Micro-Coax Description		TGE055D	HFE100D	HFE160D
Dimensions	Units			
Cable Diameter	inch	0.055 ± 0.004	0.100 ± 0.004	0.160 ± 0.004
	millimeter	1.397 ± 0.102	2.540 ± 0.102	4.064 ± 0.102
Outer Shield Diameter	inch	0.044 ± 0.003	0.082 ± 0.003	0.138 ± 0.003
	millimeter	1.118 ± 0.076	2.083 ± 0.076	3.505 ± 0.076
Dielectric Diameter	inch	0.034 ± 0.001	0.066 ± 0.002	0.118 ± 0.002
	millimeter	0.864 ± 0.025	1.676 ± 0.051	2.997 ± 0.051
Center Conductor Diameter	inch	0.0113 ± 0.0005	0.0201 ± 0.0005	0.0359 ± 0.0005
	millimeter	0.287 ± 0.0127	0.5105 ± 0.0127	0.9119 ± 0.0127
Length (Minimum)	feet	25	25	25
	meter	7.6	7.6	7.6
Materials				
Outer Jacket		Blue PFA	Light Aqua FEP	Light Aqua FEP
Outer Shield		SPC	SPC	SPC
Inner Shield		SPC	SPC	SPC
Dielectric		PTFE	PTFE	PTFE
Center Conductor		SPCW	SPCW	SPCW
RoHS Compliant		Yes	Yes	Yes
Mechanical Characteristics				
Temperature Range	°C	-65 to 125	-65 to 125	-65 to 125
Inside Bend Radius (Minimum)	inch	0.125	0.250	0.500
	millimeter	3.175	6.350	12.700
Weight	lbs/100 ft	0.35	1.14	2.90
	kg/100 m	0.53	1.71	4.35
Electrical Characteristics				
Characteristic Impedance	ohm	50	50	50
Capacitance	pF/ft	29	29	29
	pF/m	95	95	95
Velocity of Propagation	%	70	70	70
Shielding Effectiveness	dB	> 70	> 90	> 90
Maximum Voltage	VRMS @ 60 Hz	1000	1500	1900
Signal Delay	ns/ft	1.45	1.45	1.45
	ns/m	4.76	4.76	4.76
Frequency Range	GHz	DC - 26.5	DC - 18	DC - 18
Attenuation (dB/100 ft, Typical)	0.5 GHz	25.9	13.4	7.6
	1.0 GHz	37.0	19.2	10.9
	5.0 GHz	84.8	45.2	26.8
	10.0 GHz	122.5	66.4	40.4
	18.0 GHz	168.1	92.9	58.0
	26.5 GHz	207.9	116.7	74.2
Power (Watts CW @ 20 °C, Maximum)	0.5 GHz	98.1	307.6	788.3
	1.0 GHz	59.0	215.5	548.5
	5.0 GHz	30.2	92.7	229.8
	10.0 GHz	21.0	53.8	155.1
	18.0 GHz	15.4	46.0	109.8
	26.5 GHz	12.5	37.0	86.9

EQUATIONS & SYMBOLS

CHARACTERISTIC IMPEDANCE

$$Z_o = \frac{138}{\sqrt{e}} \cdot \log\left(\frac{D}{d}\right) \text{ ohms}$$

DELAY

ENGLISH	METRIC
$T = 1.017 \cdot \sqrt{e}$ ns/ft	$T = 3.336 \cdot \sqrt{e}$ ns/m
$L = \frac{0.984 \cdot T}{\sqrt{e}}$ ft	$L = \frac{0.300 \cdot T}{\sqrt{e}}$ m

CUTOFF FREQUENCY

$$f_{co} = \frac{7.514}{\sqrt{e} \cdot (D + d)} \text{ GHz}$$

VELOCITY OF PROPAGATION

$$VP = \frac{1}{\sqrt{e}} \cdot 100 \quad \% \text{ OF FREE SPACE VELOCITY}$$

CABLE RISE TIME (10% TO 90% AMPLITUDE)

$$T_r = 1.315 \cdot A^2 \cdot L^2 \cdot 10^{-2} \text{ ps}$$

ATTENUATION (THEORETICAL) AT 20° C

$$\propto = \frac{0.434 \cdot \sqrt{f}}{Z_o}\left(\frac{\sqrt{R_1}}{d} + \frac{\sqrt{R_2}}{D}\right) + 2.78 \cdot f \cdot \sqrt{e} \cdot F_p \text{ dB/100ft}$$

SYMBOL KEY

$\propto$	Attenuation
A	Attenuation in db/100 feet at 1 GHz
d	Center conductor diameter, inches
D	Dielectric diameter, inches
e	Dielectric constant
f	Frequency in Mhz
f_{co}	Cutoff frequency in GHz
F_p	Dielectric power factor
L	Length
P^s	Picoseconds
R_1	Ratio of center conductor conductivity to copper
R_2	Ratio of outer conductor conductivity to copper
T	Time in nanoseconds (ns)
T_r	Rise time in picoseconds (ps)
VP	Velocity of Propagation
Z_o	Characteristic impedance

ORDERING & SERVICE INFORMATION

How to Order

Please order by catalog part number and/or drawing number adding any special requirements, such as plating. Lengths required, straight or coiled, must be given when purchasing any cable type.

Where to Order

Address all purchase orders and communications to:

In Europe : France
P2M
Z.A. Buisson de la Couldre
8, allée des Châtaigniers - 78 190 Trappes
Phone: 01 30 62 64 64
Fax: 01 30 62 40 10
Email: sroussel@p2m.com or contact@p2m.com
www.p2m.com

Terms

Formal price quotations remain in effect for 30 days unless otherwise agreed upon. Terms of payment are Net 30 Days, subject to approval of credit. Estimated shipment is based on material availability and factory capacity at time of quote and as such, is subject to prior sale.

MICRO-COAX®
PROVEN RELIABLE

Sample Policy

Samples are normally available for most standard stock items. A cable sample quantity of 2 feet is applicable. Non-stock items may be sampled depending on availability at the time of the request.

Source Inspection

Prices quoted are based on inspection at destination. A charge per day or part of a day applies to any order requiring source inspection.

Shipments

Unless specific instructions accompany the order, shipment is made FOB Pottstown, PA. Micro-Coax will use its judgment as to the best method of shipment. Micro-Coax reserves the right to ship COD or upon receipt of advance payment if satisfactory credit cannot be established. All claims for shortages must be made within 10 days after receipt of material from Micro-Coax.

Return Policy

Please contact Micro-Coax for an RMA number before returning product. The RMA number should be referenced on the packing container and all associated paperwork.

Non-Recurring Engineering Charges

Non-recurring engineering charges, if any, reimburse Micro-Coax in part for tools and fixtures needed for a particular job. They do not give the customer any claim or right to remove these tools from the Micro-Coax plant or have say in the use or disposition of these tools. There will be no charge for upkeep or repair of tools and fixtures. Upon completion of order, Micro-Coax may dispose of said tools and fixtures as it sees fit.

