

# HPQD™ MPQD™

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Quick Disconnect Connector Series  
For High Power Applications



**T** **TIMES**  
MICROWAVE SYSTEMS  
AN AMPHENOL COMPANY

HPQD™ and MPQD™ are a new connector series for high power applications. Featuring quick-disconnect mechanism, HPQD and MPQD are compatible with other interfaces. We are offering a broad range of products with HPQD and MPQD interfaces, including cable connectors, cable assemblies, receptacles, and adapters.



## HPQD:

- For very high power / voltage applications
- DC to 1.0 GHz operating frequency
- Secure connection
  - Cable – Connector retention:  $\geq 1,000$  N (typ.)
  - Engage force:  $\leq 70$  N
  - Disengage force:  $\geq 10$  N
- Compatible with other interfaces



## MPQD:

- For high power / voltage applications
- DC to 1.0 GHz operating frequency
- Secure connection
  - Cable – Connector retention:  $\geq 1,000$  N (typ.)
  - Engage force:  $\leq 35$  N
  - Disengage force:  $\geq 10$  N
- Compatible with other interfaces

## Applications:

- Compatible interfaces are widely used in wafer manufacturing equipment
- Tool-free / threadless mating is advantageous in clean room, low FOD, low contamination environment
- RF Generator
- Matching Network
- Ion Implanter
- Industrial Laser
- Industrial Cooking / Heating

## The Advantages of HPQD and MPQD:

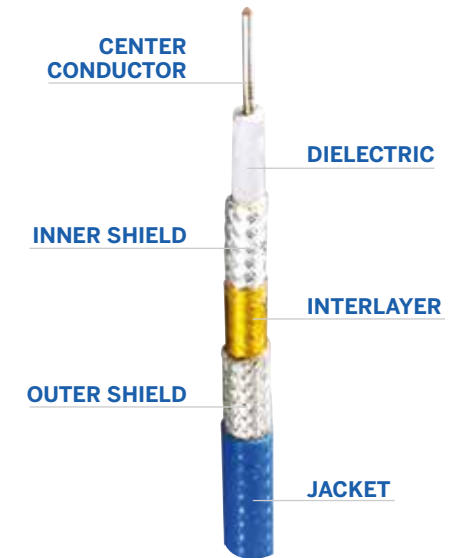
- Save time – fast connect and disconnect
- Easy, tool-free installation and maintenance
- Minimize human errors. No torque wrench required. Positive locking mechanism provides secure connection
- Clean room friendly. Tool-free setup reduces risk of contamination. Threadless interface minimizes debris from mating / un-mating
- Drop-in replacement. Intermate-able with other interfaces without performance impact

## Cable Compatibility

HPQD and MPQD are compatible with SFT specialty cable series

### SFT SERIES

- A balanced solution combining ruggedized construction, flexible, and high-power handling
- Low loss
- High shielding performance ( $\geq 90$  dB)
- Suitable for a wide range of applications and environments



SFT SERIES	PERFORMANCE @ 13.56 MHZ		HPQD				MPQD			
	Attenuation (dB/m)	Power Handling (kW)	Male	Female	Right Angle	Reverse Polarity	Male	Female	Right Angle	Reverse Polarity
SFT-226	0.015	37	●			●				
SFT-500	0.014	42	●		●	●	●	●		
SFT-600	0.012	47	●	●	●		●	●	●	
Other										
RG-393	0.025	19					●		●	●

SFT SERIES	PERFORMANCE @ 13.56 MHZ		PERFORMANCE @ 1 GHZ		Outer Diameter (inch / mm)	Bend Radius (inch / mm)	Weight (lbs per ft / kg per meter)	Operating Temperature (°C)
	Attenuation (dB/m)	Power Handling (kW)	Attenuation (dB/m)	Power Handling (kW)				
SFT-226	0.015	37	0.132	4.2	0.485 / 12.32	2.5 / 63.5	0.24 / 0.35	-55 to +200
SFT-500	0.014	42	0.128	4.7	0.490 / 12.45	1.5 / 38.1	0.23 / 0.34	-55 to +200
SFT-600	0.015	35	0.135	5.8	0.565 / 14.35	2.8 / 69.9	0.30 / 0.45	-55 to +200
Other Cables								
RG-393	0.024	13	0.240	1.2	0.390 / 9.91	2.0 / 50.8	0.18 / 0.27	55 to +200

## Connector Specifications

### ELECTRICAL

Max. Frequency	Insertion Loss @ 1 GHz	Voltage Rating	DWV	Mating Cycles	Max. VSWR
1.0 GHz	-0.1 dB Typical	2,700 V <sub>RMS</sub>	5,000 V <sub>RMS</sub>	500	Spec = 1.20:1 Typical

P/N	Stock Code	Series	Interface	Gender	Orientation	Cable Compatibility
TC-600T-HQM-RA-CC	3190-6419	HQMR	HPQD	Male	Right Angle	SFT-600
TC-600T-HQM-CC	3190-6420	HQM	HPQD	Male	Straight	SFT-600
TC-500T-HQM-RA-CC	3190-6631	HQMR	HPQD	Male	Right Angle	SFT-500
TC-500T-HQM-RP-RA-CC	3190-6632	HQMRPR	HPQD	Male	Right Angle	SFT-500
TC-500T-HQM-RP-CC	3190-6633	HQMRP	HPQD	Male	Straight	SFT-500
TC-600T-HQF-CC	3190-6669	HQF	HPQD	Female	Straight	SFT-600
TC-500T-HQM-CC	3190-6907	HQM	HPQD	Male	Straight	SFT-500
TC-226T-HQM-RA-CC	3190-6908	HQMR	HPQD	Male	Right Angle	SFT-226
TC-226T-HQM-RP-RA-CC	3190-6909	HQMRPR	HPQD	Male	Right Angle	SFT-226
TC-214P-HQM-CC	3190-6910	HQM	HPQD	Male	Straight	RG-213
TC-214P-HQM-CC	3190-6910	HQM	HPQD	Male	Straight	RG-214
TC-214P-HQM-CC	3190-6910	HQM	HPQD	Male	Straight	RG-393
TC-393-MQM-CC	3190-6575	MQM	MPQD	Male	Straight	RG-393
TC-393-MQM-RA-CC	3190-6576	MQMR	MPQD	Male	Right Angle	RG-393
TC-500T-MQM-RA-CC	3190-6634	MQMR	MPQD	Male	Right Angle	SFT-500
TC-500T-MQM-CC	3190-6635	MQM	MPQD	Male	Straight	SFT-500
TC-600T-MQM-RA-CC	3190-6636	MQMR	MPQD	Male	Right Angle	SFT-600
TC-600T-MQM-CC	3190-6637	MQM	MPQD	Male	Straight	SFT-600
TC-393-MQM-RP-RA-CC	3190-6638	MQMRPR	MPQD	Male	Right Angle	RG-393
TC-393-MQM-RP-CC	3190-6639	MQMRP	MPQD	Male	Straight	RG-393
TC-600T-MQF-CC	3190-6670	MQF	MPQD	Female	Straight	SFT-600

## Quick-Disconnect Cable Assemblies

HPQD and MPQD interfaces are available on our high power cable assemblies

### BENEFITS

- End-to-end performance optimization
- Paired with non-QD connectors without performance impact
- Stringent workmanship – standard X-ray inspection
- No-hassle deployment - plug and play



### Ordering Guide

**SFT226** - **XXX** **XXX** - **X.X** **X**

- Connector A      Connector B-      Length      UOM

F = Feet  
M = Meters  
I = Inches

Cable Code	Description
SFT226	SFT-226
SFT500	SFT-500
SFT600	SFT-600
RG393NPP	RG-393

Compatible Cable	Connector Code	Description	Compatible Cable	Connector Code	Description
SFT-226	HQMR	HPQD, Male, Right Angle	SFT-600	HQM	HPQD, Male, Straight
	HQMRPR	HPQD, Male, Right Angle, Reverse Polarity		HQMR	HPQD, Male, Right Angle
SFT-500	HQM	HPQD, Male, Straight		HQF	HPQD, Female, Straight
	HQMR	HPQD, Male, Right Angle		MQM	MPQD, Male, Straight
	HQMRP	HPQD, Male, Reverse Polarity		MQMR	MPQD, Male, Right Angle
	HQMRPR	HPQD, Male, Right Angle, Reverse Polarity		MQF	MPQD, Female, Straight
	MQM	MPQD, Male, Straight	RG-393	HQM	HPQD, Male, Straight
	MQMR	MPQD, Male, Right Angle		MQM	MPQD, Male, Straight
		MQMR		MPQD, Male, Right Angle	
		MQMRP		MPQD, Male, Reverse Polarity	
			MQMRPR	MPQD, Male, Right Angle, Reverse Polarity	

## Receptacles

HPQD and MPQD receptacles are available to system designers:

- As replacement of existing interface
- Add quick-disconnect features and benefits to new products

Multiple terminal types are available



Benefits of an end-to-end HPQD/MPQD interconnect solution (cable assemblies and receptacles):

- Optimal electrical performance
- High power handling
- Improved retention force (MPQD)



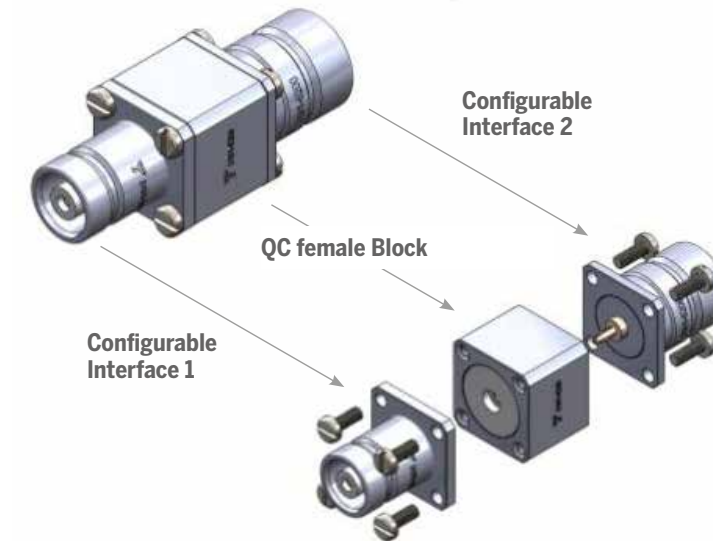
Back-end Terminal							
Interface	Front-end Gender	M5x0.8, Male	M5x0.8, Female	10-32, Female	Ring Lug, #8	Ring Lug, Multi-Stud	Blind Pin, 7 mm, Male
HPQD	Female	3191-6217	3191-6213				
	Female, Reverse polarity				3191-6210		
MPQD	Female			3191-6224		3191-6211	3191-6201
	Female, Reverse polarity				3191-6212		

## Adapters – Insta-Change™ Series

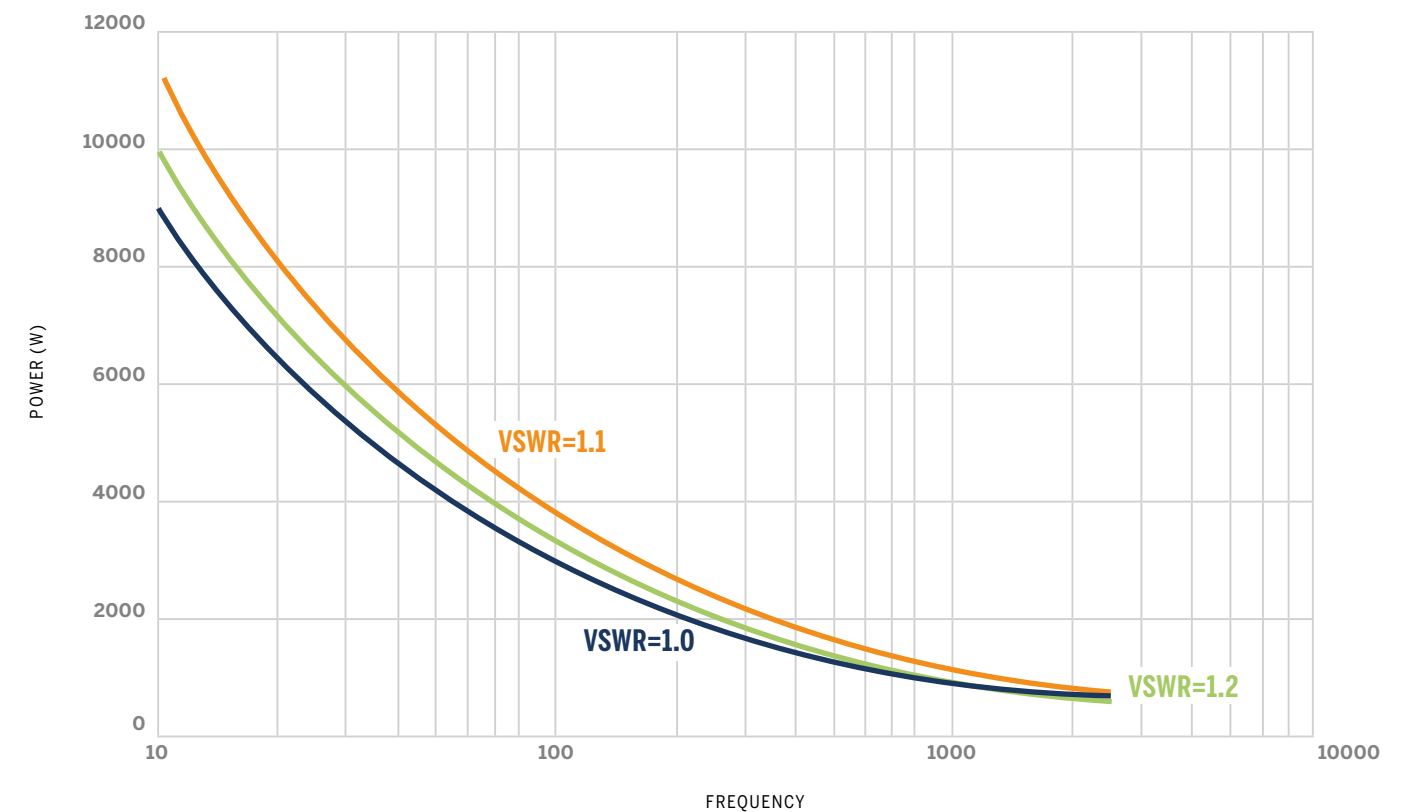
- A three-part configurable adapter
- Rapid changes without affecting consistency
- Support common quick-disconnect and threaded high power interfaces
- Ideal for lab and production monitoring equipment
- DC – 2.5 GHz; Optimized for power up to 1 GHz

Gender				
Interface	Male	Male (Reverse Polarity)	Female	Female (Reverse Polarity)
HPQD	3191-6204	3191-6205	3191-6200	3191-6203
MPQD	3191-6207	3191-6208	3191-6206	3191-6202
7/16	3191-6282		3191-6139	
HN	3191-6225		3191-6140	
LC	3191-6293		3191-6141	
N	3191-6294		3191-6114	
Adapter Block			3191-6209	

## CONFIGURABILITY EXAMPLE



## QC POWER HANDLING - Seal Level; Ambient = 25°C; 40°C Matched Load





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