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General Purpose Test Cables
October 2006



a vital part of your world

M/A-COM

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General Purpose Test Cables

These durable test cables have the flexibility and reliability required for testing applications, as well as excellent electrical characteristics. Customer-replaceable interfaces allow a single cable to interconnect a variety of male and female interfaces without degrading the low loss and VSWR of the cable assembly.

The outermost layer of these cables may be extruded FEP (for FC type cables) or extruded polyurethane (FE type). For more severe environments, we cover the extruded FEP layer with overlapping layers of adhesive-backed Polyimide tape (used as a vapor barrier) and then weave Nomex (saturated in Polyimide to prevent fraying). The FNxxG-type test cable, jacketed with green-tinted Nomex, will survive very severe abrasive conditions—similar to those required by MIL-T81490. An alternative way to ruggedize these popular cables is to cover the FEP layer with stainless steel armor. Armored FNxxGA-type test cables provide even greater crush and abrasion resistance.

Connectors

A broad selection of interchangeable connector interface styles is available for these cable types. To ensure that your cable assembly performs to specifications, these high-quality connectors provide low VSWR and excellent cable/connector retention characteristics. The critical cable/connector junction is reinforced with a tapered, molded, bend-restricting boot that prevents damage when the cable is bent.

Additional Quality Cable Assemblies Available:

- **Instrument test cables:** Protection for your ANA investment with the flexibility and stability you need.
- **Super flexible coaxial cables:** For interconnecting RF and microwave modules, sub-assemblies and instruments.
- **EW cables:** MIL-qualified for high performance airborne shipboard, and ground-based applications.
- **Space cables:** Low weight, radiation-resistant, long-term stable for launch vehicles and satellites.



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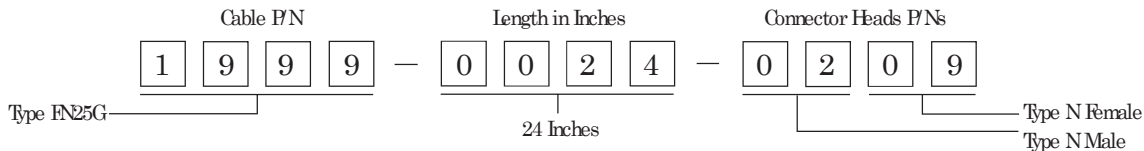
Technical Data

	FN25G	FN25G Armored	FN35G	FE25G	FN24G
Electrical					
Frequency Range	DC to 18 GHz <i>Data supplied 0.3 to 18 GHz</i>	DC to 18 GHz	DC to 18 GHz	DC to 18 GHz	DC to 26.5 GHz
VSWR	1.25:1 max <i>7 mm, 3.5 mm, N, ETNC, and SMA connectors</i>	1.25:1 max	1.25:1 max	1.25:1 max	1.40:1 max
Insertion Loss	0.5 dB + 0.4 dB/ft @ 18 GHz	0.5 dB + 0.4 dB/ft @ 18 GHz	0.5 dB + 0.4 dB/ft @ 18 GHz	0.5 dB + 0.42 dB/ft @ 18 GHz	0.5 dB + 0.52 dB/ft @ 26.5 GHz
Impedance	50 Ohms nominal	50 Ohms nominal	50 Ohms nominal	50 Ohms nominal	50 Ohms nominal
Velocity of Propagation	76% nominal	76% nominal	76% nominal	76% nominal	76% nominal
Time Delay	1.34 nS/ft nominal	1.34 nS/ft nominal	1.34 nS/ft nominal	1.34 nS/ft nominal	1.34 nS/ft nominal
Capacitance	27 pF/ft nominal	27 pF/ft nominal	27 pF/ft nominal	27 pF/ft nominal	27 pF/ft nominal
RF Leakage	-90 dB/ft max	-90 dB/ft max	-90 dB/ft max	-90 dB/ft max	-90 dB/ft max
Power	40 W nominal@ 18 GHz at room temp*	40 W nominal@ 18 GHz at room temp*	40 W nominal@ 18 GHz at room temp*	40 W nominal@ 18 GHz at room temp*	25 W nominal@ 26.5 GHz at room temp*
Mechanical					
Concentrated Load	100 lbs/linear inch	consult factory	100 lbs/linear inch	consult factory	100 lbs/linear inch
Bend Radius	1.25 inch min	1.50 inch min	1.75 inch min	1.25 inch min	1.20 inch min
Outside Diameter	0.25 inch nominal	0.35 inch nominal	0.35 inch nominal	0.25 inch nominal	0.24 inch nominal
Temperature					
Operating	-65°C to +110°C**	-65°C to +110°C**	-65°C to +110°C**	-65°C to +110°C**	-65°C to +110°C**
Storage	-65°C to +110°C	-65°C to +110°C	-65°C to +110°C	-65°C to +110°C	-65°C to +110°C

* Dependent upon connector style ** Power handling derates to 1 W maximum@ 18 GHz at 110°C

Ordering Information

Design your own test cable using this simple format. The example below illustrates the part number formulation for a FN25G cable, 24" long with Nf and Nm connectors.



Cable Type	Part Number	Connector Head Part Numbers			
FN25G	1999	Type	On Cable Assemblies	Test cables for individual purchase 18 GHz 26.5 GHz	
FN25G Armored	1998	EINcm	01	1550-0067	1550-0389
FN35G	1997	TNCF	08	1550-0165	1550-0390
FE25G	1996	Nm	02	1550-0068	1550-0392
FN24G	1985	Nf	09	1550-0166	1550-0393
Accessories (18 GHz models)		SMAm	03	1550-0070	1550-0384
Interlink	1600-8207	SMAf	07	1550-0164	1550-0385
90° Interlink	1600-5136	3.5 mm (m)	10	1550-0168	1550-0386
Storage box	9604-0250	3.5 mm (f)	11	1550-0167	1550-0387
Torque wrench	9604-0251	7 mm	04	1550-0069	1550-0391
Flat wrench	9604-0321	K2.92 mm (m)	13	-	1550-0398
Test kit	9613-0001	K2.92 mm (f)	14	-	1550-0399
<i>Contains 2 each: ETNCm, SMAm, Nm, and 7 mm</i>		2.4 mm (m)	15	-	1550-0603
<i>1 each: torque and flat wrenches</i>		2.4 mm (f)	16	-	1550-0602

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We work with you

M/A-COM, Inc., a business unit of Tyco Electronics, is an established industry leader in the design, development, and manufacture of radio frequency (RF), microwave and millimeter wave semiconductors, components and technologies for the wireless telecommunications, automotive, aerospace and military markets. Holding hundreds of patents in the field, M/A-COM is internationally known as an innovator and integrator whose technologies are found in today's most advanced signal intelligence and defense systems, as well as in leading automotive navigation, safety, and communications solutions. M/A-COM is also a major supplier of critical communications systems and equipment for public safety, utility, federal, and select commercial markets. Headquartered in Lowell, Massachusetts, M/A-COM has offices and manufacturing facilities worldwide.

Products now and in the future

M/A-COM currently has many new products in development. We are happy to work with you on any customized products or standard product variations. Please contact us for more information.

Visit M/A-COM on the Web at www.macom.com or contact your local M/A-COM sales office for assistance.

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