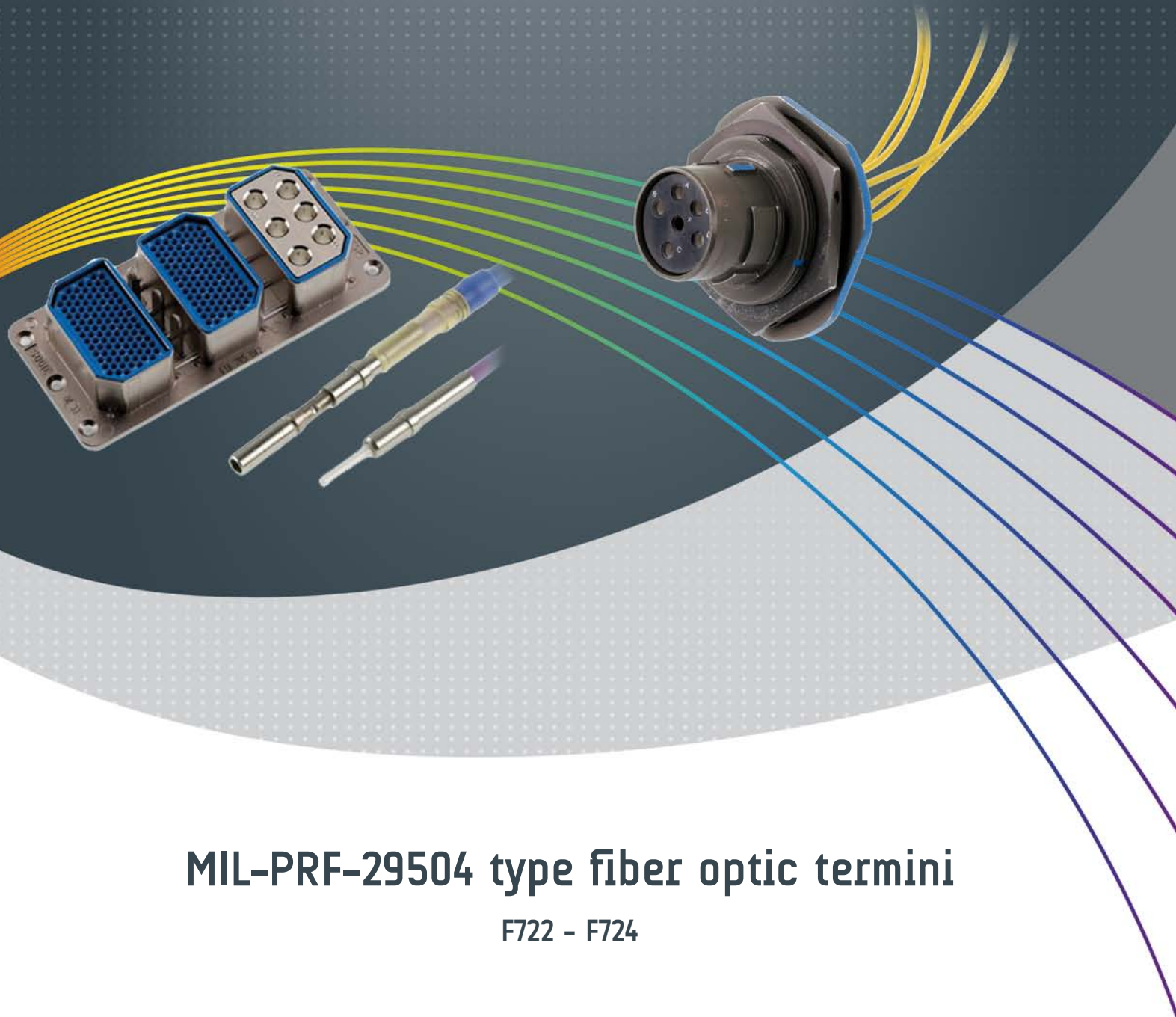




MIL-PRF-29504 type fiber optic termini

F722 - F724

RADIAL 
The next conneXion

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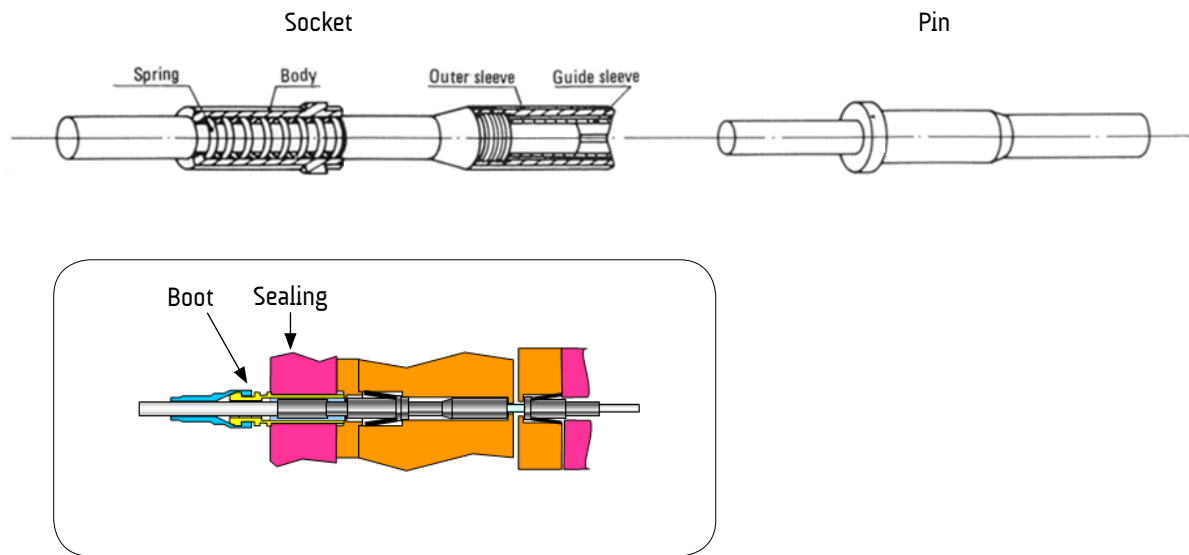
INTRODUCTION



MIL-PRF-29504 fiber optic termini were developed several decades ago and are described into several MIL standard documents. They have been designed to fit into standard electrical cavities within circular or rectangular multipin connectors and do not require specific inserts. However, standard electrical connectors are not optimized for optical connection with small core fibers and MIL-PRF-29504 fiber optic termini show lower optical performances than more recent designs, such as the LuxCis®.

Each connector has a different design for its cavities and therefore requires a different design for the termini. Like electrical contacts, MIL-PRF-29504 termini are pin or sockets. Multiple terminus configurations are thus needed to cover all connectors available.

Radiall has developed its own design and has added several features to improve the terminus.



KEY DESIGN FEATURES:

- Compatible with size 16 or size 12 standard electrical cavities.
- Pin and socket termini.
- Spring loaded on the socket side. For the Radiall design, the spring is protected within the body of the terminus, avoiding potential jamming during insertion.
- Sleeve integrated in the socket terminus.
- Ruggedized fiber optical terminus (temperature, vibration).
- Radiall unique releasing boot holder. During mating sequence, the spring loaded socket is pushed back by the pin, providing a good physical contact between optical faces. The boot holder allows the push of the fiber through the grommet while maintaining an efficient sealing.
- Use with multi mode fibers.

CHARACTERISTICS AND PERFORMANCE

Radiall MIL-PRF-29504 type fiber optic termini have been validated by internal or customer qualifications. Main results and performance information are shown below.

Insertion loss	0.8 dB typical
Durability	up to 500 mating cycles
Thermal cycling	-65°C / +125°C (cable dependent)
Vibration / shock	connector dependent

PRODUCT RANGE

Two terminus sizes are available. They fit either in a size 16 or a size 12 cavity:

- Size 16 optical terminus has a ferrule diameter specified at 1.585 mm
- Size 12 optical terminus has a ferrule diameter specified at 2.38 mm

Termini will have either metallic or ceramic sleeve depending on the fiber diameter and the application. A ceramic ferrule will accommodate fibers with a diameter up to 280 µm while metallic ferrule can go up to 1000 µm.

Radiall has been designing over 100 part numbers. Below are the main part numbers. Please contact your Radiall representative for configurations not described in the catalogue.

TERMINI FOR ARINC 404 – DSX CONNECTORS

(CAN REPLACE MIL-PRF-29504/10 PIN AND MIL-PRF-29504/11 SOCKET TERMINI)



Pin contact part number	Socket contact part number	Contact size	Fiber diameter (µm)	Cable diameter (mm)	Ferrule material
F724 005 000	F724 104 000	16	125	1.5	Ceramic
F724 011 000	F724 111 000	16	125	1.8	Ceramic
F724 009 000	F724 109 000	16	125	2	Ceramic
F724 002 000	F724 101 000	16	140	1.5	Ceramic
F724 041 000	F724 140 000	16	230	2	Metallic
F724 007 000	F724 107 000	16	280	1.6	Ceramic

MIL-PRF-29504 type fiber optic termini

PRODUCT RANGE

TERMINI FOR ARINC 600 – NSX AND MIL-C-83527 – MPX CONNECTORS

(CAN REPLACE MIL-PRF-29504/6 PIN AND MIL-PRF-29504/7 SOCKET TERMINI)

Pin contact part number	Socket contact part number	Contact size	Fiber diameter (µm)	Cable diameter (mm)	Ferrule material
F724 004 000	F724 104 000	16	125	1.5	Ceramic
F724 012 000	F724 111 000	16	125	1.8	Ceramic
F724 010 000	F724 109 000	16	125	2	Ceramic
F724 001 000	F724 101 000	16	140	1.5	Ceramic
F724 040 000	F724 140 000	16	230	2	Metallic
F724 204 000	F724 304 000	12	125	1.5	Ceramic
F724 242 000	F724 342 000	12	125	1.8	Ceramic
F724 203 000	F724 303 000	12	140	1.5	Ceramic

TERMINI FOR CIRCULAR MIL-DTL-38999 CONNECTORS

(CAN REPLACE MIL-PRF-29504/4 PIN AND MIL-PRF-29504/5 SOCKET TERMINI)



Pin contact part number	Socket contact part number	Contact size	Fiber diameter (µm)	Cable diameter (mm)	Ferrule material
F722 003 000	F722 103 000	16	125	1.5	Ceramic
F722 013 000	F722 113 000	16	125	1.8	Ceramic
F722 008 000	F722 108 000	16	125	2	Ceramic
F722 002 000	F722 102 000	16	140	1.5	Ceramic
F722 006 200	F722 106 200	16	140	1.8	Ceramic
F722 009 000	F722 109 000	16	140	2	Ceramic
F722 048 000	F722 148 000	16	230	2	Metallic
F722 010 000	F722 110 000	16	280	1.6	Ceramic
F722 200 000	F722 300 000	12	125	1.5	Ceramic
F722 202 000	F722 302 000	12	140	1.5	Ceramic
F722 240 000	F722 340 000	12	230	2.5	Metallic

TERMINI FOR HE510 - EPX CONNECTORS

Pin contact part number	Socket contact part number	Contact size	Fiber diameter (µm)	Cable diameter (mm)	Ferrule material
F724 006 000	F724 106 000	16	125	1.5	Ceramic
F724 003 000	F724 103 000	16	140	1.5	Ceramic
F724 042 000	F724 142 000	16	230	2	Metallic
F724 201 000	F724 301 000	12	140	1.5	Ceramic

Note that Radiall can support you with your cable and harness assemblies. Please refer to cable assemblies section or contact your sales representative.



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