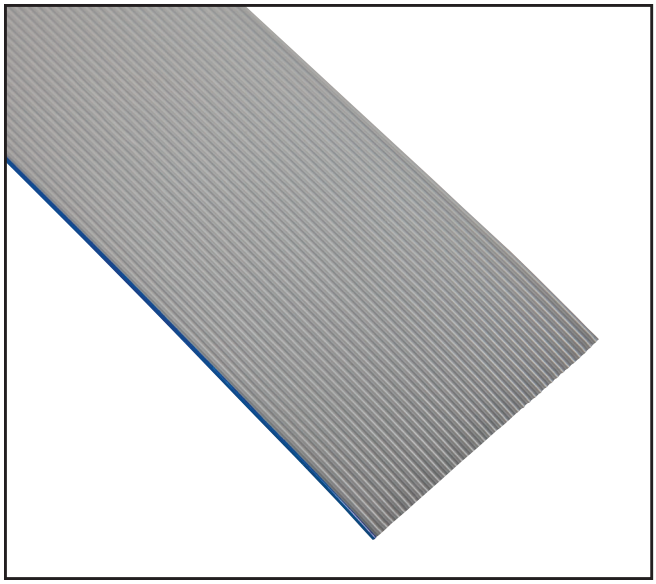
3M™ High Flex Life Cable

.050" 28 AWG Stranded, Halogen Free PO

HF319 Series



- Low Smoke Zero Halogen (LSZH) Insulation. Advantages of LSZH insulation are the low smoke (IEC 61034-2:2005), and low toxicity of combustion gases (NF X 70-100-2:2006), reducing the risk to firefighters, and reducing the soot and corrosion damage to nearby equipment
- Broad operating temperature range from -40°C to 105°C
- Flex life of 25 million cycles at 3/4 inch radius
- 19 strands of high strength copper allow provide exceptionally long flex life
- 28 AWG wire on .050" spacing permits mass termination to 3M's broad line of .100" IDC connectors
- Zippable for branching or discrete termination
- See the Regulatory Information Appendix (RIA) in the "RoHS compliance" section of www.3Mconnectors.com for compliance information (RIA E1 & C1 apply)

Date Modified: March 21, 2012

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Physical

Jacket Material: Halogen Free Polyolefin (PO)

Color: Dark Gray

Marking:

Standard: None

Conductors: 28 AWG, 19 × 40 AWG [19 × Ø 0.79]
Silver Plated Stranded Copper Alloy (89% Conductivity)

Electrical

Voltage Rating: USA: 300V Canada: 150V EU: <50V

Insulation Resistance: > 1×10^{10} Ω/10 ft. [3 m]

	Unbalanced	Balanced
Characteristic Impedance:	104 Ω	167 Ω
Capacitance:	14.1 pF/ft [46.3 pF/m]	8.2 pF/ft [26.9 pF/m]
Inductance:	0.15 µH/ft [0.49 µH/m]	0.23 µH/ft [0.75 µH/m]
Propagation Delay:	1.47 ns/ft [4.82 ns/m]	1.37 ns/ft [4.49 ns/m]
Velocity of Propagation:	70%	74%

Note: Unbalanced is measured between ground-signal-ground conductors.Balanced is measured between conductors within a pair.

Environmental

Temperature Rating: -40°C to +105°C

Flammability Rating: USA: Horizontal

Halogen Free is defined as both 1) no halogen compounds that are intentionally added to the product or used in the manufacturing process for the product and 2) any impurities present are less than 900 ppm bromine, less than 900 ppm chlorine and/or less than 1500ppm total bromine and chlorine. The latter are the levels set forth in certain industry standards for printed circuit boards, such as the International Electrotechnical Commission (IEC) 61249-2-21 standard. This information represents 3M's knowledge and belief which may be based in whole or in part on information provided by 3rd party suppliers to 3M.

UL File No.: E42769, Style No.: 21682

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HF319 Series

Inch
[mm]

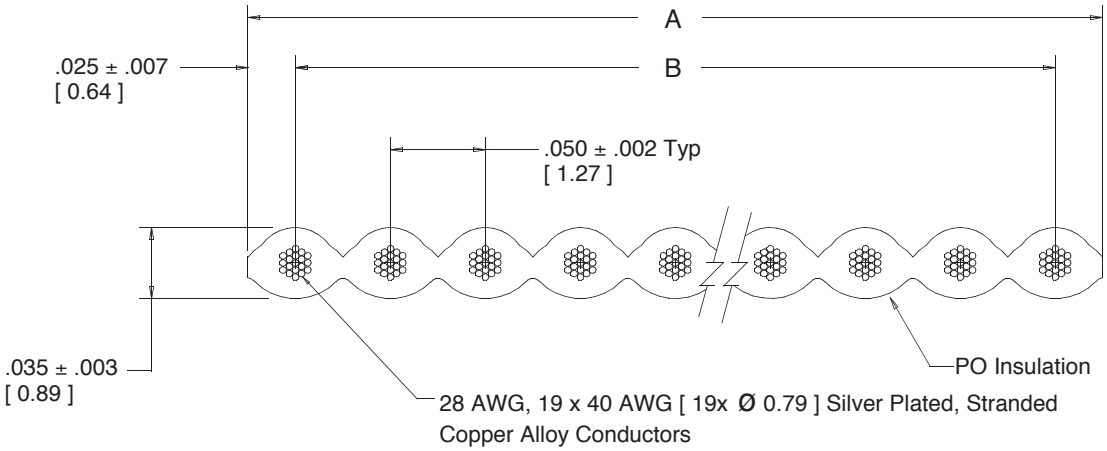
Tolerance Unless Noted			
	.0	.00	.000
Inch	±.1	±.01	±.005

[ ] Dimensions for Reference Only

Radius	Minimum Flex Cycles
½"	9 million
¾"	25 million

Note: Represents minimum tested rolling flex cycles at date of publication. Additional testing is ongoing. Cable construction and material is similar to 3319 series cable which is rated to 100 million cycles at 7/8" radius. See TS-0732. Contact 3M for the most up-to-date test information.

Number of Conductors	3M Part Number	Dimension A ± .03"	Dimension B (See Note 2)
06	HF319/06	0.300 +/- .010 [11.43]	0.250 +/- .007 [10.16]
09	HF319/09	0.450 ± .010 [11.43]	0.400 ± .007 [10.16]
10	HF319/10	0.500 ± .010 [12.70]	0.450 ± .007 [11.43]
14	HF319/14	0.700 ± .010 [17.78]	0.650 ± .007 [16.51]
15	HF319/15	0.750 ± .010 [19.05]	0.700 ± .007 [17.78]
16	HF319/16	0.800 ± .015 [20.32]	0.750 ± .011 [19.05]
20	HF319/20	1.000 ± .015 [25.40]	0.950 ± .011 [24.13]
24	HF319/24	1.200 ± .015 [30.48]	1.150 ± .011 [29.21]
25	HF319/25	1.250 ± .015 [31.75]	1.200 ± .011 [30.48]
26	HF319/26	1.300 ± .015 [33.02]	1.250 ± .011 [31.75]
30	HF319/30	1.500 ± .020 [38.10]	1.450 ± .015 [36.83]
34	HF319/34	1.700 ± .020 [43.18]	1.650 ± .015 [41.91]
36	HF319/36	1.800 ± .020 [45.72]	1.750 ± .015 [44.45]
37	HF319/37	1.850 ± .020 [46.99]	1.800 ± .015 [45.72]
40	HF319/40	2.000 ± .020 [50.80]	1.950 ± .015 [49.53]
50	HF319/50	2.500 ± .020 [63.50]	2.450 ± .015 [62.23]
60	HF319/60	3.000 ± .020 [76.20]	2.950 ± .015 [74.93]
64	HF319/64	3.200 ± .020 [81.28]	3.150 ± .015 [80.01]



Notes:

1. Blue marking on one edge of cable designates wire #1.

Ordering Information

HF319/XX XX

Blank = Standard
C = Canadian Certified Version

Number of Conductors
(See Table)

Blank = Standard
SF = Splice Free

Note:

Available in standard 100 ft and 300 ft rolls, please specifiy when ordering. Contact 3M for availability of additional conductor counts and/or custom roll lengths.

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