

.050" 28 AWG STRANDED, MEDIUM FLEX LIFE, HALOGEN FREE PO



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 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.

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

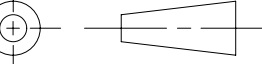
VOLTAGE RATING	USA: 300V, CANADA: 150V, EU: 50V	
INSULATION RESISTANCE	PRIMARY CABLE $>1 \times 10^{10} \Omega/10 \text{ FT}$ [3 m]	
	UNBALANCED	BALANCED
CHARACTERISTIC IMPEDANCE	100 Ω	168 Ω
CAPACITANCE	15.0 pF/ft [49.2 pF/m]	8.4 pF/ft [27.7 pF/m]
INDUCTANCE	0.15 $\mu\text{H}/\text{ft}$ [0.49 $\mu\text{H}/\text{m}$]	0.24 $\mu\text{H}/\text{ft}$ [0.79 $\mu\text{H}/\text{m}$]
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.

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.

A	44734	DEC 06,2012		JNC	RE
		PRODUCTION RELEASE			
REV	ECO	ISSUE DATE AND DESCRIPTION		DRFT	CHKO
DRFT	DATE		MG	DATE	
CAST 1/1 ONE		NOV 05,2012			
CHKO	DATE		APPRV R. EDWARDS	DATE NOV 05,2012	

DESIGN REFERENCE	NEXT ASSEMBLY	REV.	ECO	ISSUE DATE AND DESCRIPTION	DWFT	CHKD
ASSEMBLY CIRCUITS		RPT. CASTIGLIONE	DATE NOV 05, 2012	MFG	DATE	
		CHKD	DATE	APPR. R. EDWARDS	DATE NOV 05, 2012	
DIVISION	DIVISION CODE					
Interconnect Solutions	ISD	© 3M COPYRIGHT 2013				
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	INCHES .0 ± .1 .00 ± .05 .000 ± .010 .0000 ±	3M St. Paul, MN 55144				
THIRD ANGLE PROJECTION	MILLIMETERS .0 ± .1 .00 ± .05 .000 ± .010 .0000 ±	TITLE MEDIUM FLEX LIFE FLAT CABLE , .050" x .28 AWG , HF539				
INTERPRET PER ASME Y14.5 - 1994	MAX SURFACE ROUGHNESS ✓ □ MARKED ONLY	CAGE NUMBER D	SIZE 578-5100-2565-9	REV. A		
		MODEL	DET.	SHTS	YES X NO	SHT 1 OF 1

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

