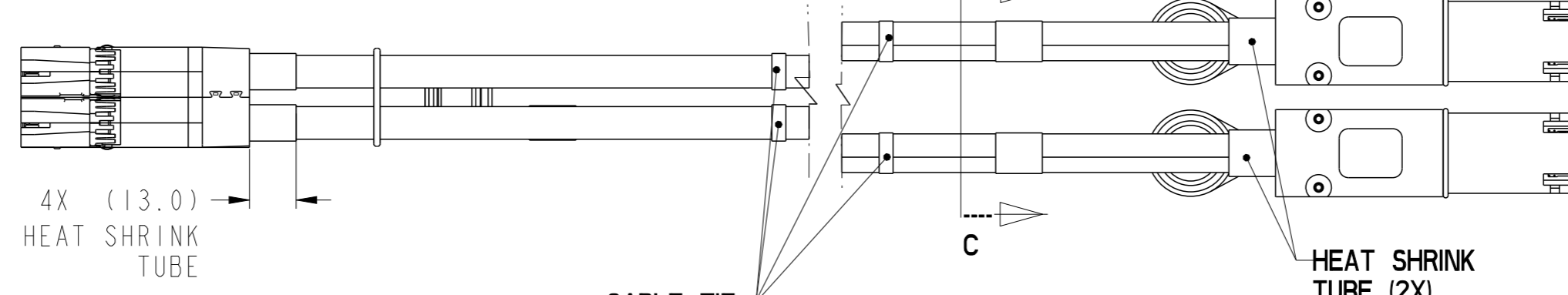
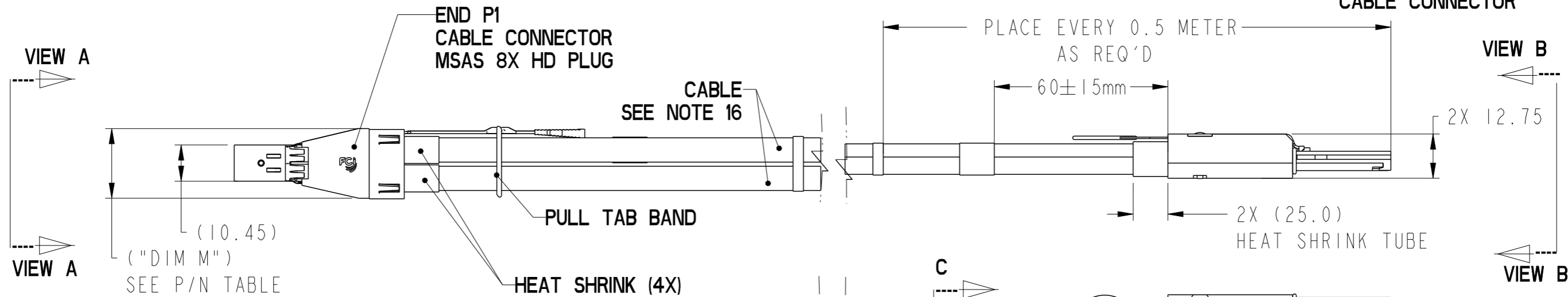
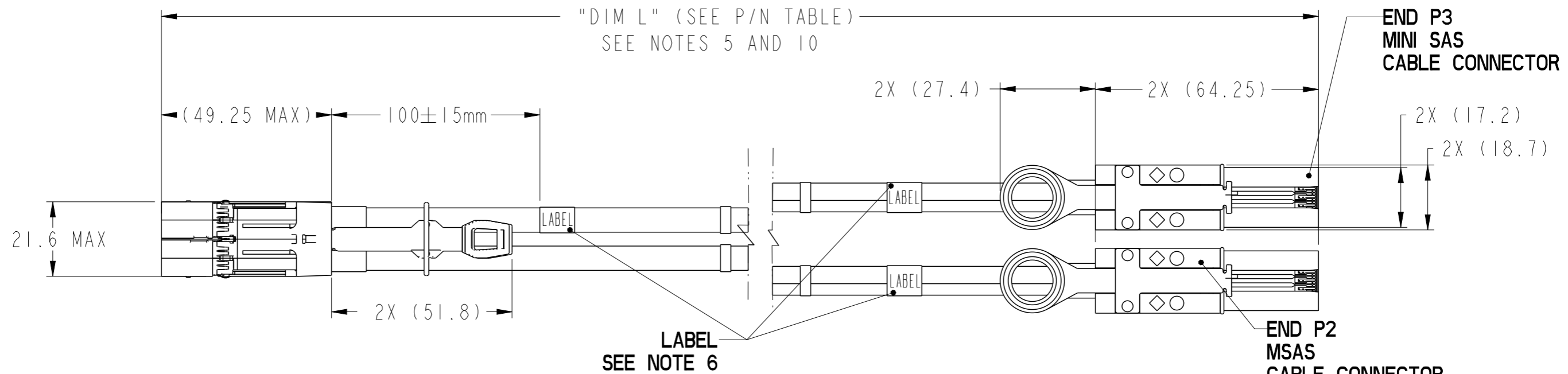
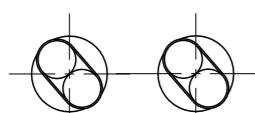


PRODUCT NUMBER	DESCRIPTION	NOTES
10117947-XXXXLF	NON-HF	SEE SHT. 3
10117947-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

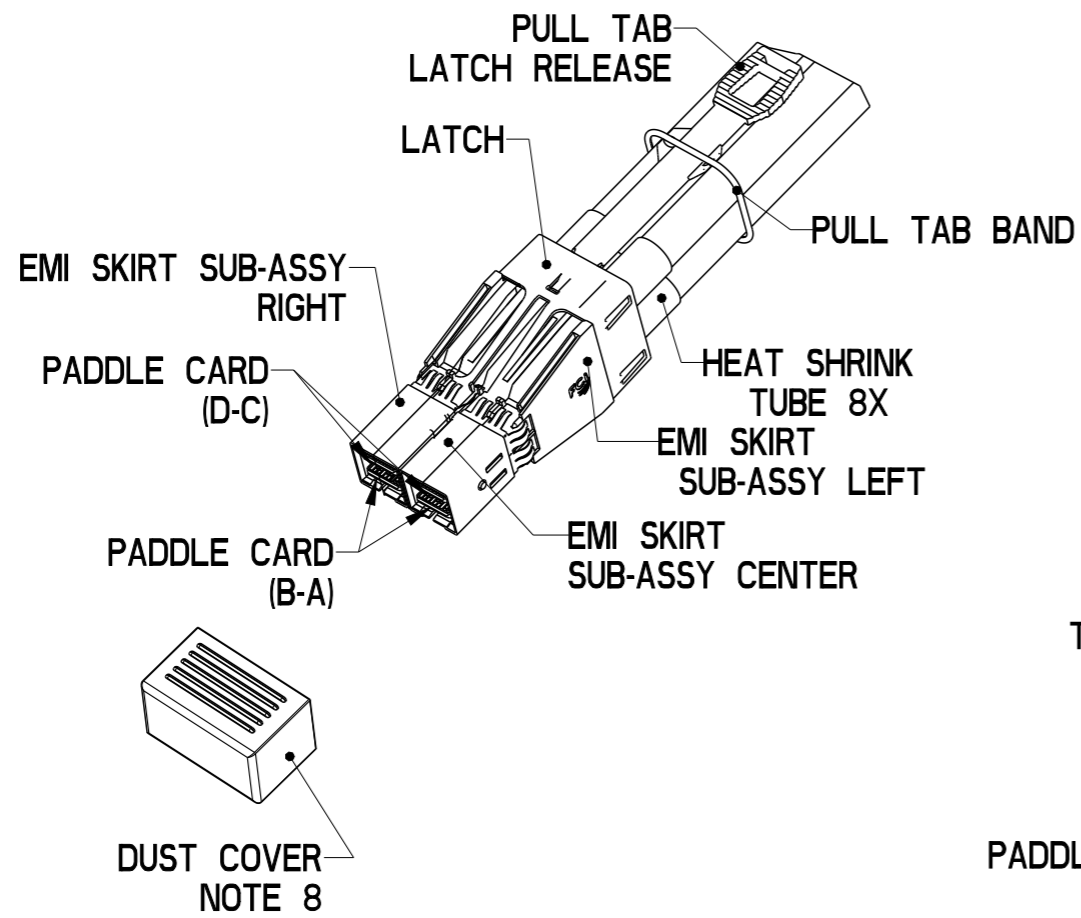


CABLE TIE  
COLOR: BLACK  
SEE NOTE 14

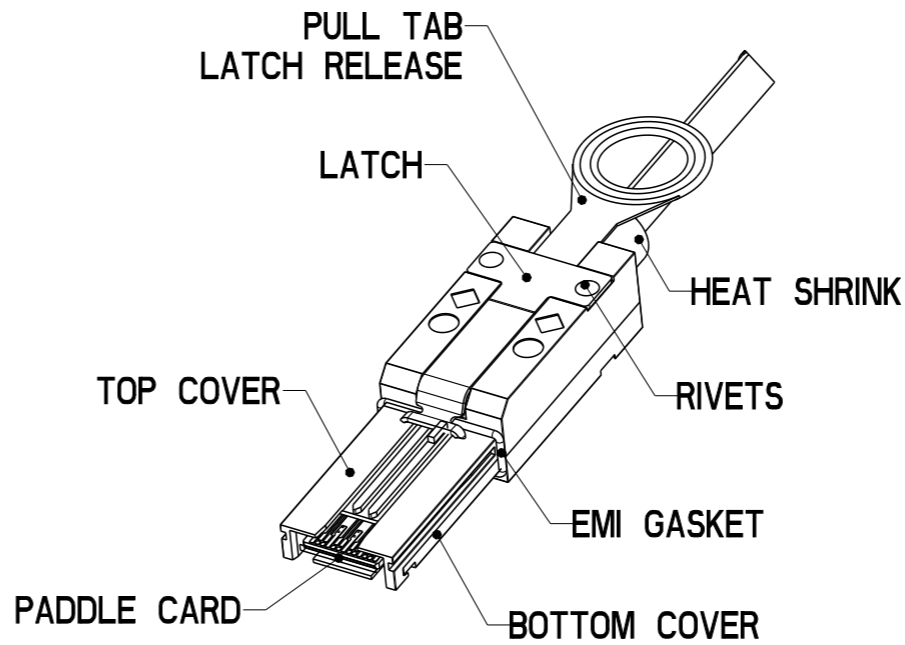


dr	Deborah Ingram	2011/05/23	projection	mm	size	A3	scale	1:1	
eng	Tommy Lin	2014/01/06			ecn no	ELX-N-16648-1			
chr	-	-			rel level	Released			
appr	Roger Cheng	2014/01/07	product family	MiniSAS/SATA	rev	D			
		title	MINI SAS HD 8X TO 2 MINI SAS 2.1		dwg no	10117947		cat. no.	-
www.fci.com		Product - Customer Drw		sheet 1 of 5					

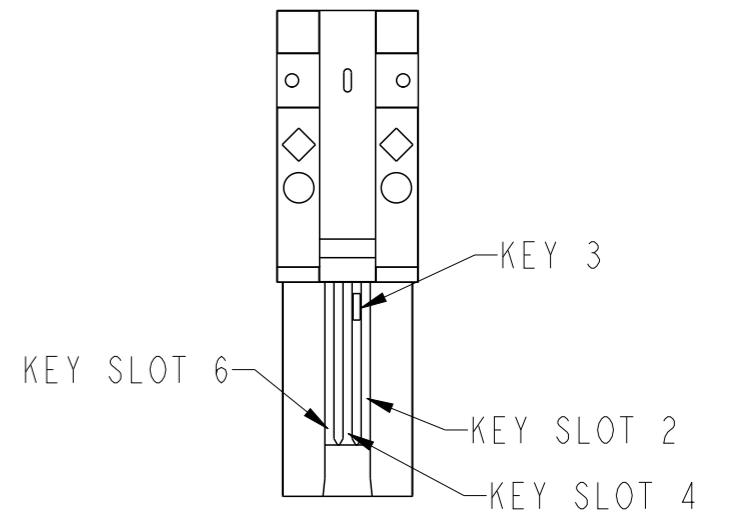
PRODUCT NUMBER	DESCRIPTION	NOTES
10117947-XXXXLF	NON-HF	SEE SHT. 3
10117947-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



END P1  
MINI SAS HD 8X  
ISOMETRIC VIEW



END P2 & END P3  
MINI SAS  
ISOMETRIC VIEW



KEY 3 & KEY SLOT 2, 4 & 6  
○ ◆ UNIVERSAL PORT

END P2 & END P3  
MINI SAS

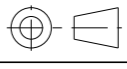

dr	Deborah Ingram	2011/05/23	projection 	mm 	size	A3	scale	4:5	
eng	Tommy Lin	2014/01/06			ecn no	ELX-N-16648-1			
chr	-	-			product family	C&A	rel level	Released	
appr	Roger Cheng	2014/01/07	title		MINI SAS HD 8X TO 2 MINI SAS 2.1	dwg no	10117947	rev	D
www.fci.com		cat. no.	-		Product - Customer Drw	sheet 2 of 5			



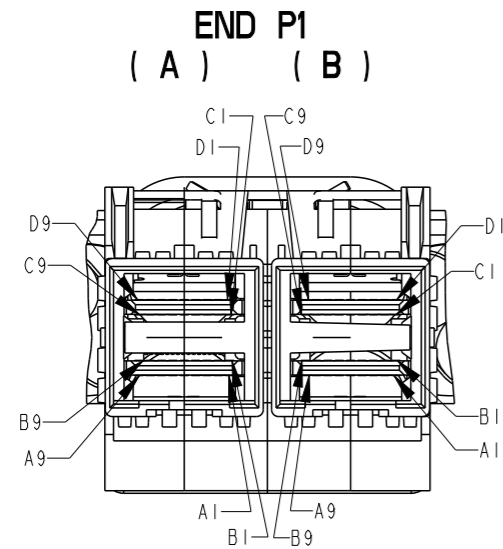
PRODUCT NUMBER	DESCRIPTION	NOTES
10117947-XXXXLF	NON-HF	SEE SHT. 3
10117947-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

PRODUCT NUMBER (NON-HALOGEN FREE) SEE NOTE 16	AWG	"DIM L" LENGTH (Meters)	"DIM M" HEIGHT (mm)
10117947-5020LF	24 AWG	2 M	(20.1)
10117947-5030LF	24 AWG	3 M	(20.1)
10117947-5040LF	24 AWG	4 M	(20.1)
10117947-5050LF	24 AWG	5 M	(20.1)
10117947-5060LF	24 AWG	6 M	(20.1)
10117947-5070LF	24 AWG	7 M	(20.1)
10117947-5080LF	24 AWG	8 M	(20.1)
10117947-5090LF	24 AWG	9 M	(20.1)
10117947-5100LF	24 AWG	10 M	(20.1)
10117947-4020LF	26 AWG	2 M	(20.1)
10117947-4030LF	26 AWG	3 M	(20.1)
10117947-4040LF	26 AWG	4 M	(20.1)
10117947-4050LF	26 AWG	5 M	(20.1)
10117947-4060LF	26 AWG	6 M	(20.1)
10117947-4070LF	26 AWG	7 M	(20.1)
10117947-4080LF	26 AWG	8 M	(20.1)
10117947-3010LF	28 AWG	1 M	(17.3)
10117947-3020LF	28 AWG	2 M	(17.3)
10117947-3030LF	28 AWG	3 M	(17.3)
10117947-3040LF	28 AWG	4 M	(17.3)
10117947-3050LF	28 AWG	5 M	(17.3)
10117947-3060LF	28 AWG	6 M	(17.3)
10117947-2005LF	30 AWG	0.5 M	(17.3)
10117947-2010LF	30 AWG	1 M	(17.3)
10117947-2020LF	30 AWG	2 M	(17.3)
10117947-2030LF	30 AWG	3 M	(17.3)
10117947-2040LF	30 AWG	4 M	(17.3)

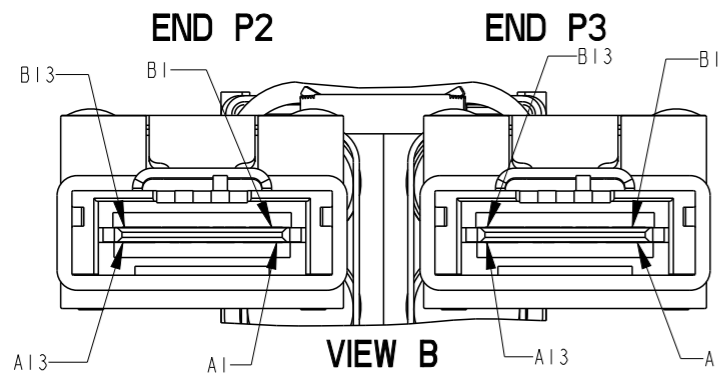
PRODUCT NUMBER (HALOGEN FREE) SEE NOTE 9 AND 16	AWG	"DIM L" LENGTH (Meters)	"DIM M" HEIGHT (mm)
10117947-5020HLF	24 AWG	2 M	(20.1)
10117947-5030HLF	24 AWG	3 M	(20.1)
10117947-5040HLF	24 AWG	4 M	(20.1)
10117947-5050HLF	24 AWG	5 M	(20.1)
10117947-5060HLF	24 AWG	6 M	(20.1)
10117947-5070HLF	24 AWG	7 M	(20.1)
10117947-5080HLF	24 AWG	8 M	(20.1)
10117947-5090HLF	24 AWG	9 M	(20.1)
10117947-5100HLF	24 AWG	10 M	(20.1)
10117947-4020HLF	26 AWG	2 M	(20.1)
10117947-4030HLF	26 AWG	3 M	(20.1)
10117947-4040HLF	26 AWG	4 M	(20.1)
10117947-4045HLF	26 AWG	5 M	(20.1)
10117947-4060HLF	26 AWG	6 M	(20.1)
10117947-4070HLF	26 AWG	7 M	(20.1)
10117947-4080HLF	26 AWG	8 M	(20.1)
10117947-3010HLF	28 AWG	1 M	(17.3)
10117947-3020HLF	28 AWG	2 M	(17.3)
10117947-3030HLF	28 AWG	3 M	(17.3)
10117947-3040HLF	28 AWG	4 M	(17.3)
10117947-3050HLF	28 AWG	5 M	(17.3)
10117947-3060HLF	28 AWG	6 M	(17.3)
10117947-2005HLF	30 AWG	0.5 M	(17.3)
10117947-2010HLF	30 AWG	1 M	(17.3)
10117947-2020HLF	30 AWG	2 M	(17.3)
10117947-2030HLF	30 AWG	3 M	(17.3)
10117947-2040HLF	30 AWG	4 M	(17.3)

dr	Deborah Ingram	2011/05/23		mm	size	A3	scale	1:1
eng	Tommy Lin	2014/01/06			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 2.1 TRAINED UNIVERSAL FINAL ASSEMBLY (6Gb/s)		dwg no 10117947	rev D			
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 3 of 5		

PRODUCT NUMBER	DESCRIPTION	NOTES
10117947-XXXXLF	NON-HF	SEE SHT. 3
10117947-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

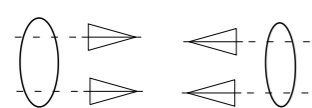


VIEW A  
SCALE: 2:1



VIEW B  
SCALE: 2:1

LEGEND:



HIGH-SPEED SERIAL DIFFERENTIAL PAIRS



SIGNAL RETURN



POWER AND MANAGEMENT INTERFACE

WIRING LIST (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		B13	GND
N/C	A1	NO THRU CONNECTION		
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		B10	GND
N/C	B1	NO THRU CONNECTION		
Mod_PRS_L (GND)	B2			
GND	C9		A7	GND
TX 1-	C5	PAIR 2	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		A13	GND
SCL	C1	NO THRU CONNECTION		
SDA	C2			
GND	D9			GND
TX 0-	D5	PAIR 1	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		A10	GND
N/C	D1	NO THRU CONNECTION		
V+3.3 for EEPROM	D2			
SHELL		BRAID		SHELL

SHIELD-----SHIELD

WIRING LIST (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		B13	GND
N/C	A1	NO THRU CONNECTION		
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		B10	GND
N/C	B1	NO THRU CONNECTION		
Mod_PRS_L (GND)	B2			
GND	C9		A7	GND
TX 1-	C5	PAIR 2	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		A13	GND
SCL	C1	NO THRU CONNECTION		
SDA	C2			
GND	D9			GND
TX 0-	D5	PAIR 1	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		A10	GND
N/C	D1	NO THRU CONNECTION		
V+3.3 for EEPROM	D2			
SHELL		BRAID		SHELL

SHIELD-----SHIELD

dr	Deborah Ingram	2011/05/23	projection	mm	size	A3	scale	1:2	
eng	Tommy Lin	2014/01/06			ecn no	ELX-N-16648-1	rel level	Released	
chr	-	-							
appr	Roger Cheng	2014/01/07	product family	C&A					
		MINI SAS HD 8X TO 2 MINI SAS 2.1		dwg no		10117947		rev	D
www.fci.com		cat. no.	-		Product - Customer Drw		sheet 4 of 5		

PRODUCT NUMBER	DESCRIPTION	NOTES
10117947-XXXXLF	NON-HF	SEE SHT. 3
10117947-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

2. ELECTRICAL PERFORMANCE PER CURRENT REVISION: T10/SAS-2.1

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 2.1 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

FCI SERIAL NUMBER IS ONLY FOR TRACKING PRODUCT, DEFINED AS BELOW:  
 CN1323HG205L0001  
 CN PRESENT MADE IN CHINA  
 YYWW (YEAR AND WEEK)  
 PRESENT PRODUCT BASE NUMBER (USE "HG")  
 SEQUENCE NUMBER (0001-9999)  
 NON-HALOGEN FREE OR HALOGEN FREE  
 (L IS NON-HALOGEN FREE TYPE OR H IS HALOGEN FREE TYPE)  
 CABLE AWG (2 IS 30AWG, 3 IS 28AWG, 4 IS 26AWG, 5 IS 24AWG)  
 LENGTH (05 IS 0.5 METER; 10 IS 1.0 METER, 20 IS 2.0 METERS, ETC)

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. "H" PRODUCT NUMBERS DESIGNATE THE USE OF HALOGEN FREE RAW CABLE.

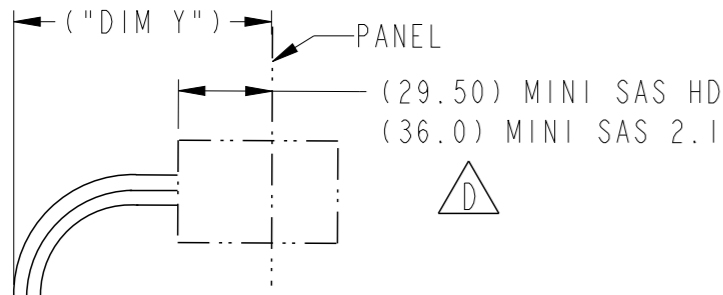
10. THIS DIMENSION IS A FINISHED PRODUCT LENGTH.

11. 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.

12. MEETS ELECTRICAL PERFORMANCE REQUIREMENTS OF SAS 2.1.

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.



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



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	2011/05/23	projection	mm	size	A3	scale	1:1
eng	Tommy Lin	2014/01/06			ecn no			
chr	-	-			ELX-N-16648-1			
appr	Roger Cheng	2014/01/07	product family	-	rel level			
www.fci.com			MINI SAS HD 8X TO 2 MINI SAS 2.1 TRAINED UNIVERSAL FINAL ASSEMBLY (6Gb/s)		dwg no		10117947	
cat. no.			-		Product - Customer Drw		sheet 5 of 5	



## Стандарт Электрон Связь

Мы молодая и активно развивающаяся компания в области поставок электронных компонентов. Мы поставляем электронные компоненты отечественного и импортного производства напрямую от производителей и с крупнейших складов мира.

Благодаря сотрудничеству с мировыми поставщиками мы осуществляем комплексные и плановые поставки широчайшего спектра электронных компонентов.

Собственная эффективная логистика и склад в обеспечивает надежную поставку продукции в точно указанные сроки по всей России.

Мы осуществляем техническую поддержку нашим клиентам и предпродажную проверку качества продукции. На все поставляемые продукты мы предоставляем гарантию .

Осуществляем поставки продукции под контролем ВП МО РФ на предприятия военно-промышленного комплекса России , а также работаем в рамках 275 ФЗ с открытием отдельных счетов в уполномоченном банке. Система менеджмента качества компании соответствует требованиям ГОСТ ISO 9001.

Минимальные сроки поставки, гибкие цены, неограниченный ассортимент и индивидуальный подход к клиентам являются основой для выстраивания долгосрочного и эффективного сотрудничества с предприятиями радиоэлектронной промышленности, предприятиями ВПК и научно-исследовательскими институтами России.

С нами вы становитесь еще успешнее!

### Наши контакты:

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**Электронная почта:** [sales@st-electron.ru](mailto:sales@st-electron.ru)

**Адрес:** 198099, Санкт-Петербург,  
Промышленная ул, дом № 19, литера Н,  
помещение 100-Н Офис 331