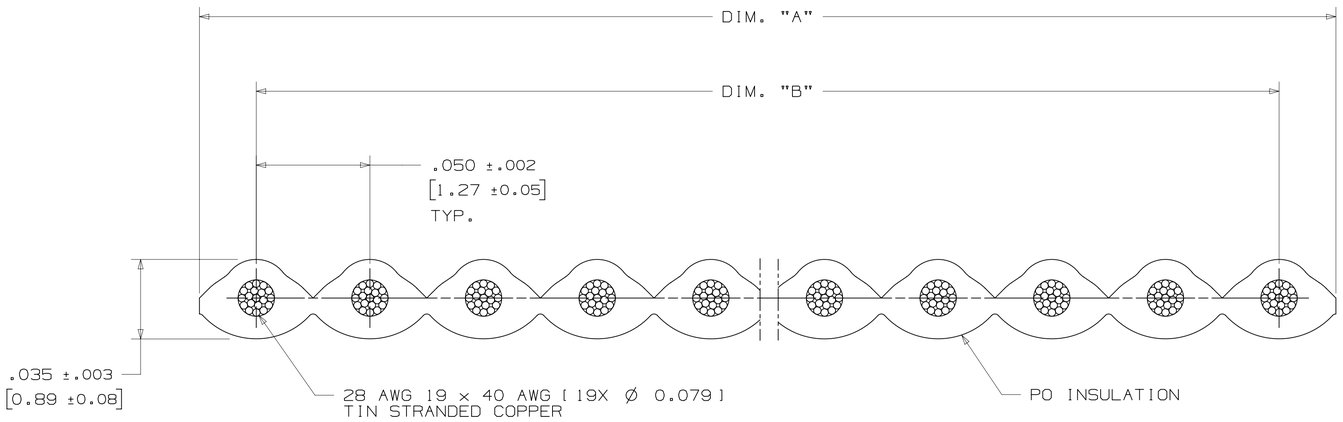
3M™ MEDIUM FLEX LIFE FLAT CABLE, HF539

.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

1. MATERIAL:
   A) PRIMARY INSULATION: HALOGEN FREE POLYOLEFIN (PO).
   B) CONDUCTORS: 28 AWG, 19 X 40 AWG (19 X ,Ø 0.079), TINNED STRANDED COPPER.
2. 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.
3. MARKINGS:
   STANDARD: NONE
   CANADIAN: SEE "PRINTING ILLUSTRATION" VIEW
   PRIMARY CABLE: BLUE MARK ON EDGES DESIGNATES WIRE NUMBER 1.
4. THE SURFACE DEFINED BY THE "ZIP" PROCESS IS NOT REQUIRED TO BE BLUE.
5. ENVIRONMENTAL:
   TEMP RATING: -40°C TO 105°C
   FLAMABILITY RATING: HORIZONTAL.
6. 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 CERTIAN 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

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" REDIUS. SEE TS-0732. CONTACT 3M FOR THE MOST UP-TO-DATE INFORMATION.

TABLE 2
ELECTRICAL CHARACTERISTICS

VOLTAGE RATING	USA: 300V, CANADA: 150V, EU: 50V	
INSULATION RESISTANCE	PRIMARY CABLE >1 X 10^{10} 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]
VELOCTY 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° 150V FT2 EU<50V

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

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REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
A	44734	DEC 06,2012 PRODUCTION RELEASE	JNC	RE

DESIGN REFERENCE | NEXT ASSEMBLY | ACCESS CODES

DRFT CASTIGLIONE DATE NOV 05,2012 | MFG | DATE
CHKD | DATE | APPVL R. EDWARDS DATE NOV 05,2012

DIVISION Interconnect Solutions | DIVISION CODE ISD

DO NOT SCALE DRAWING | SCALE

TOLERANCES EXCEPT AS NOTED
INCHES
.0 ±.1
.00 ±.05
.000 ±.010
.0000 ±
MILLIMETERS
0 ±2.5
.0 ±1.3
.00 ±.25
.000 ±
ANGLES ±

THIRD ANGLE PROJECTION

INTERPRET PER ASME Y14.5 - 1994

MAX SURFACE ROUGHNESS ☐ ALL SURFACES ☐ MARKED ONLY

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3M Center St. Paul, MN 55144

TITLE
MEDIUM FLEX LIFE FLAT CABLE, .050", 28 AWG, HF539

CAGE NUMBER | SIZE D | DRAWING NO. 78-5100-2565-9 | REV. A

MODEL | DET LISTS ☐ YES ☒ NO | SHT 1 OF 1

78-5100-2565-9 (DRAWING NUMBER) A (REVISION)