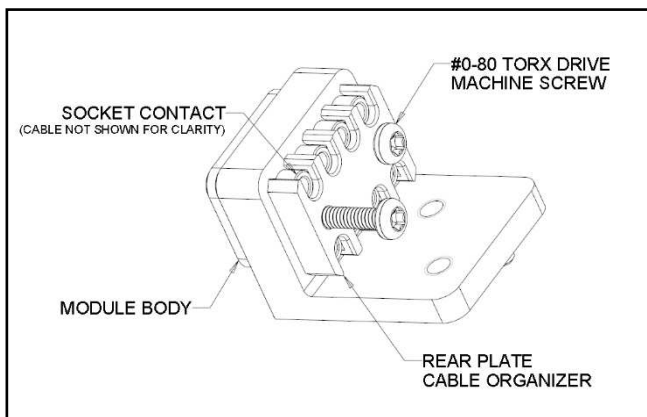


Figure 6

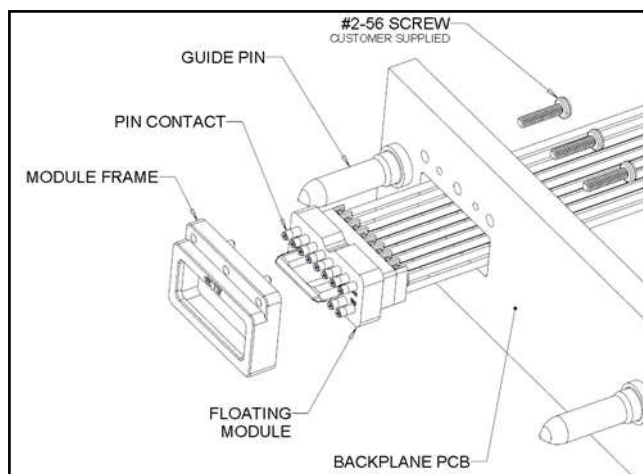


Figure 7

4.2. Rear Plate Assembly

Slide the rear organizer plate to the module body and tighten the preassembled captive screws by turning them 1-2 revolutions at a time. Recommended screw torque is 0.11 N-m [1.0 in-lb]. See figure 6.

CAUTION



Do not bend or otherwise damage the outer contact fingers of the socket contact. Doing so may increase the chance of stubbing the pin contact during mating.

5. BACKPLANE MODULE MOUNTING

5.1. Guide Hardware

RF Modules are located from the guide module mounting locations. For the location of the guide hardware, please refer to ANSI/VITA 46.0-2007, VPX Baseline Standard.

5.2. Module Mounting Patterns

Module mounting patterns are shown on the customer drawings for each module.

5.3. Module Assembly

Run the cable assemblies with module through the cutout. The floating module will rest on the surface of the board or within the module frame. Depending on user configuration, it may be necessary to first feed cables through the cutout and then attach the module to the cables. See Figure 7.

5.4. Module Frame Assembly

Press the module frame guide pins into the $\varnothing 1.7[.067]$ holes on the backplane capturing the floating module on the board. Secure the module frame to the PCB using #2-56 mounting screws (customer supplied).

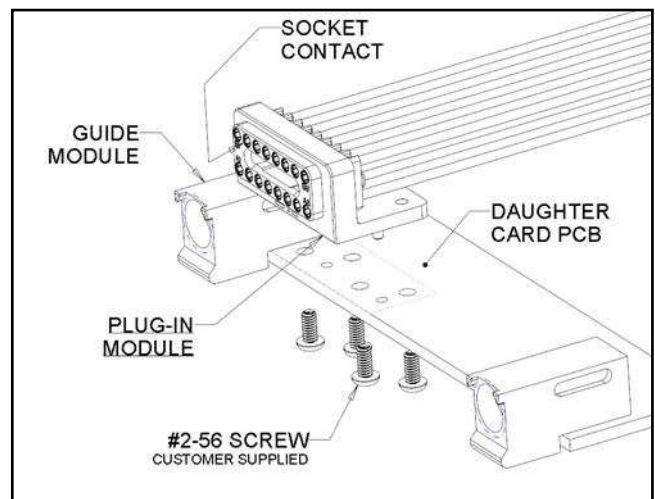


Figure 8

6. PLUG-IN (DAUGHTER CARD) MODULE MOUNTING

6.1. Guide Hardware

RF Modules are located from the guide module mounting locations. For the location of the guide hardware, please refer to ANSI/VITA 46.0-2007, VPX Baseline Standard.

6.2. Module Mounting Patterns

Module mounting patterns are shown on the customer drawings for each module.

6.3. Module Assembly

Press the plug-in module pins into the $\text{Ø}1.7[.067]$ holes on the PCB. Secure the module to the board with #2-56 mounting screws (customer supplied). See Figure 8.

7. APPLICATIONS

The modules can be mounted to a VPX Backplane and Plug-in module per ANSI/VITA 67 guidelines. An example of NanoRF modules in a VPX application is shown in Figure 9.

8. STANDARDS AND SPECIFICATIONS

8.1. Drawings

Customer drawings are available www.te.com, or call the Product Information Center at 1-800-522-6752.

8.2. Product Specification and Test Reports

- 108-163006: Product Specification
- 501-134076: Qualification Test Report

8.3. Industry Standards

- ANSI/VITA 46.0-2007, "VPX Baseline Standard"
- ANSI/VITA 47-2007, "American National Standard for Environments, Design and Construction, Safety and Quality for Plug-In Units Standard"
- ANSI/VITA 67.0-2012, "VPX Coaxial Interconnect"
- ANSI/VITA 67.1-2012, "3U, 4 Position SMPM Configuration"
- ANSI/VITA 67.2-2012, "6U, 8 Position SMPM Configuration"
- ANSI/VITA 67.3-2017, "Coaxial Interconnect on VPX, Spring-Loaded Contact on Backplane"

9. REVISION SUMMARY

A. Initial Release

B. Correct locator tool part numbers in Table 3. Add Module part numbers in Table 2.

C. Add information for .086 cable pin contact.

