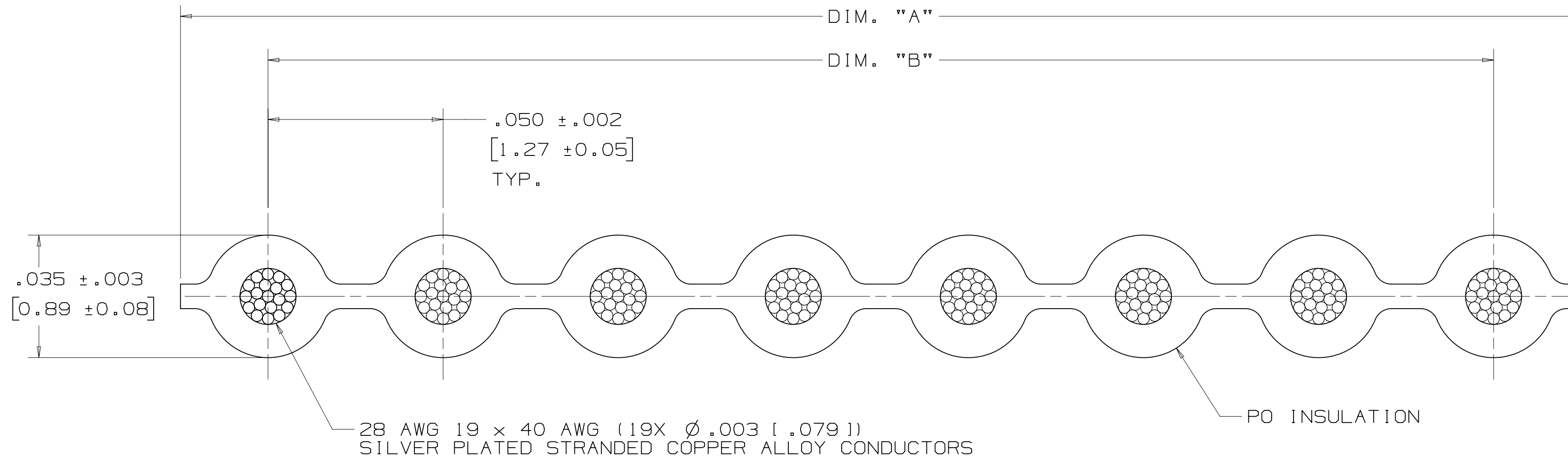


3M™ HIGH FLEX LIFE FLAT CABLE, HF319 SERIES  
 .050", 28 AWG STRANDED, HIGH FLEX LIFE, HALOGEN FREE PO



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

- NOTES
- MATERIAL:  
 A) PRIMARY INSULATION: HALOGEN FREE POLYOLEFIN (PO).  
 B) CONDUCTORS: 28 AWG, 19 X 40 AWG SILVER PLATED STRANDED COPPER ALLOY
  - REGULATORY INFORMATION:  
 VISIT 3M.com/regs OR CONTACT YOUR 3M REPRESENTATIVE TO FIND THE RoHS COMPLIANCE STATUS OF THE 3M PART YOU ARE INTERESTED IN.  
  
 UL FILE NO: E42769.  
 UL STYLE NO: 21682.
  - MARKINGS:  
 STANDARD: NONE  
 CANADIAN: SEE "PRINTING ILLUSTRATION" VIEW  
 PRIMARY CABLE: BLUE MARK ON EDGES DESIGNATES WIRE NUMBER 1.
  - ENVIRONMENTAL:  
 TEMP RATING: -40°C TO +105°C (EIA-364-32G, METHOD A, TEST CONDITION 2).  
  
 -10°C TO +105°C (UL TEMPERATURE RATING)  
 FLAMABILITY RATING: 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.  
 2) ANY IMPURITIES PRESENT ARE LESS THAN 900 ppm BROMINE, LESS THAN 900 ppm CHLORINE AND/OR LESS THAN 1500 ppm 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.

ORDERING INFORMATION

X HF319/XX XX

BLANK = STANDARD  
 C = CANADIAN

NUMBER OF CONDUCTORS  
 (SEE TABLE 1)

BLANK = STANDARD  
 SF = SPLICE FREE

ROLLING FLEX CYCLES PER  
 EIA-364-41

RADIUS	MINIMUM CYCLES
1/2"	18 MILLION
3/4"	113 MILLION

ALL CYCLES WERE PERFORMED AT AMBIENT CONDITIONS.

TABLE 1  
 DIMENSION CHART

NUMBER OF CONDUCTORS	3M PART NUMBER	DIMENSION 'A' ± AS NOTED	DIMENSION 'B' (SEE NOTE 2)
6	HF319/06	0.300"±0.010"	0.250"±0.007"
9	HF319/09	0.450"±0.010"	0.400"±0.007"
10	HF319/10	0.500"±0.010"	0.450"±0.007"
14	HF319/14	0.700"±0.010"	0.650"±0.007"
15	HF319/15	0.750"±0.010"	0.700"±0.007"
16	HF319/16	0.800"±0.015"	0.750"±0.011"
20	HF319/20	1.000"±0.015"	0.950"±0.011"
24	HF319/24	1.200"±0.015"	1.150"±0.011"
25	HF319/25	1.250"±0.015"	1.200"±0.011"
26	HF319/26	1.300"±0.015"	1.250"±0.011"
30	HF319/30	1.500"±0.020"	1.450"±0.015"
34	HF319/34	1.700"±0.020"	1.650"±0.015"
36	HF319/36	1.800"±0.020"	1.750"±0.015"
37	HF319/37	1.850"±0.020"	1.800"±0.015"
40	HF319/40	2.000"±0.020"	1.950"±0.015"
50	HF319/50	2.500"±0.020"	2.450"±0.015"
60	HF319/60	3.000"±0.020"	2.950"±0.015"
64	HF319/64	3.200"±0.020"	3.150"±0.015"

TABLE 2  
 ELECTRICAL CHARACTERISTICS

VOLTAGE RATING	USA: 300V, CANADA: 150V, EU: 50V	
INSULATION RESISTANCE	PRIMARY CABLE >1 X 10 <sup>10</sup> Ω/10 FT [3 m]	
	UNBALANCED	BALANCED
CHARACTERISTIC IMPEDANCE	100 Ω	169 Ω
CAPACITANCE	15.0 pF/ft [49.2 pF/m]	8.4 pF/ft [27.7 pF/m]
INDUCTANCE	0.15 μH/ft [0.49 μH/m]	0.24 μH/ft [0.79 μH/m]
PROPAGATION DELAY	1.48 ns/ft [4.86 ns/m]	1.42 ns/ft [4.66 ns/m]
VELOCITY OF PROPAGATION	68%	72%

NOTE: UNBALANCED IS MEASURED BETWEEN GROUND-SIGNAL-GROUND CONDUCTORS.  
 BALANCED IS MEASURED WITHIN A PAIR.

"PRINTING ILLUSTRATION"

AWM 21682 105°C 300V HOR AWM 1A 105°C 150V FT2 EU<50V

3M ELECTRONICS MATERIALS SOLUTIONS DIVISION  
 INTERCONNECT SOLUTIONS  
<http://www.3mconnectors.com>

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DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				SEP 06, 2018 REVISED DATA AND NOTES	JNC	BPM
				MAY 22, 2012 REVISED AND REDRAWN	JNC	SN
				MAY 15, 2012 DATE		
				MAY 15, 2012 DATE		

DIVISION CODE: EMSD  
 DO NOT SCALE DRAWING  
 TOLERANCES EXCEPT AS NOTED  
 INCHES: .00 ± .01, .000 ± .010, .0000 ±  
 MILLIMETERS: 0 ± 2.5, .00 ± 1.3, .000 ± .25  
 INTERPRET PER ASME Y14.5 - 2009  
 MAX SURFACE ROUGHNESS: 1.6 μm SURFACES  
 MARKED ONLY

TITLE: HIGH FLEX LIFE, FLAT CABLE, 28 AWG STRANDED, HF319  
 CAGE NUMBER: D78-5100-2342-3  
 DRAWING NO.: HF319  
 REV. C  
 SHEET 1 OF 2

78-5100-2342-3  
 DRAWING NUMBER  
 Time 9/7/2018 11:51:00 AM  
 UTC Offset (hrs) 6  
 Imaged: Central Standard

3M™ HIGH FLEX LIFE FLAT CABLE, HF319 SERIES  
 .050", 28 AWG STRANDED, HIGH FLEX LIFE, HALOGEN FREE PO

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DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
ACROSS CODES		DRFT	DATE	MFG	DATE	
		CASTIGLIONE	MAY 15, 2012			
DIVISION	DIVISION CODE	CHKD	DATE	APPRV	DATE	
	EMSD			S. NEU	MAY 15, 2012	
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		INCHES		TITLE		
		.0 ± .1		HIGH FLEX LIFE, FLAT CABLE, 28 AWG STRANDED, HF319		
		.00 ± .05		CAGE NUMBER		
		.000 ± .010		D 78-5100-2342-3		
		.0000 ±		REV. C		
THIRD ANGLE PROJECTION		MILLIMETERS		MODEL		
		0 ± 2.5		HF319		
INTERPRET PER ASME Y14.5 - 2009		.0 ± 1.3		DET		
		.00 ± .25		LISTS <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
MAX SURFACE ROUGHNESS		.000 ±		SHT 2 OF 2		
DTX SURFACES		ANGLES				
<input checked="" type="checkbox"/> MARKED ONLY						

78-5100-2342-3  
 DRAWING NUMBER  
 1  
 REVISION  
 C  
 6  
 (hrs)  
 Offset  
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 UTC  
 9/7/2018  
 Time  
 Standard  
 Central  
 Imaged