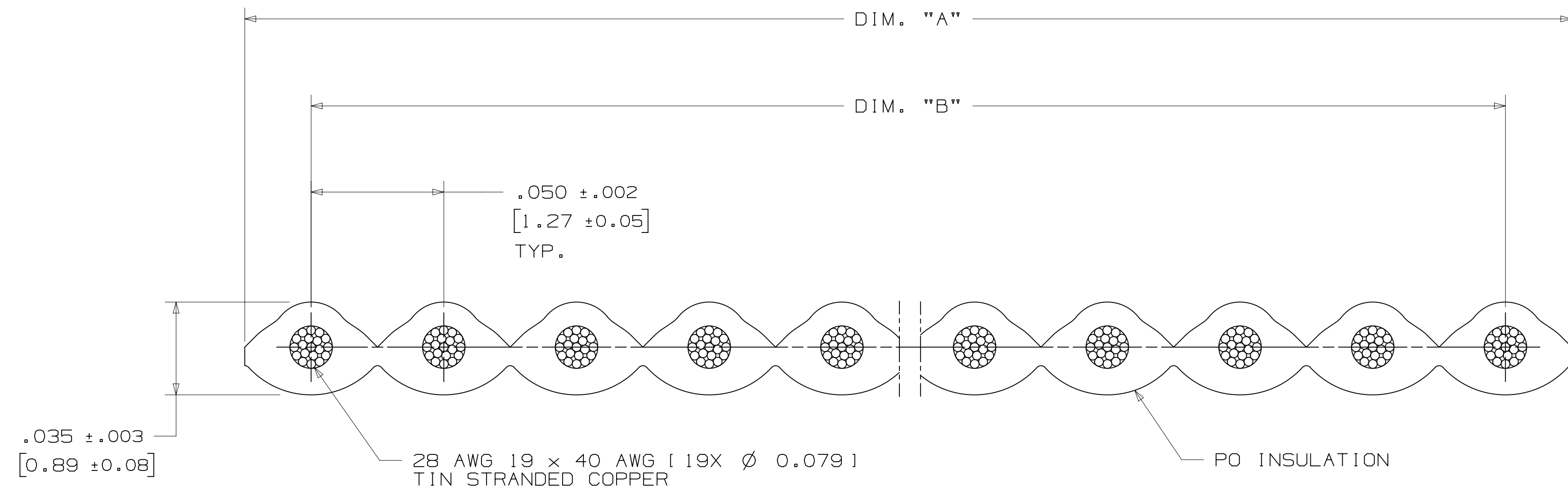


# 3M™ MEDIUM FLEX LIFE FLAT CABLE, HF539 SERIES

.050" 28 AWG STRANDED, MEDIUM 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.

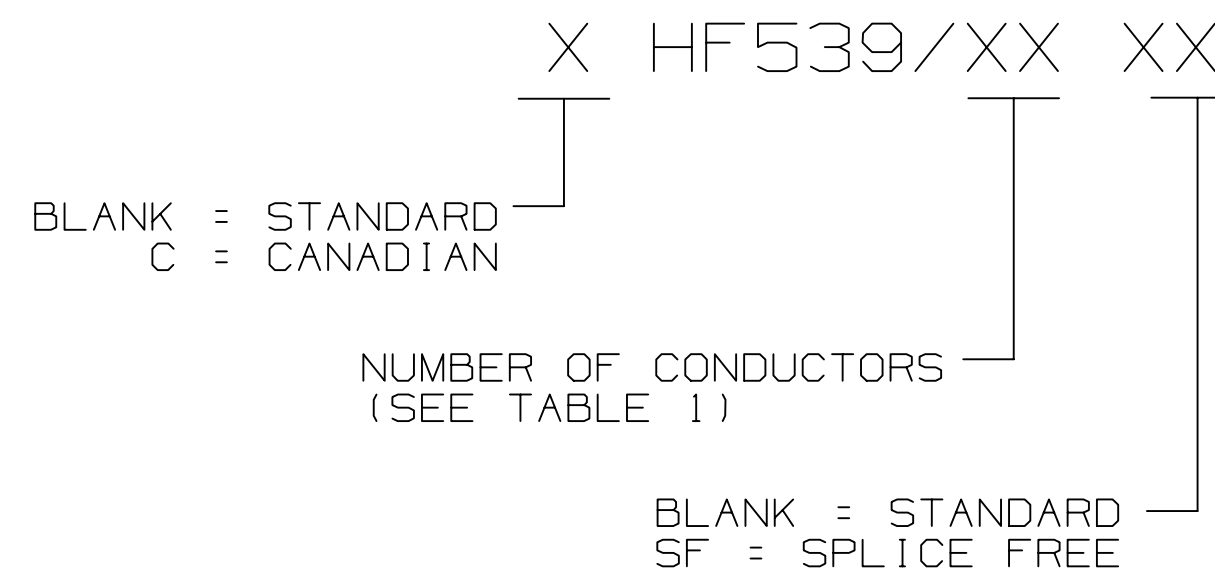
TABLE 1  
DIMENSION CHART

NUMBER OF CONDUCTORS	3M PART NUMBER	DIMENSION 'A' ± AS NOTED	DIMENSION 'B' (SEE NOTE 2)
6	HF539/06	0.300"±0.010"	0.250"±0.007"
9	HF539/09	0.450"±0.010"	0.400"±0.007"
10	HF539/10	0.500"±0.010"	0.450"±0.007"
14	HF539/14	0.700"±0.010"	0.650"±0.007"
15	HF539/15	0.750"±0.010"	0.700"±0.007"
16	HF539/16	0.800"±0.015"	0.750"±0.011"
20	HF539/20	1.000"±0.015"	0.950"±0.011"
24	HF539/24	1.200"±0.015"	1.150"±0.011"
25	HF539/25	1.250"±0.015"	1.200"±0.011"
26	HF539/26	1.300"±0.015"	1.250"±0.011"
30	HF539/30	1.500"±0.020"	1.450"±0.015"
34	HF539/34	1.700"±0.020"	1.650"±0.015"
36	HF539/36	1.800"±0.020"	1.750"±0.015"
37	HF539/37	1.850"±0.020"	1.800"±0.015"
40	HF539/40	2.000"±0.020"	1.950"±0.015"
50	HF539/50	2.500"±0.020"	2.450"±0.015"
60	HF539/60	3.000"±0.020"	2.950"±0.015"
64	HF539/64	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	168 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	1.51 ns/ft [4.95 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.



ROLLING FLEX CYCLES PER EIA-364-41

RADIUS	MINIMUM CYCLES
1/2"	0.4 MILLION
3/4"	5 MILLION
1 3/4"	10 MILLION

NOTE: REPRESENTS MINIMUM ROLLING FLEX CYCLES PERFORMED AT AMBIENT TEMPERATURES 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 INFORMATION.

NOTES

- MATERIAL:  
A) PRIMARY INSULATION: HALOGEN FREE POLYOLEFIN (PO).  
B) CONDUCTORS: 28 AWG, 19 X 40 AWG (19 X, Ø 0.079), TINNED STRANDED COPPER.
- 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.
- THE SURFACE DEFINED BY THE "ZIP" PROCESS IS NOT REQUIRED TO BE BLUE.
- 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.

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INFORMATION CALL 800-225-5373

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



DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
		B	79493	JUN 11, 2018	JNC	BM
		A	44734	DEC 06, 2012	JNC	RE
				PRODUCTION RELEASE		
				NOV 05, 2012		
				NOV 05, 2012		

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		INCHES: .0 ± .1 .00 ± .05 .000 ± .010 .0000 ± .0002	<p>© 3M COPYRIGHT 2018 This document and the information it contains are 3M property and may not be reproduced or further distributed without 3M permission, or used or disclosed other than for 3M authorized purposes. All rights reserved.</p>
		MILLIMETERS: 0 ± 2.5 .0 ± 1.3 .00 ± .25 .000 ± .005	
		INTERPRET PER ASME Y14.5 - 2009	
		MAX SURFACE ROUGHNESS	
		MARKED ONLY	

TITLE	CAGE NUMBER	SIZE	DRAWING NO.	REV.
MEDIUM FLEX LIFE FLAT CABLE, .050", 28 AWG, HF539	D		78-5100-2565-9	B

178-5100-2565-9  
 78-5100-2565-9  
 6/12/2018  
 UTC  
 6 hrs  
 1 OF 2

3M™ MEDIUM FLEX LIFE FLAT CABLE, HF539 SERIES  
 .050" 28 AWG STRANDED, MEDIUM FLEX LIFE, HALOGEN FREE PO

**Regulatory:** For regulatory information about this product, visit [3M.com/regs](http://3M.com/regs) or contact your 3M representative.


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THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2009	MILLIMETERS		TITLE MEDIUM FLEX LIFE FLAT CABLE, .050" 28 AWG, HF539		
MAX SURFACE ROUGHNESS	MARKED ONLY	INCHES		CAGE NUMBER D 78-5100-2565-9		
		ANGLES		MODEL HF539		
		DIVISION CODE		DIVISION EMSD		
		MATERIAL		DATE NOV 05, 2012		
		APPROVED		DATE NOV 05, 2012		
		DRAWING NO.		REV. B		
		SHEET		SHEET 2 OF 2		

78-5100-2565-9  
 DRAWING NUMBER  
 6/12/2018  
 Time  
 6  
 UTC  
 Off-set  
 (hrs)