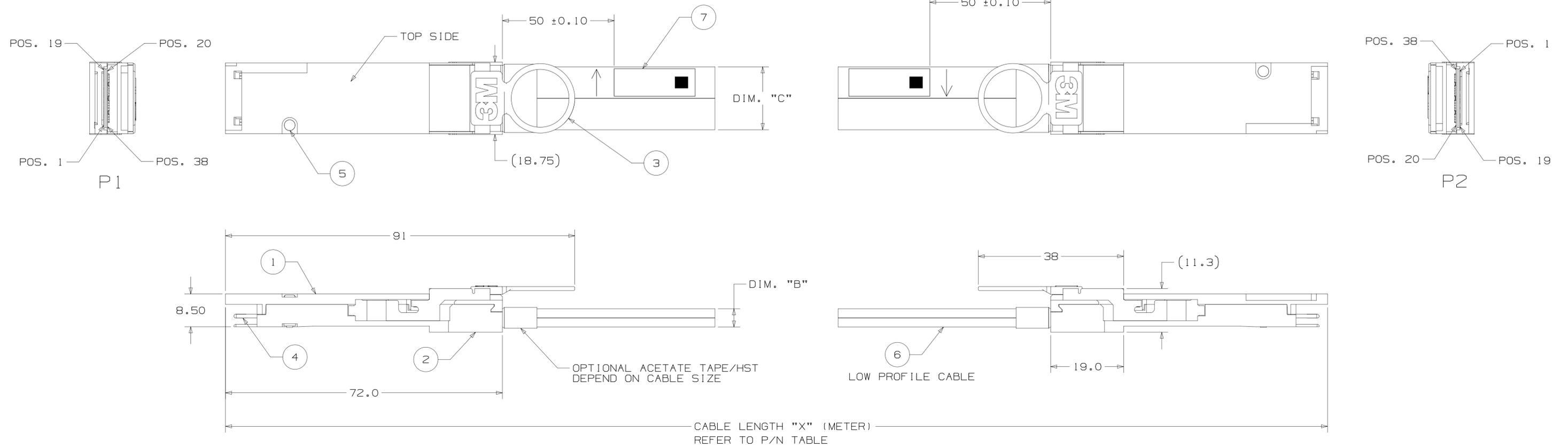


# 3M™ 100G QSFP28 DIRECT ATTACH COPPER CABLE ASSEMBLIES, 90Q SERIES



WIRING LIST			
P1 END		P2 END	
POS	SIGNAL	POS	SIGNAL
1	GND (TX)	20	GND (RX)
2	TX2n	21	RX2n
3	TX2P	22	RX2p
4	GND (TX)	23	GND (RX)
5	TX4n	24	RX4n
6	TX4P	25	RX4p
7	GND (TX)	26	GND (RX)
13	GND (RX)	32	GND (TX)
14	RX3p	33	TX3p
15	RX3n	34	TX3n
16	GND (RX)	35	GND (TX)
17	RX1p	36	TX1p
18	RX1n	37	TX1n
19	GND (RX)	38	GND (TX)
20	GND (RX)	1	GND (TX)
21	RX2n	2	TX2n
22	RX2p	3	TX2P
23	GND (RX)	4	GND (TX)
24	RX4n	5	TX4n
25	RX4p	6	TX4P
26	GND (RX)	7	GND (TX)
32	GND (TX)	13	GND (RX)
33	TX3p	14	RX3p
34	TX3n	15	RX3n
35	GND (TX)	16	GND (RX)
36	TX1p	17	RX1p
37	TX1n	18	RX1n
38	GND (TX)	19	GND (RX)

LOW SPEED SIGNALS P1 & P2	
POS	SIGNAL
8	ModSeIL
9	ResetL
10	VccRx
11	SCL
12	SDA
27	ModPrsL
28	IntL
29	VccTx
30	VccI
31	LPMode


**9QXX-114-XX-X.XX**  
**WWYY - SN:XXXXXXXX**

STANDARD PRODUCT LABEL DESCRIPTION  
(CUSTOM AVAILABLE UPON REQUEST)

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BALLOON ITEM	DESCRIPTION	QTY
7	PRODUCT LABEL	2
6	3M™ LOW PROFILE TWIN AXIAL CABLE	4
5	RIVET	2
4	PADDLE CARD	2
3	LATCH WITH PULL TAB	2
2	BOTTOM SHELL	2
1	UPPER SHELL	2

DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD
				SEP 26, 2019	JNC	DLD
				REVISE NOTES		
				JUL 17, 2019	JNC	DLD
				ADDED CL2 CABLE OPTIONS		
				JUN 22, 2017	YL	YL
				NEW RELEASE		

SCALE	SCALE	TOLERANCES EXCEPT AS NOTED
DO NOT SCALE DRAWING	SCALE 2/1	TOLERANCES EXCEPT AS NOTED
		INCHES
		MILLIMETERS
		0 ± .1
		.00 ± 0.10
		.000 ± 0.005
		ANGLES

TITLE	CAGE NUMBER	SIZE	DRAWING NO.	REV.
100G QSFP28 DIRECT ATTACH COPPER CABLE ASSEMBLIES, 90Q SERIES	D		78-5100-2672-3	C

78-5100-2672-3  
 9/26/2019 -- UTC  
 6

# 3M™ 100G QSFP28 DIRECT ATTACH COPPER CABLE ASSEMBLIES, 9Q SERIES

## NOTES:

### 1. ORDERING INFORMATION:

9QXX-114-XX-X.XX

ASSEMBLY LENGTH X IN METERS SEE TABLE 1

EEPROM MEMORY MAP

22= IEEE Std 802.3bJ-2014 100GBASE-CR4

XX= CUSTOMIZATION(SEE 3M SALES REP)

AWG

0= 30AWG (only for below and 2 meters)

6= 26AWG (only for 2 meters and above)

CABLE TYPE

J= 30AWG UTJ PVC JACKET WITH SHIELD (UP TO 2 METERS)

N= 30AWG CL2 JACKET WITH SHIELD (UP TO 2 METERS)

H= 26AWG UTJ PVC JACKET WITH SHIELD (2 TO 4.5 METERS)

M= 26 AWG CL2 JACKET WITH SHIELD (2 TO 4.5 METERS)

2. REFER TO TABLE 1 FOR CABLE LENGTH, WIDTH, THICKNESS AND WIRE AWG

3. PCB PINOUT DESIGNED TO SFF8436 SPECIFICATION

4. CABLE ASSEMBLY DESIGNED TO SFF 8661 & IEEE 802.3bJ SPECIFICATION

5. JACKET FOR CABLE TYPE J AND H: PVC, COLOR: BLACK  
 JACKET FOR CABLE TYPE N AND M: HALOGEN-FREE CL2, COLOR: BLACK  
 METAL SHELL: NICKEL PLATED ZINC ALLOY  
 PULL TAB: HALOGEN-FREE THERMOPLASTIC, COLOR: BLACK  
 PCB FOR CABLE TYPE J AND H: HALOGENATED FLAME RETARDENT  
 PCB FOR CABLE TYPE N AND M: HALOGEN-FREE FLAME RETARDENT  
 ASSEMBLIES WITH CABLE TYPE N AND M ARE FULLY HALOGEN-FREE

6. UNLESS OTHERWISE NOTED, REFERENCES TO INDUSTRY SPECIFICATIONS ARE INTENDED TO INDICATE SUBSTANTIAL COMPLIANCE TO THE MATERIAL ELEMENTS OF THE SPECIFICATION. SUCH REFERENCES SHOULD NOT BE CONTRUED AS A GUARANTEE OF COMPLIANCE TO ALL REQUIREMENTS IN A GIVEN SPECIFICATION.

7. PRODUCT SPECIFICATION REFER TO 3M DOCUMENT: 78-5102-0262-1

8. CABLE RETURN LOSS PERFORMANCE IS VALID FOR CABLE ASSEMBLIES OF A MINIMUM OF 1.00 METER IN LENGTH. CABLE ASSEMBLIES LESS THAN 1.00 METER IN LENGTH MAY NOT ACHIEVE THE RETURN LOSS PERFORMANCE IN IEEE802.3bJ. CABLE RETURN LOSS PERFORMANCE IS SUBJECT TO CHANGE WITH DIFFERENT CABLE ASSEMBLY LENGTHS. END USER WILL NEED TO DETERMINE WHETHER THIS PRODUCT IS SUITABLE FOR THEIR INTENDED APPLICATION.

9. FOR CUSTOM LENGTHS CONTACT A 3M SALES REPRESENTATIVE

10. HALOGEN-FREE IS DEFINED AS BOTH (1) NO HALOGEN COMPOUNDS ARE INTENTIONALLY ADDED TO THE PRODUCT OR USED IN THE MANUFACTURING PROCESS FOR THE PRODUCT, AND (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.

## TABLE 1

ORDERING INFORMATION	ASSY LENGTH="X" (m)	CABLE SIZE	LENGTH TOLERANCE (mm)	B NOMINAL (mm)	C NOMINAL (mm)
9QJ0-114-22-0.50	0.50	30AWG	+10/-0	(2.8)	(15.0)
9QJ0-114-22-1.00	1.00	30AWG	+50/-0		
9QJ0-114-22-2.00	2.00	30AWG			
9QH6-114-22-2.00	2.00	26AWG		(3.8)	(16.0)
9QH6-114-22-3.00	3.00	26AWG			
9QH6-114-22-4.00	4.00	26AWG	+50/0	(3.5)	(17.8)
9QN0-114-22-1.00	1.00	30AWG CL2			
9QM6-114-22-3.00	3.00	26AWG CL2			

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DESIGN REFERENCE	NEXT ASSEMBLY	REV	ECO	ISSUE DATE AND DESCRIPTION	DRFT	CHKD	
DESIGN CODES		DRY	YUNLONG	DATE	MAR 02, 2017	DATE	MAR 02, 2017
		DRY	YUNLONG	DATE	MAR 02, 2017	DATE	MAR 02, 2017
DIVISION	DIVISION CODE	 © 3M COPYR[IGHT] 2019 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.					
DO NOT SCALE DRAWING	SCALE 2/1	TOLERANCES EXCEPT AS NOTED INCHES .00 ± .000 ± .0000 ± MILLIMETERS 0 ±.1 .00 ±0.10 .000 ±0.005 ANGLES ±.005					
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5 - 2009	MAX SURFACE ROUGHNESS SURFACES MARKED ONLY					
TITLE 100G QSFP28 DIRECT ATTACH COPPER CABLE ASSEMBLIES, 9Q SERIES		CAGE NUMBER D 78-5100-2672-3		DRAWING NO. 78-5100-2672-3		REV. C	
MODEL QSFP28		DET. I S T S		YES X NO SHT 2 OF 2			

178-5100-2672-3  
 DRAWING NUMBER  
 9/26/2019  
 Time  
 -- UTC  
 09:26:19  
 Dfn-set  
 (hrs)  
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