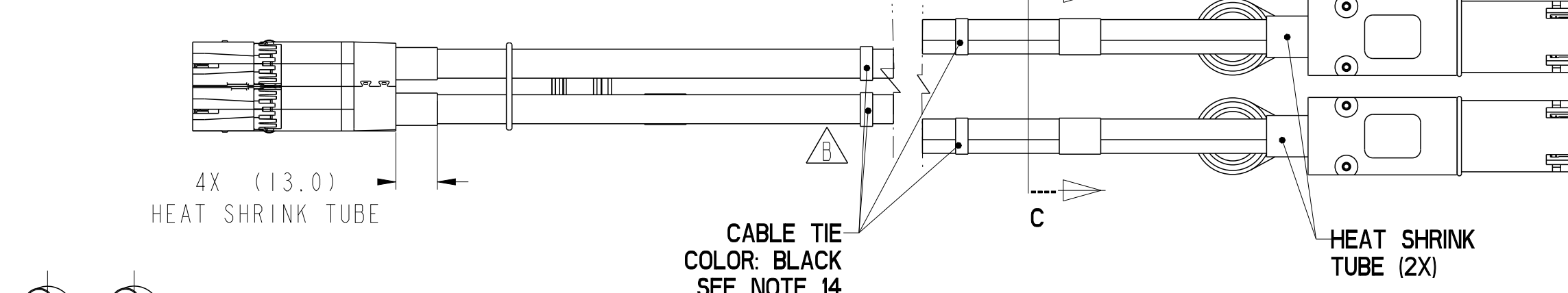
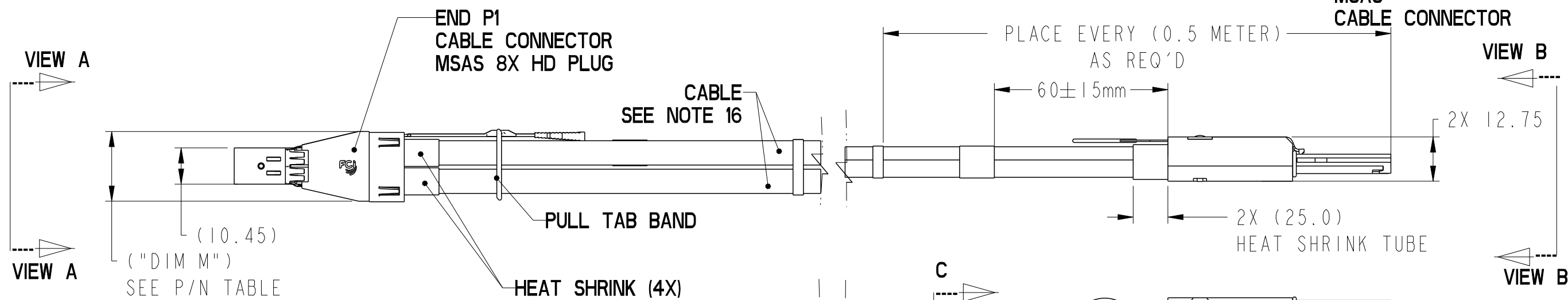
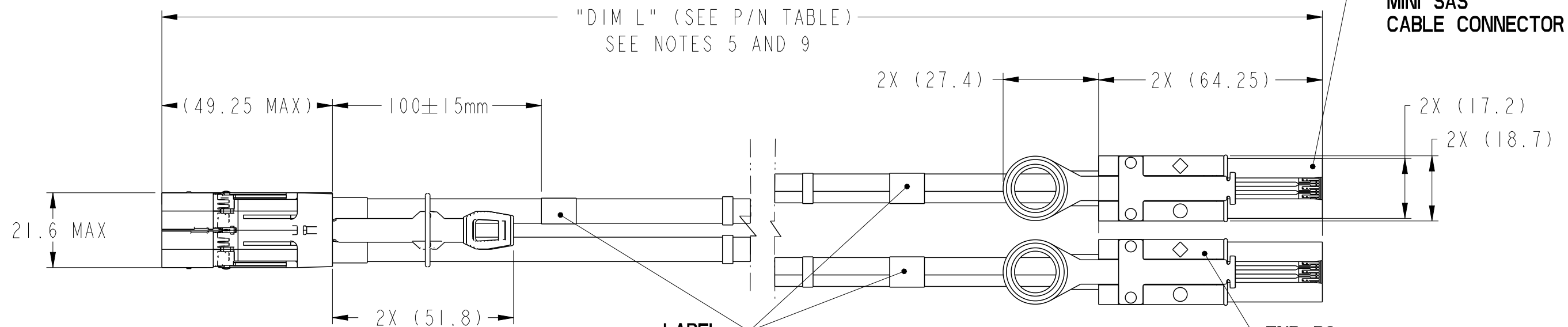


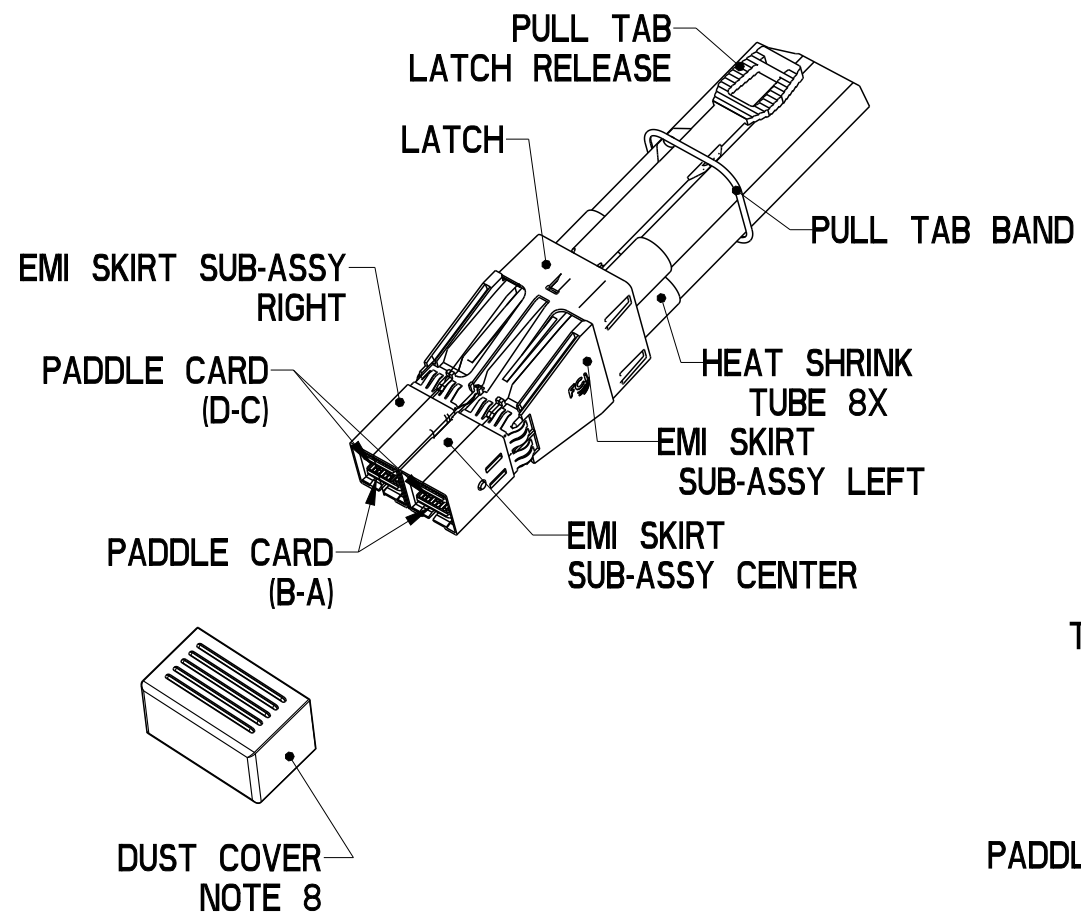
PRODUCT NUMBER	DESCRIPTION	NOTES
10117948-XXXXLF	NON-HF	SEE SHT. 3
10117948-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



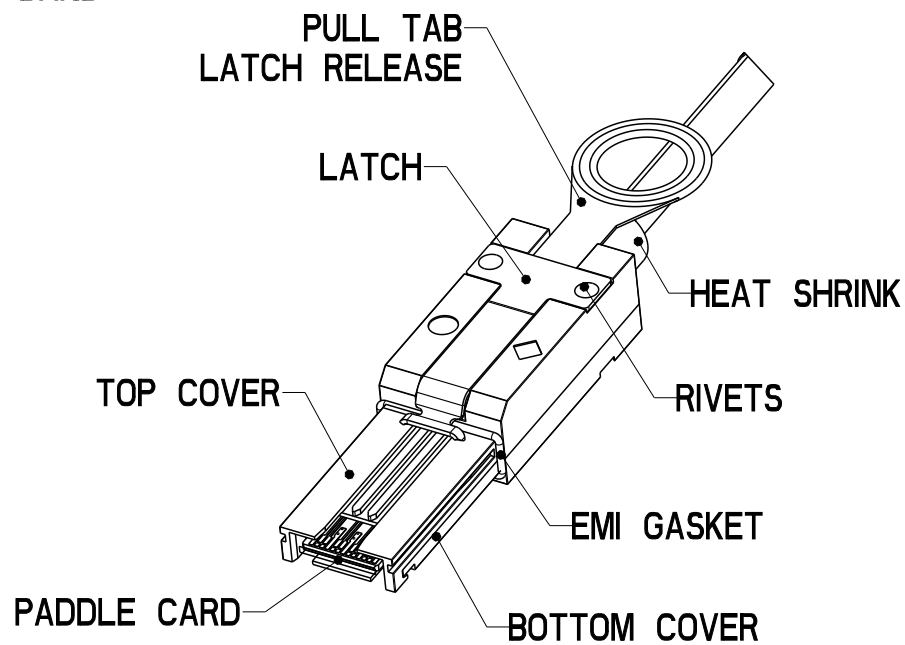
dr	Deborah Ingram	2011/11/14	projection	mm	size	A3	scale	4:5
eng	Tommy Lin	2014/01/07			ecn no	ELX-N-16648-1		
chr	-	-			rel level	Released		
appr	Roger Cheng	2014/01/07	product family	C&A		rev		
		title	MINI SAS HD 8X TO 2 MINI SAS 2.0		dwg no	10117948		B
www.fci.com		cat. no.	-		Product - Customer Drw		sheet 1 of 5	

Copyright FCI.

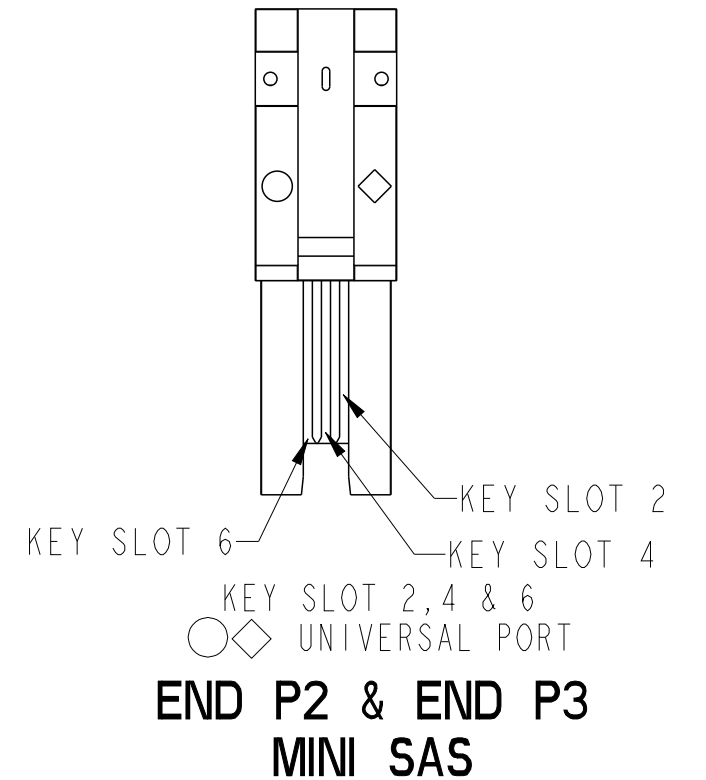
PRODUCT NUMBER	DESCRIPTION	NOTES
10117948-XXXXLF	NON-HF	SEE SHT. 3
10117948-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



END P1  
MINI SAS HD 8X  
ISOMETRIC VIEW



END P2 & END P3  
MINI SAS  
ISOMETRIC VIEW



END P2 & END P3  
MINI SAS

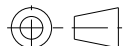


dr	Deborah Ingram	2011/11/14	projection 	mm 	size	A3	scale	4:5
eng	Tommy Lin	2014/01/07			ecn no	ELX-N-16648-1		
chr	-	-			rel level	Released		
appr	Roger Cheng	2014/01/07	product family	C&A				
		title MINI SAS HD 8X TO 2 MINI SAS 2.0 UN-TRAINED UNIVERSAL FINAL ASSEMBLY (3Gb/s)		dwg no 10117948	rev B			
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 2 of 5		



PRODUCT NUMBER	DESCRIPTION	NOTES
10117948-XXXXLF	NON-HF	SEE SHT. 3
10117948-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

PRODUCT NUMBER HALOGEN FREE SEE NOTE 11 & 16	AWG	"DIM L" LENGTH (Meters)	"DIM M" HIEGHT (mm)
10117948-5030HLF	24 AWG	3 M	(20.1)
10117948-5040HLF	24 AWG	4 M	(20.1)
10117948-5050HLF	24 AWG	5 M	(20.1)
10117948-5060HLF	24 AWG	6 M	(20.1)
10117948-5070HLF	24 AWG	7 M	(20.1)
10117948-5080HLF	24 AWG	8 M	(20.1)
10117948-5090HLF	24 AWG	9 M	(20.1)
10117948-5100HLF	24 AWG	10 M	(20.1)
10117948-4020HLF	26 AWG	2 M	(20.1)
10117948-4030HLF	26 AWG	3 M	(20.1)
10117948-4040HLF	26 AWG	4 M	(20.1)
10117948-4045HLF	26 AWG	5 M	(20.1)
10117948-4060HLF	26 AWG	6 M	(20.1)
10117948-4070HLF	26 AWG	7 M	(20.1)
10117948-4080HLF	26 AWG	8 M	(20.1)
10117948-3010HLF	28 AWG	1 M	(17.3)
10117948-3020HLF	28 AWG	2 M	(17.3)
10117948-3030HLF	28 AWG	3 M	(17.3)
10117948-3040HLF	28 AWG	4 M	(17.3)
10117948-3050HLF	28 AWG	5 M	(17.3)
10117948-3060HLF	28 AWG	6 M	(17.3)
10117948-2005HLF	30 AWG	0.5 M	(17.3)
10117948-2010HLF	30 AWG	1 M	(17.3)
10117948-2020HLF	30 AWG	2 M	(17.3)
10117948-2030HLF	30 AWG	3 M	(17.3)
10117948-2040HLF	30 AWG	4 M	(17.3)

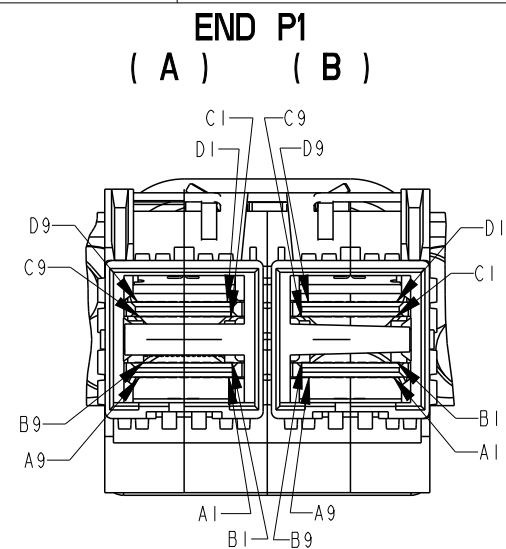
PRODUCT NUMBER (NON-HALOGEN FREE) SEE NOTE 16	AWG	"DIM L" LENGTH (Meters)	"DIM M" HIEGHT (mm)
10117948-5030LF	24 AWG	3 M	(20.1)
10117948-5040LF	24 AWG	4 M	(20.1)
10117948-5050LF	24 AWG	5 M	(20.1)
10117948-5060LF	24 AWG	6 M	(20.1)
10117948-5070LF	24 AWG	7 M	(20.1)
10117948-5080LF	24 AWG	8 M	(20.1)
10117948-5090LF	24 AWG	9 M	(20.1)
10117948-5100LF	24 AWG	10 M	(20.1)
10117948-4020LF	26 AWG	2 M	(20.1)
10117948-4030LF	26 AWG	3 M	(20.1)
10117948-4040LF	26 AWG	4 M	(20.1)
10117948-4050LF	26 AWG	5 M	(20.1)
10117948-4060LF	26 AWG	6 M	(20.1)
10117948-4070LF	26 AWG	7 M	(20.1)
10117948-4080LF	26 AWG	8 M	(20.1)
10117948-3010LF	28 AWG	1 M	(17.3)
10117948-3020LF	28 AWG	2 M	(17.3)
10117948-3030LF	28 AWG	3 M	(17.3)
10117948-3040LF	28 AWG	4 M	(17.3)
10117948-3050LF	28 AWG	5 M	(17.3)
10117948-3060LF	28 AWG	6 M	(17.3)
10117948-2005LF	30 AWG	0.5 M	(17.3)
10117948-2010LF	30 AWG	1 M	(17.3)
10117948-2020LF	30 AWG	2 M	(17.3)
10117948-2030LF	30 AWG	3 M	(17.3)
10117948-2040LF	30 AWG	4 M	(17.3)

dr	Deborah Ingram	2011/11/14	 	size	A3	scale	1:1
eng	Tommy Lin	2014/01/07		ecn no	ELX-N-16648-1		
chr	-	-		rel level	Released		
appr	Roger Cheng	2014/01/07		product family	C&A		
		MINI SAS HD 8X TO 2 MINI SAS 2.0 UN-TRAINED UNIVERSAL FINAL ASSEMBLY (3Gb/s)		dwg no 10117948	rev B		
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 3 of 5	

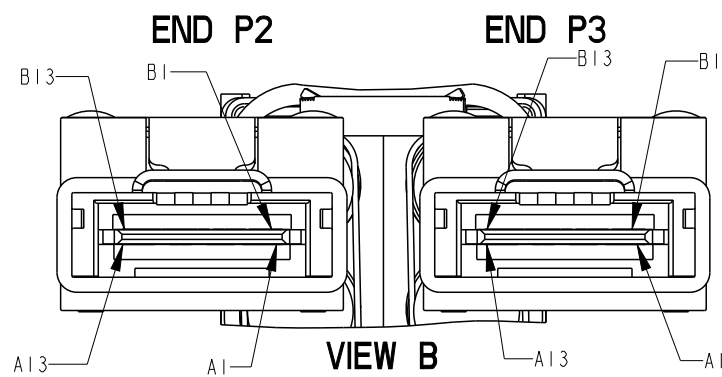


Copyright FCI.

PRODUCT NUMBER	DESCRIPTION	NOTES
10117948-XXXXLF	NON-HF	SEE SHT. 3
10117948-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



VIEW A  
SCALE: 2:1



VIEW B  
SCALE: 2:1

LEGEND:

	HIGH-SPEED SERIAL DIFFERENTIAL PAIRS
	SIGNAL RETURN
	POWER AND MANAGEMENT INTERFACE

WIRING DIAGRAM (SEE NOTE 7)

END P1 (B) MINI SAS HD		CONDUCTOR #	END P2 (MINI SAS)	
SIGNAL	PIN#		PIN#	SIGNAL
GND	A9	PAIR 2	B7	GND
Rx 1-	A5		B6	Tx 1-
Rx 1+	A4		B5	Tx 1+
GND	A3	PAIR 4	B4	GND
Rx 3-	A8		B12	Tx 3-
Rx 3+	A7		B11	Tx 3+
GND	A6	NO THRU CONNECTION	B13	GND
N/C	A1			
Interrupt	A2			
GND	B9	PAIR 1		GND
RX 0-	B5		B3	TX 0-
RX 0+	B4		B2	TX 0+
GND	B3	PAIR 3	B1	GND
RX 2-	B8		B9	TX 2-
RX 2+	B7		B8	TX 2+
GND	B6	NO THRU CONNECTION	B10	GND
N/C	B1			
Mod_PRS_L (GND)	B2			
GND	C9	PAIR 2	A7	GND
TX 1-	C5		A6	RX 1-
TX 1+	C4		A5	RX 1+
GND	C3	PAIR 4	A4	GND
TX 3-	C8		A12	RX 3-
TX 3+	C7		A11	RX 3+
GND	C6	NO THRU CONNECTION	A13	GND
SCL	C1			
SDA	C2			
GND	D9	PAIR 1		GND
TX 0-	D5		A3	RX 0-
TX 0+	D4		A2	RX 0+
GND	D3	PAIR 3	A1	GND
TX 2-	D8		A9	RX 2-
TX 2+	D7		A8	RX 2+
GND	D6	NO THRU CONNECTION	A10	GND
N/C	D1			
V+3.3 for EEPROM	D2			
SHELL		BRAID		SHELL

SHIELD-----SHIELD

WIRING DIAGRAM (SEE NOTE 7)

END P1 (A) MINI SAS HD		CONDUCTOR #	END P3 (MINI SAS)	
SIGNAL	PIN#		PIN#	SIGNAL
GND	A9	PAIR 2	B7	GND
Rx 1-	A5		B6	Tx 1-
Rx 1+	A4		B5	Tx 1+
GND	A3	PAIR 4	B4	GND
Rx 3-	A8		B12	Tx 3-
Rx 3+	A7		B11	Tx 3+
GND	A6	NO THRU CONNECTION	B13	GND
N/C	A1			
Interrupt	A2			
GND	B9	PAIR 1		GND
RX 0-	B5		B3	TX 0-
RX 0+	B4		B2	TX 0+
GND	B3	PAIR 3	B1	GND
RX 2-	B8		B9	TX 2-
RX 2+	B7		B8	TX 2+
GND	B6	NO THRU CONNECTION	B10	GND
N/C	B1			
Mod_PRS_L (GND)	B2			
GND	C9	PAIR 2	A7	GND
TX 1-	C5		A6	RX 1-
TX 1+	C4		A5	RX 1+
GND	C3	PAIR 4	A4	GND
TX 3-	C8		A12	RX 3-
TX 3+	C7		A11	RX 3+
GND	C6	NO THRU CONNECTION	A13	GND
SCL	C1			
SDA	C2			
GND	D9	PAIR 1		GND
TX 0-	D5		A3	RX 0-
TX 0+	D4		A2	RX 0+
GND	D3	PAIR 3	A1	GND
TX 2-	D8		A9	RX 2-
TX 2+	D7		A8	RX 2+
GND	D6	NO THRU CONNECTION	A10	GND
N/C	D1			
V+3.3 for EEPROM	D2			
SHELL		BRAID		SHELL

SHIELD-----SHIELD

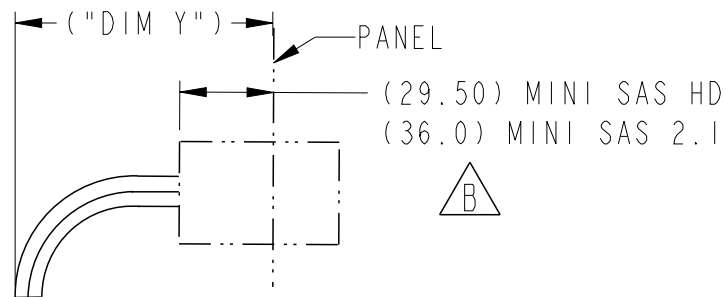
dr	Deborah Ingram	2011/11/14	projection	mm	size	A3	scale	1:2
eng	Tommy Lin	2014/01/07			ecn no			ELX-N-16648-1
chr	-	-	product family	C&A	rel level			Released
appr	Roger Cheng	2014/01/07			dwg no	10117948	rev	B
		MINI SAS HD 8X TO 2 MINI SAS 2.0			UN-TRAINED UNIVERSAL FINAL ASSEMBLY (3Gb/s)		www.fci.com	
cat. no.		-		Product - Customer Drw		sheet 4 of 5		

PRODUCT NUMBER	DESCRIPTION	NOTES
10117948-XXXXLF	NON-HF	SEE SHT. 3
10117948-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

NOTES:

1. MATERIALS MINI SAS HD (END P1)  
 BACK SHELLS: ZINC DIE CAST/ COPPER UNDER PLATE/NICKEL OVER PLATE  
 PULL TAB: THERMOPLASTIC POLYMER  
 LATCH: STAINLESS STEEL  
 FERRULE: BRASS  
 EMI GASKETS: STAINLESS STEEL  
 LOCTITE  
 HEAT SHRINK: HIGH POLYMER  
 PADDLE CARD: PRINTED CIRCUIT SUBSTRATE

MATERIALS MINI SAS (END P2 & END P3)  
 BACK SHELLS: ZINC DIE CAST  
 PULL TAB: THERMOPLASTIC POLYMER  
 LATCH: STAINLESS STEEL  
 JET MELT: POLYAMIDE POLYMER  
 HEAT SHRINK: POLYOLEFIN  
 PADDLE CARD: PRINTED CIRCUIT SUBSTRATE



**PEND RADIUS  
TOP VIEW OF CONNECTOR**

MINI SAS HD P1 MINIMUM CABLE BEND TABLE		
CABLE	("DIM Y") HF	("DIM Y") NON-HF
24 AWG	101.1	100.6
26 AWG	100.0	99.7
28 AWG	99.1	98.7
30 AWG	98.5	97.9

MINI SAS 2.1 P2 & P3 MINIMUM CABLE BEND TABLE PER CONNECTOR		
CABLE	("DIM Y") HF	("DIM Y") NON-HF
24 AWG	90.6	88.3
26 AWG	85.3	82.9
28 AWG	79.3	76.9
30 AWG	75.7	72.1

2. ELECTRICAL PERFORMANCE PER CURRENT REVISION: T10/SAS-2.0
3. THIS PRODUCT MEETS THE RESTRICTION OF HAZARDOUS SUBSTANCES IN ELECTRICAL AND ELECTRONIC EQUIPMENT (RoHS) DIRECTIVE (2011/65/EU)
4. PRODUCT SPECIFICATIONS: Mini SAS HD GS-12-651, MINI SAS 2.0 GS-12-548
5. UNLESS OTHERWISE SPECIFIED ASSEMBLED LENGTH TOLERANCE IS TO BE:  
 "DIM L" < 1 METERS = ±25mm  
 "DIM L" 1 METER TO 10 METER = 2% OF "DIM L"

6. LABEL DETAILS:

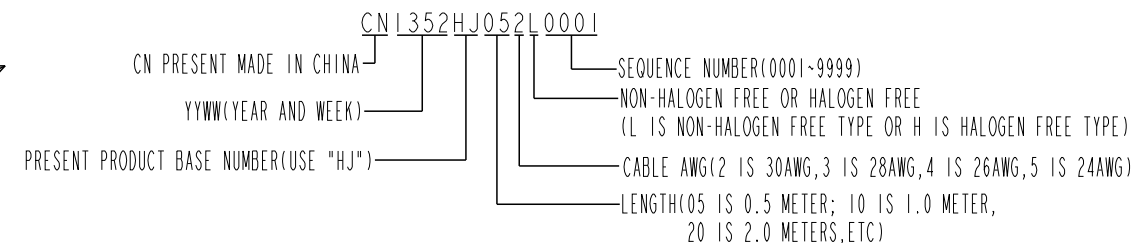
FCI CHINA  
 FCI P/N  
 FCI CUSTOMER DRAWING REVISION  
 FCI SERIAL NUMBER

FONT SHALL BE CLEARLY VISIBLE AND BLACK IN COLOR

△ LABEL EXAMPLE

FCI CHINA  
 10117948-2005LF  
 REV.B  
 CNI352HJ052L0001

FCI SERIAL NUMBER IS ONLY FOR TRACKING PRODUCT, DEFINED AS BELOW:



7. ALL CABLE ASSEMBLIES SHALL BE 100% TESTED FOR CONTINUITY AS DEFINED IN WIRING LIST.
8. PACKAGING OF LEAD FREE PRODUCTS MEETS LABELING AND PACKAGING PER SPECIFICATION GS-14-920. PACKAGE CABLE ASSEMBLIES PER GS-14-1272. DUST COVER IS TO BE APPLIED TO MINI SAS HD CONNECTOR PRIOR TO SHIPPING. FCI PACKAGE TRACKING BAG LABEL IS ONLY FOR REFERENCE.
9. THIS DIMENSION IS A FINISHED PRODUCT LENGTH.
10. A "△" SYMBOL WILL BE NEXT TO ANY DIMENSION, VIEW, OR NOTE WHICH HAS BEEN MODIFIED WITH THE CURRENT DRAWING REVISION. THE CURRENT REVISION WILL BE SHOWN IN THE SYMBOL.
11. "H" PRODUCT NUMBERS DESIGNATE THE USE OF HALOGEN FREE RAW CABLE.
12. MEETS ELECTRICAL PERFORMANCE REQUIREMENTS OF SAS 2.0.
13. MATES WITH SERIES: MINI SAS HS - 100112627 or 10112628  
 MINI SAS 2.1 - BOARD CONNECTOR 100988870 AND CAGE 10098872

- △ 14. PLACE A CABLE TIE EVERY 0.5 METERS ON ASSEMBLIES. IN THE CASE OF A 0.5 METER CABLE LENGTH, PLACE THE CABLE TIE MIDWAY BETWEEN CONNECTORS.



NOTES CONTINUED

15. EEPROM INFORMATION OF MSHD SIDE REFER TO FCI LATEST PRODUCT SPEC. GS-12-651

16. CABLE IS OPTIONAL, WHICH HAD BEEN QUALIFIED BY FCI AND MEET FCI PRODUCT SPEC. GS-12-651/548

dr	Deborah Ingram	2011/11/14	projection 	mm ←→	size	A3	scale	1:1		
eng	Tommy Lin	2014/01/07			ecn no	ELX-N-16648-1				
chr	-	-			rel level	Released				
appr	Roger Cheng	2014/01/07	product family	-	cat. no.	MINI SAS HD 8X TO 2 MINI SAS 2.0	dwg no	10117948	rev	B
www.fci.com		-		Product - Customer Drw		sheet 5 of 5				