

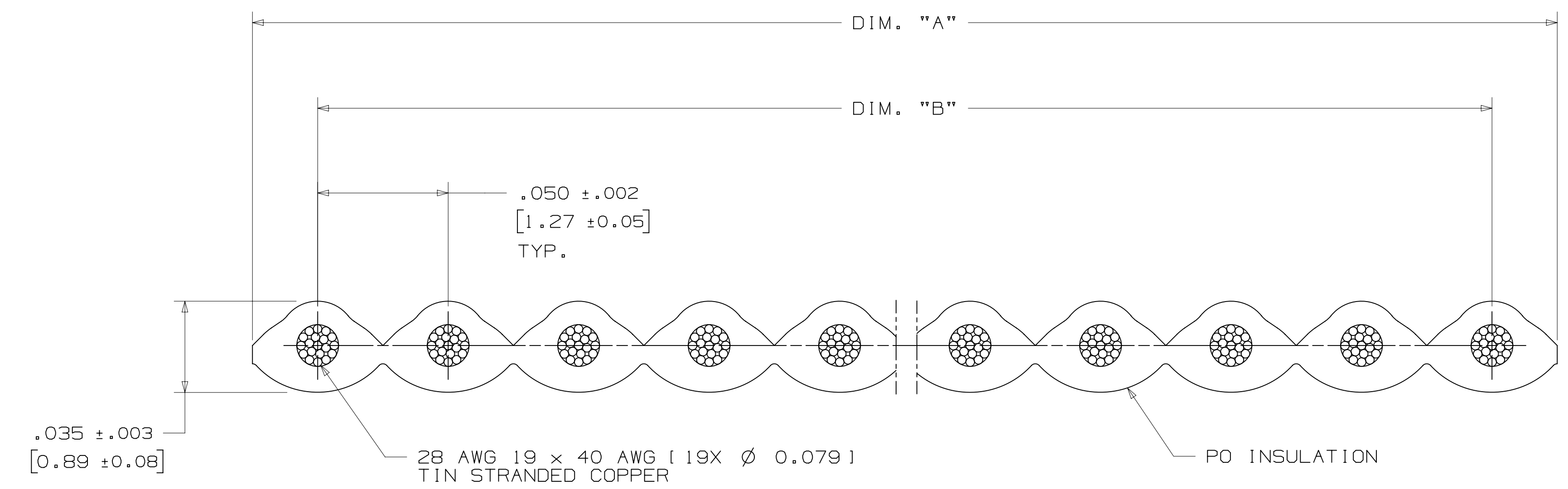
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3M™ MEDIUM FLEX LIFE FLAT CABLE, HF539  
 .050" 28 AWG STRANDED, MEDIUM FLEX LIFE, HALOGEN FREE PO



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.

- 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:  
 ROHS COMPLIANT. SEE THE REGULATORY INFORMATION APPENDIX (RIA) IN THE "ROHS COMPLIANCE" SECTION OF WWW.3MCONNECTORS.COM FOR COMPLIANCE INFORMATION (RIA E1 & C1 APPLY)  
 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  
 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.

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"

X HF539/XX XX  
 BLANK = STANDARD  
 C = CANADIAN  
 NUMBER OF CONDUCTORS (SEE TABLE 1)  
 BLANK = STANDARD  
 SF = SPLICE FREE

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 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.

3M™ ELECTRONIC SOLUTIONS DIVISION  
 INTERCONNECT SOLUTIONS  
<http://www.3mconnectors.com>

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 INFORMATION CALL 800-225-5373

"PRINTING ILLUSTRATION"  
 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
				NOV 05, 2012 MFG		
DESIGN CODES	DIVISION CODE	CHKD	DATE	APPR	DATE	
				R. EDWARDS	NOV 05, 2012	
DIVISION Interconnect Solutions DO NOT SCALE DRAWING THIRD ANGLE PROJECTION INTERPRET PER ASME Y14.5 - 1994 MAX SURFACE ROUGHNESS DT SURFACES <input checked="" type="checkbox"/> MARKED ONLY		DIVISION CODE ISD TOLERANCES EXCEPT AS NOTED INCHES .0 ± .1 .00 ± .05 .000 ± .010 .0000 ± MILLIMETERS 0 ± 2.5 .0 ± 1.3 .00 ± .25 .000 ± ANGLES		© 3M COPYRIGHT 2013 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. 3M Center St. Paul, MN 55144		TITLE MEDIUM FLEX LIFE FLAT CABLE, .050", 28 AWG, HF539
		CAGE NUMBER	SIZE	DRAWING NO.	REV.	
		D		78-5100-2565-9	A	
		MODEL	DET	ISTS	YES	NO
						SHT 1 OF 1

78-5100-2565-9  
 DRAWING NUMBER