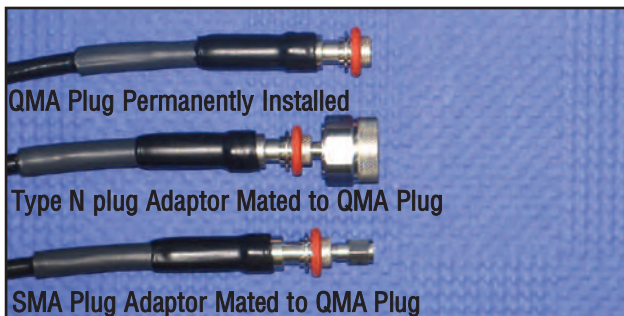


SilverLine™ Specifications:

SilverLine™-QMA Changeable Interface System



Specifications:

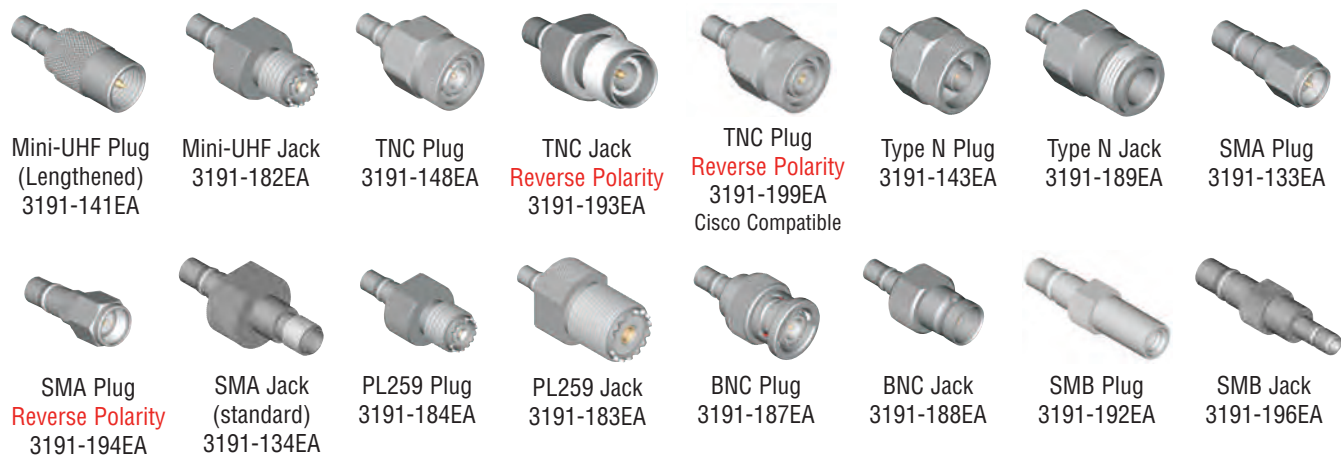
- Frequency Response: DC-18.0 GHz(QMA, SMA, Type N, TNC)
- VSWR: 1:35:1 Maximum, 1:25:1 Typical (Cable Assembly with Mated Adaptor)

Features & Benefits:

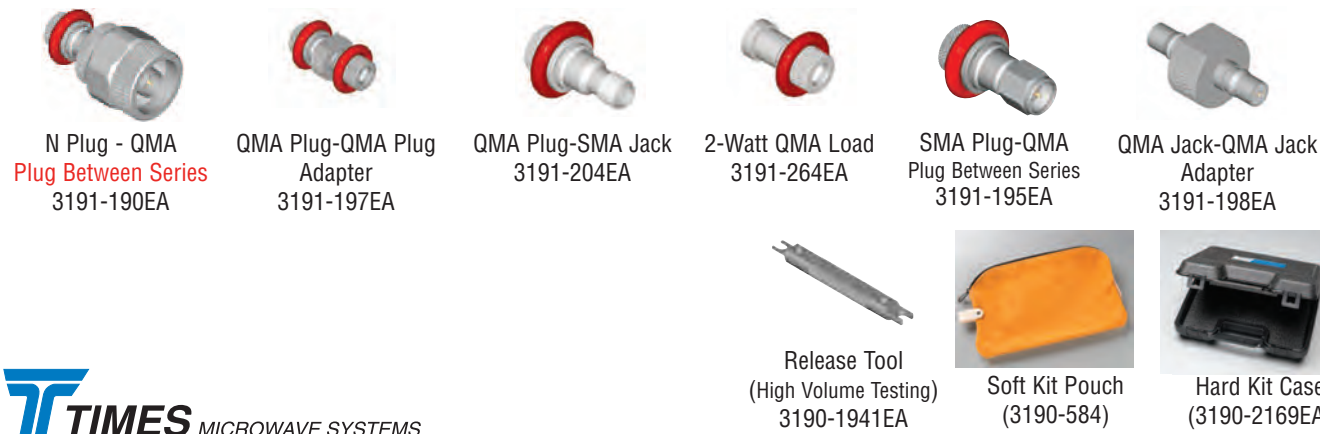
- High Frequency Operation
- 5000 Mate Life
- SureGrip™ Coupling Nut
- Smooth, Fast Retraction for Quick Changes
- Large Interface Selection
- Between Series & Reverse Polarity Interfaces



Adaptors From QMA Jack To:



Between & Within Series Adaptors and Termination



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ISO 9001 Certified

Test Cables

Coax Test Cables for:

- High Volume Production Test Stations
- Research & Development Labs
- Environmental & Temperature Test Chambers
- Replacement for OEM Test Port Cables
- Field RF Testing
- Cellular Infrastructure Site Testing



SilverLine™ Test Cables are cost effective, durable, high-performance cable assemblies designed for use in a broad range of test and interconnect applications. Fabricated from rugged, solid PTFE dielectric cable with stainless steel connectors and a proven strain relief system, these cables provide long life and excellent stability in applications where they are repeatedly flexed and mated/unmated. SilverLine™ test cables are ideal for use in production, field and laboratory test environments. They are also economical enough to be used as interconnects in test systems.

Features & Benefits:

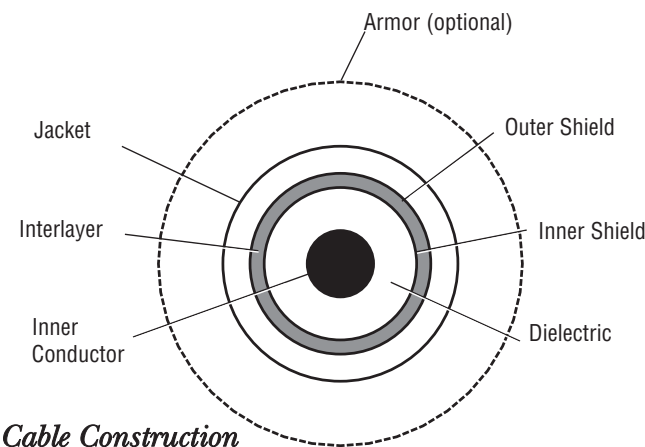
- Phase & Loss Stable
- Long Flex Life
- Triple Shielded Cable
- High Mating Cycle, Stainless Steel Connectors
- Rugged, Solder-Clamp Attachment
- Redundant, Long Life Strain Relief System
- ROHS Compliant

Time's Silverline™ Product Guarantee

Times will repair or replace your SilverLine test cable at its option if the connector attachment fails within four months of shipment. This guarantee excludes cable or connector interface damage from misuse or abuse.



SilverLine™ Specifications:



Cable Construction

Inner Conductor: Solid Silver Plated Copper Clad Steel

Dielectric: Solid PTFE

Shield: Silver-Plated Copper Flat Ribbon Braid
Aluminum-Polyimide Tape Interlayer
36 GA Silver-Plated Copper Braid (90%k)

Jacket: Clear FEP

Armor (Optional):

PVC Style: Steel wire reinforced, thick wall, high flex life clear PVC

Steel Style: 100% coverage, square locked, galvanized steel hose, high angle steel braid and TPR jacket.

Connectors

- Passivated stainless steel finish (Complete QMA right angle and QMA straight coupling nut only are nickel plated brass)
- QMA SureGrip™ coupling nut design
- Captive contact
- Thick wall interface (SMA)
- Gold plated beryllium copper center contacts
- PTFE dielectric
- Type N & SMA OneTurn™ (1 full rotation to mate)
- High temperature 7mm
- Knurl/hex coupling nut (Type N and TNC)
- Precision grade 7-16

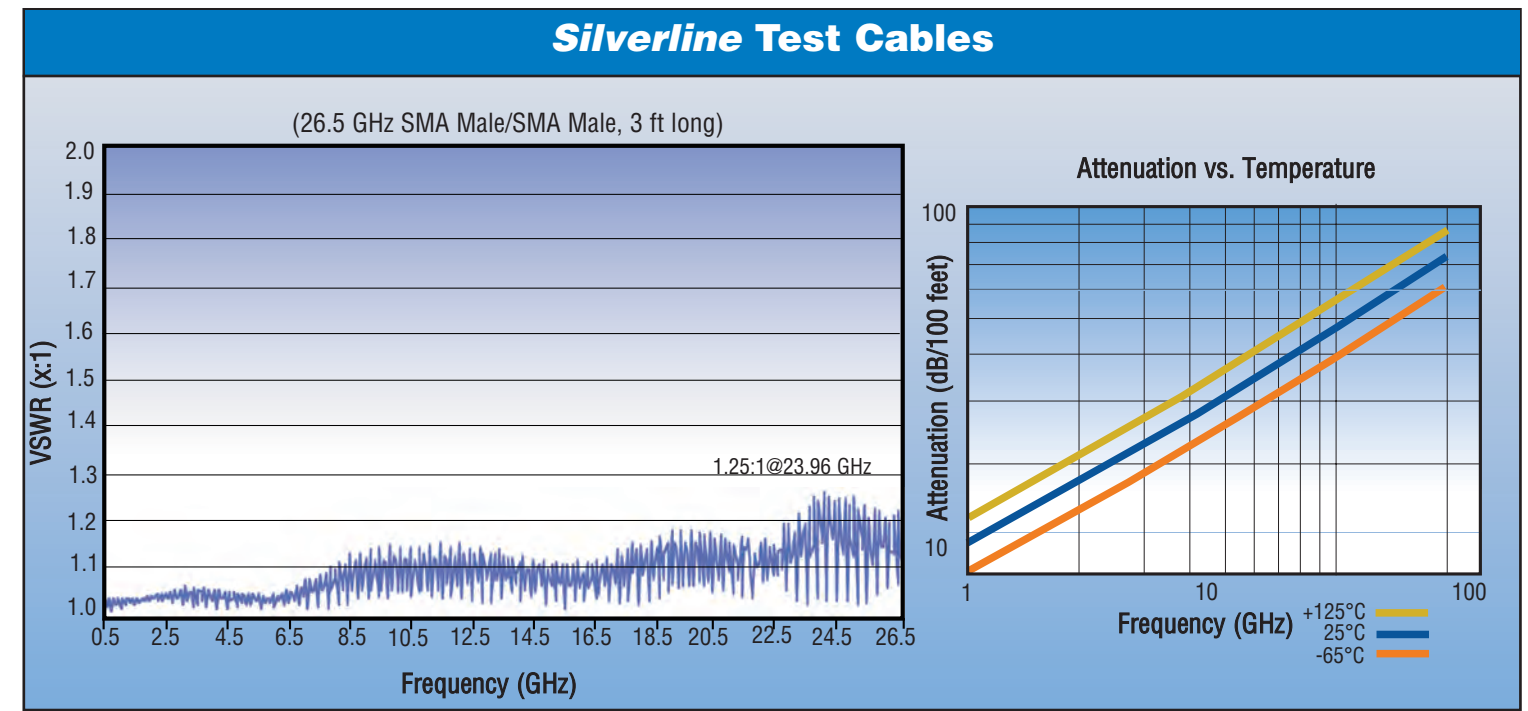
Connector Attachment/Strain Relief

- Rugged, solder-clamp to braid. 175-300 lb pull force. Additional crimp system on armored version.
- Redundant triple layer strain relief system (Dual layer on armored version)

Physical & Mechanical Specifications		
Dimensions	in	mm
Inner Conductor	0.037	0.94
Dielectric	0.116	2.95
Inner Shield	0.126	3.20
Interlayer	0.132	3.35
Outer Shield	0.154	3.91
Jacket	0.195	4.95
Armor (optional)	0.450	11.50
Weight lbs./ft (kg/m)	Cable: 0.043 (0.064)	Armor: 0.066 (0.098)
Armor Crush Resistance	PVC: 1200 lbs. per linear inch - Steel: 1500 lbs. per linear inch	
Bend Radius: minimum	1	25
Connector Retention	Unarmored & Armored PVC > 175 lbs - Steel Armored > 300 lbs	
Mating Life Cycle	SMA, Type N: > 5000* QMA: > 2500*	
Length Tolerances	≤ 2 ft. or 0.75m, -0, +0.50" (12.7mm) > 2 ft. or 0.75m, -0, +2% of length	
Temperature Range	-67°/+221°F	-55°/+105°C

Electrical Specifications					
VSWR Max		4 GHz	6 GHz	18 GHz	26.5 GHz**
		BNC	1.20:1		
7-16 DIN, QMA			1.25:1		
	SMA, QMA 2.4mm, 3.5mm		1.20:1	1.30:1	1.35:1
	Type N, TNC			1.35:1 (R/As)	(SMA, 2.4mm, 3.5mm)
	7mm		1.25:1	1.35:1	
Impedance	50 ohms				
Velocity of Propagation	70 %				
Shielding Effectiveness	>100 dB				
Capacitance	29.4 pf/ft = 96.4 pf/meter				
Phase Stability (ten, 4" radius, 180° reverse bends)	DC to 10 GHz: +/- 1.1° 10 to 18 GHz: +/- 2.0°				
Attenuation Max @ +77°F (+25°C)					
Attenuation	(GHz)	dB/100 ft	dB/100 m		
	1	12.2	40.0		
	2	18.0	59.0		
	6	34.2	112		
	12	52.5	172		
	18	68.4	224		
	26.5	88.7	290		
Attenuation at Frequency (A=K1 √FMHz + K2 FMHz)					
	K1	0.348			
	K2	0.0012			
Power Handling @ +77°F (+25°C) (Sea Level) (Cable Only***)					
Power Handling	(GHz)	Watts (max.)			
	0.4	891			
	1	539			
	2	363			
	6	180			
	12	117			
	18	88			
	26.5	65			

* SMA Male & Type N: Assumes use of calibrated torque wrench, proper care and cleaning of interface and mated connector is within mil spec limits. = QMA: Assumes proper use, care and cleaning.
** All 26.5 GHz cables are RF characterized on a production basis through 20.0 GHz.
*** Connector configuration may limit cable assembly maximum power handling capability.
Specifications subject to change without notice.



Ordering Information

U = Unarmored (1ft (0.25m) Minimum Assembly Length)
A = Armored (2 ft (0.5m) Minimum Assembly Length)
S = Steel, torque and crush resistant armor 3ft (1.0m)

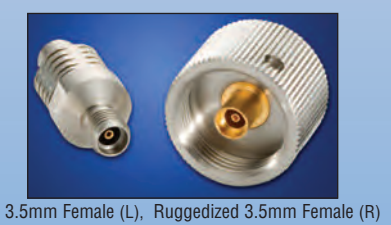
Feet: 0.50 ft Increments
Example: -04.50F = 4.50 ft
Meters: 0.25 m increments
Example: -00.75M = 0.75 m

SLXXX-XXXXXX-XX.XXX
F= Feet M= Meters

Maximum Frequency
04 = 4.0 GHz (BNC equipped only)
06 = 6.0 GHz
18 = 18.0 GHz
26 = 26.5 GHz (SMA, 2.4mm, 3.5mm only)

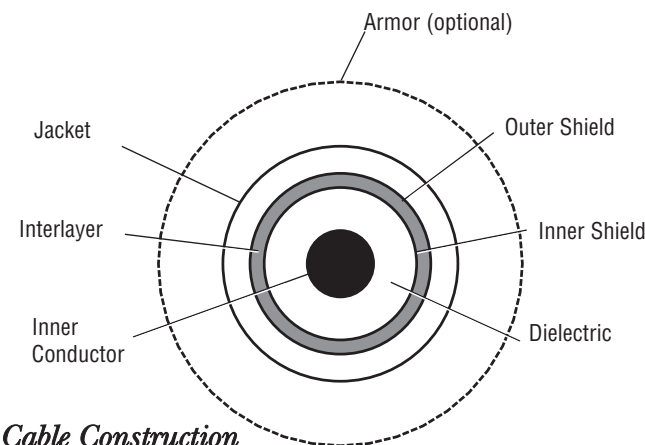
Connector Codes (2 or 3 Characters)
BM = BNC Male
SM = SMA Male
S1T = SMA Male OneTurn™
SF = SMA Female
SMR = SMA Right Angle
35M = 3.5mm Male
35F = 3.5mm Female
3RF = 3.5mm Ruggedized Female
NM = Type N Male
N1T = Type N Male OneTurn™
NF = Type N Female
NMR = Type N Right Angle
70M = 7mm
76M = (available as SilverLine TuffGrip only)
76F = (available as SilverLine TuffGrip only)
TM = ETNC Male (Extended range)
TF = ETNC Female (Extended range)
QMM = QMA Male (changeable interface see pg. 4)
QMR = QMA Right Angle (changeable interface see pg. 4)

Labels on unarmored assemblies under 1.5 feet (0.5m) long remain loose to increase flexibility.
Some connector combinations and/or lengths may be unavailable. Please contact Times or your Times authorized representative.



Specifications subject to change without notice.

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Inner Conductor: Solid Silver Plated Copper Clad Steel

Dielectric: Solid PTFE

Shield: Silver-Plated Copper Flat Ribbon Braid
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36 GA Silver-Plated Copper Braid (90%k)

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- High temperature 7mm
- Knurl/hex coupling nut (Type N and TNC)
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- Redundant triple layer strain relief system (Dual layer on armored version)

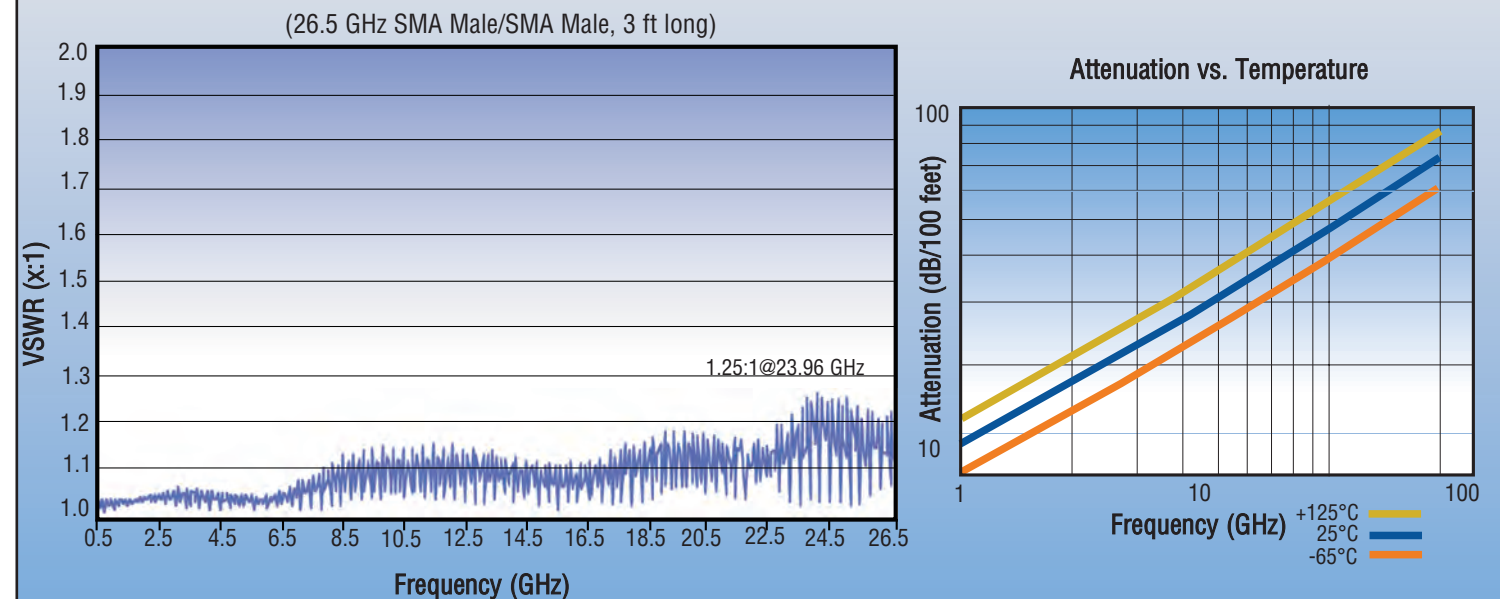
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Mating Life Cycle	SMA, Type N: > 5000* QMA: > 2500*	
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Velocity of Propagation	70 %				
Shielding Effectiveness	>100 dB				
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Attenuation Max @ +77°F (+25°C)					
Attenuation (GHz)		dB/100 ft	dB/100 m		
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6		34.2	112		
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Power Handling (GHz)	Watts (max.)				
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18	88				
26.5	65				

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Silverline Test Cables



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U = Unarmored (1ft (0.25m) Minimum Assembly Length)
A = Armored (2 ft (0.5m) Minimum Assembly Length)
S = Steel, torque and crush resistant armor 3ft (1.0m)

Feet: 0.50 ft Increments
Example: -04.50F = 4.50 ft
Meters: 0.25 m increments
Example: -00.75M = 0.75 m

SLXXX-XXXXXX-XX.XXX F= Feet M= Meters

Maximum Frequency

- 04 = 4.0 GHz (BNC equipped only)
- 06 = 6.0 GHz
- 18 = 18.0 GHz
- 26 = 26.5 GHz (SMA, 2.4mm, 3.5mm only)

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- 35M = 3.5mm Male
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- TF = ETNC Female (Extended range)
- QMM = QMA Male (changeable interface see pg. 4)
- QMR = QMA Right Angle (changeable interface see pg. 4)



3.5mm Female (L), Ruggedized 3.5mm Female (R)

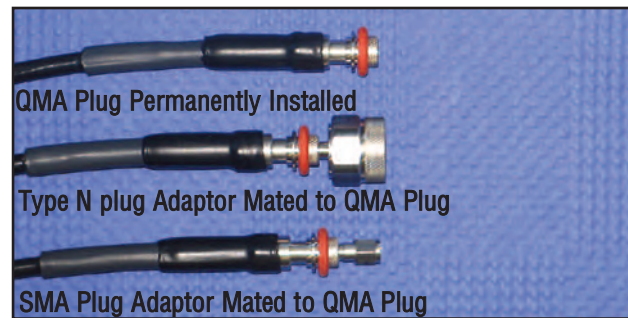
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SilverLine™ Specifications:

SilverLine™-QMA Changeable Interface System



Specifications:

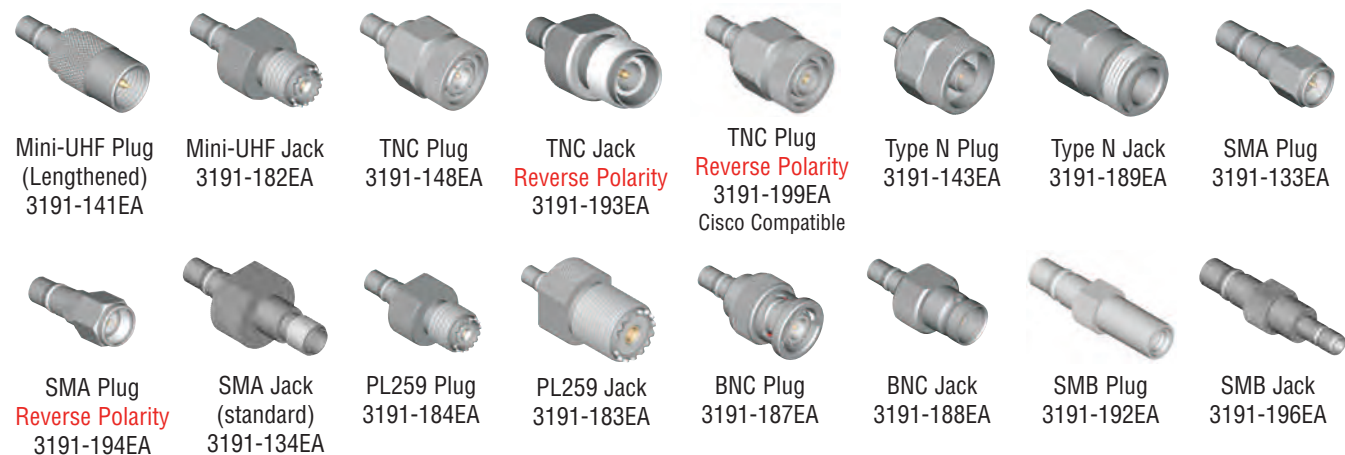
- Frequency Response: DC-18.0 GHz(QMA, SMA, Type N, TNC)
- VSWR: 1:35:1 Maximum, 1:25:1 Typical (Cable Assembly with Mated Adaptor)

Features & Benefits:

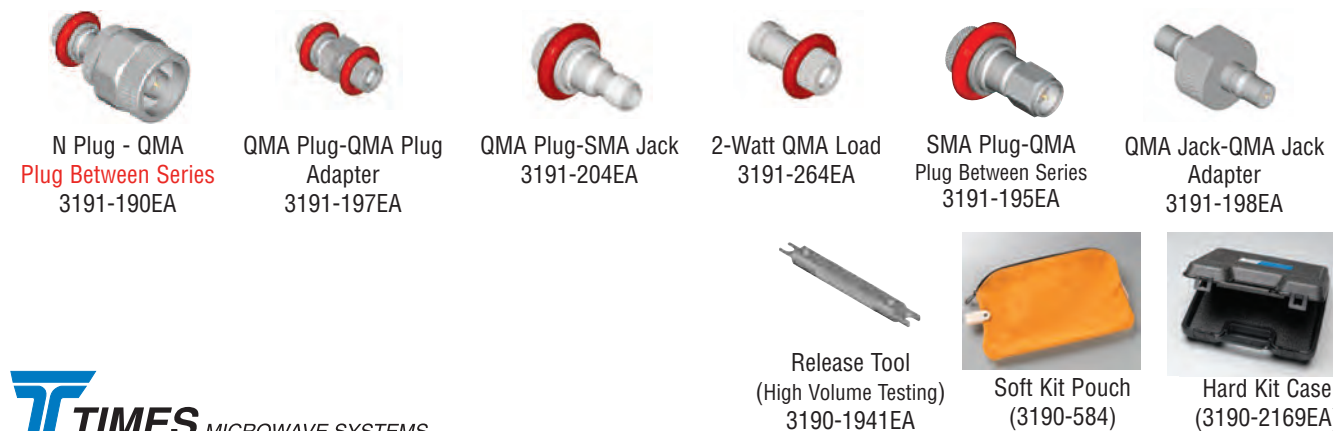
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- Between Series & Reverse Polarity Interfaces



Adaptors From QMA Jack To:



Between & Within Series Adaptors and Termination



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Features & Benefits:

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