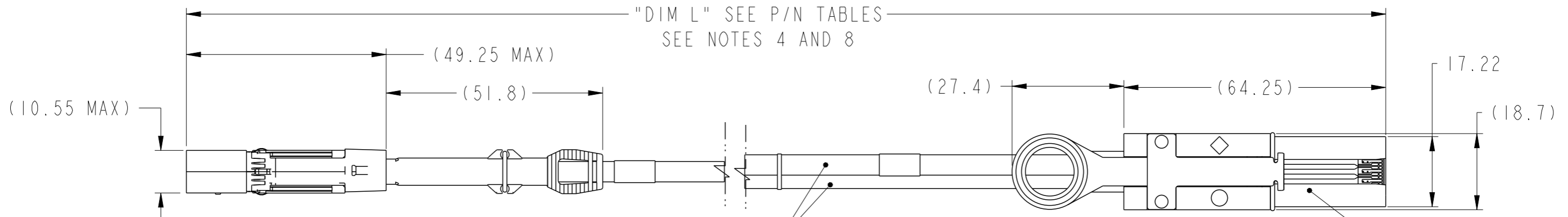


PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

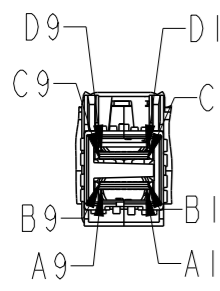


2X CABLE  
SEE NOTE 15

END P2  
MINI SAS  
CABLE CONNECTOR

HEAT SHRINK  
TUBE (2X)

END P1  
MINI SAS HD 4X  
CABLE CONNECTOR



(10.45)

("DIM M")  
SEE P/N TABLES

100mm ± 15mm

2X (13.0)

P1 LABEL  
SEE NOTE 5

P2 LABEL  
SEE NOTE 5

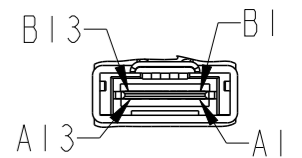
CABLE TIE  
COLOR: BLACK

(0.5 METER) SEE NOTE 10

HEAT SHRINK  
TUBE

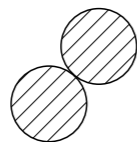
60mm ± 15mm

12.75



(25.0)

SECTION A-A  
SCALE 2:1  
CABLE ORIENTATION ONLY  
MSAS END P2

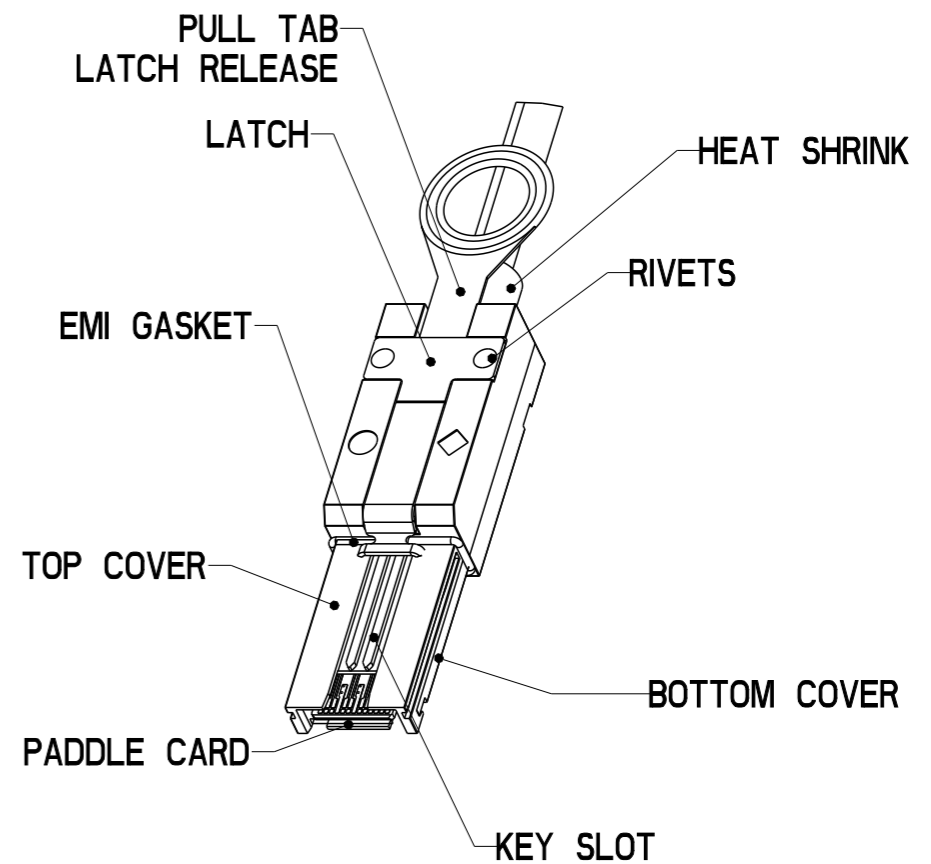


dr	Deborah Ingram	2011/06/07	projection	MM	size	A3	scale	1:1
eng	Tommy Lin	2013/12/19			ecn no ELX-N-16475-1			
chr	-	-			rel level Released			
appr	Roger Cheng	2013/12/19	product family	C&A	rev C			
		title Mini SAS HD 4X TO Mini SAS 2.1 FINAL ASSEMBLY (6Gb/s)		dwg no 10117946		rev C		
www.fci.com		cat. no.		-		Product - Customer Drw		sheet 1 of 6

PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



END P1  
Mini SAS HD 4X  
ISOMETRIC VIEW



END P2  
Mini SAS  
ISOMETRIC VIEW

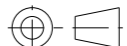

(KEY SLOT 2, 4 & 6  
○ ◇ UNIVERSAL PORT)

dr	Deborah Ingram	2011/06/07	projection	MM	size	A3	scale	1:1	
eng	Tommy Lin	2013/12/19			ecn no	ELX-N-16475-1			
chr	-	-	product family	C&A	rel level		Released		
appr	Roger Cheng	2013/12/19			title		Mini SAS HD 4X TO Mini SAS 2.1	dwg no	10117946
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 2 of 6			

PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3

PRODUCT NUMBER (HALOGEN FREE) SEE NOTE 9 & 15	AWG	"DIM L" LENGTH (Meters)	"DIM M" HIEGHT (mm)
10117946-5030HLF	24 AWG	3 M	(20.1)
10117946-5040HLF	24 AWG	4 M	(20.1)
10117946-5050HLF	24 AWG	5 M	(20.1)
10117946-5060HLF	24 AWG	6 M	(20.1)
10117946-5070HLF	24 AWG	7 M	(20.1)
10117946-5080HLF	24 AWG	8 M	(20.1)
10117946-5090HLF	24 AWG	9 M	(20.1)
10117946-5100HLF	24 AWG	10 M	(20.1)
10117946-4020HLF	26 AWG	2 M	(20.1)
10117946-4030HLF	26 AWG	3 M	(20.1)
10117946-4040HLF	26 AWG	4 M	(20.1)
10117946-4050HLF	26 AWG	5 M	(20.1)
10117946-4060HLF	26 AWG	6 M	(20.1)
10117946-4070HLF	26 AWG	7 M	(20.1)
10117946-4080HLF	26 AWG	8 M	(20.1)
10117946-3010HLF	28 AWG	1 M	(17.3)
10117946-3020HLF	28 AWG	2 M	(17.3)
10117946-3030HLF	28 AWG	3 M	(17.3)
10117946-3040HLF	28 AWG	4 M	(17.3)
10117946-3050HLF	28 AWG	5 M	(17.3)
10117946-3060HLF	28 AWG	6 M	(17.3)
10117946-2005HLF	30 AWG	0.5 M	(17.3)
10117946-2010HLF	30 AWG	1 M	(17.3)
10117946-2020HLF	30 AWG	2 M	(17.3)
10117946-2030HLF	30 AWG	3 M	(17.3)
10117946-2040HLF	30 AWG	4 M	(17.3)

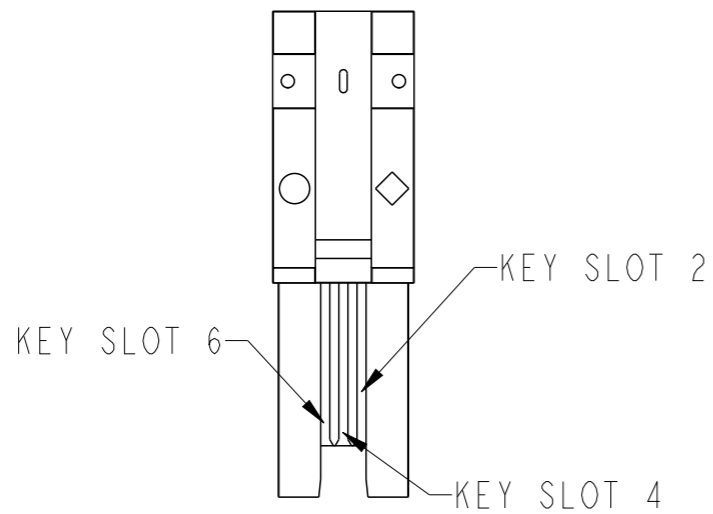
PRODUCT NUMBER (NON-HALOGEN FREE) SEE NOTE 15	AWG	"DIM L" LENGTH (Meters)	"DIM M" HIEGHT (mm)
10117946-5030LF	24 AWG	3 M	(20.1)
10117946-5040LF	24 AWG	4 M	(20.1)
10117946-5050LF	24 AWG	5 M	(20.1)
10117946-5060LF	24 AWG	6 M	(20.1)
10117946-5070LF	24 AWG	7 M	(20.1)
10117946-5080LF	24 AWG	8 M	(20.1)
10117946-5090LF	24 AWG	9 M	(20.1)
10117946-5100LF	24 AWG	10 M	(20.1)
10117946-4020LF	26 AWG	2 M	(20.1)
10117946-4030LF	26 AWG	3 M	(20.1)
10117946-4040LF	26 AWG	4 M	(20.1)
10117946-4050LF	26 AWG	5 M	(20.1)
10117946-4060LF	26 AWG	6 M	(20.1)
10117946-4070LF	26 AWG	7 M	(20.1)
10117946-4080LF	26 AWG	8 M	(20.1)
10117946-3010LF	28 AWG	1 M	(17.3)
10117946-3020LF	28 AWG	2 M	(17.3)
10117946-3030LF	28 AWG	3 M	(17.3)
10117946-3040LF	28 AWG	4 M	(17.3)
10117946-3050LF	28 AWG	5 M	(17.3)
10117946-3060LF	28 AWG	6 M	(17.3)
10117946-2005LF	30 AWG	0.5 M	(17.3)
10117946-2010LF	30 AWG	1 M	(17.3)
10117946-2020LF	30 AWG	2 M	(17.3)
10117946-2030LF	30 AWG	3 M	(17.3)
10117946-2040LF	30 AWG	4 M	(17.3)

dr	Deborah Ingram	2011/06/07	projection 	size A3	scale 1:1	
eng	Tommy Lin	2013/12/19				
chr	-	-				
appr	Roger Cheng	2013/12/19	product family	C&A	rel level	Released
		title Mini SAS HD 4X TO Mini SAS 2.1 FINAL ASSEMBLY (6Gb/s)		dwg no 10117946	rev C	
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 3 of 6



Copyright FCI.

PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



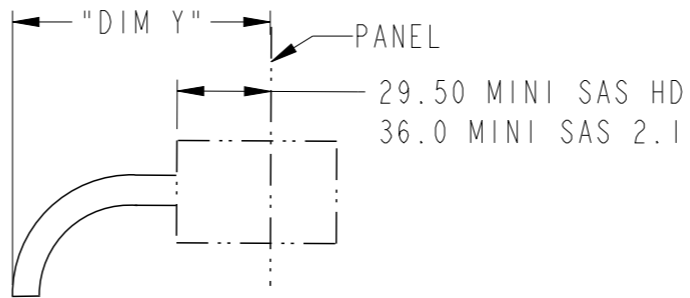
KEY SLOT 2, 4 & 6  
 ○◇ UNIVERSAL PORT

**END P2  
 MINI SAS**

WIRING LIST (SEE NOTE 6)				
P1 (MINI SAS HD)		CONDUCTOR #	P2 (MINI SAS)	
SIGNAL	PIN#		PIN#	SIGNAL
GND	A9		B7	GND
Rx 1-	A5	PAIR 2	B6	Tx 1-
Rx 1+	A4		B5	Tx 1+
GND	A3		B4	GND
Rx 3-	A8	PAIR 4	B12	Tx 3-
Rx 3+	A7		B11	Tx 3+
GND	A6		B13	GND
N/C	A1	NO THRU CONNECTION		
Interrupt	A2			
GND	B9			GND
RX 0-	B5	PAIR 1	B3	TX 0-
RX 0+	B4		B2	TX 0+
GND	B3		B1	GND
RX 2-	B8	PAIR 3	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		A4	GND
TX 3-	C8	PAIR 4	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		A1	GND
TX 2-	D8	PAIR 3	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

dr	Deborah Ingram	2011/06/07	projection 	MM 	size	A3	scale	1:1
eng	Tommy Lin	2013/12/19			ecn no	ELX-N-16475-1		
chr	-	-			rel level	Released		
appr	Roger Cheng	2013/12/19	product family	C&A				
	title		Mini SAS HD 4X TO Mini SAS 2.1	dwg no	10117946	rev	C	
www.fci.com	cat. no.		-	Product - Customer Drw	sheet 4 of 6			

PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-XXXXHLF	HALOGEN FREE (H)	SEE SHT. 3



PEND RADIUS  
TOP VIEW OF CONNECTOR

MINI SAS HD MINIMUM BEND TABLE		
CABLE	"DIM Y" (HF)	"DIM Y" (NON-HF)
24 AWG	92.8	90.5
26 AWG	87.5	85.1
28 AWG	81.5	79.1
30 AWG	77.9	74.3

MINI SAS 2.1 MINIMUM BEND TABLE		
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

dr	Deborah Ingram	2011/06/07	projection	MM	size	A3	scale	1:1
eng	Tommy Lin	2013/12/19			ecn no	ELX-N-16475-1		
chr	-	-	product family	MiniSAS/SATA	rel level			
appr	Roger Cheng	2013/12/19			Released			
		title Mini SAS HD 4X TO Mini SAS 2.1 FINAL ASSEMBLY (6Gb/s)			dwg no 10117946	rev C		
www.fci.com		cat. no.	-	Product - Customer Drw		sheet 5 of 6		



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PRODUCT NUMBER	DESCRIPTION	NOTES
10117946-XXXXLF	NON-HF	SEE SHT. 3
10117946-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)  
 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 - 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"

5- LABEL DETAILS:

MANUFACTURER CODE OR NAME FCI P/N	COUNTRY ORIGIN
FCI CUSTOMER DRAWING REVISION FCI SERIAL NUMBER	<b>CE MARK</b>

FONT SHALL BE CLEARLY VISIBLE AND BLACK IN COLOR.  
 CE MARK VERTICAL DIMENSION MAY NOT BE LESS THAN 5mm.

6 - ALL CABLE ASSEMBLIES SHALL BE 100% TESTED FOR CONTINUITY AS DEFINED IN WIRING LIST.

7 - 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.  
 CE MARK SHOULD BE ADDED ON FCI STANDARD PACKAGE LABEL(G1 LABEL),CE MARK VERTICAL DIM. MAY NOT BE LESS THAN 5mm.

8- THIS DIMENSION IS A FINISHED PRODUCT LENGTH.

9. "H" IN THE PART NUMBER DENOTES USE OF HALOGEN FREE CABLE.

10. PLACE A CABLE TIE EVERY 0.5 METERS, IN THE CASE OF A 0.5 METER CABLE LENGTH, PLACE THE CABLE TIE MIDWAY BETWEEN CONNECTORS.

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.

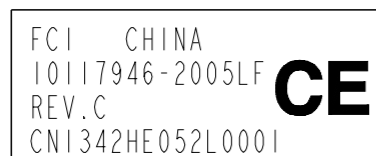
12. MATES TO SERIES: MINI SAS HD - 10112626 or 10112627 or 10112628  
 MINI SAS 2.1 - BOARD CONNECTOR 10098870 AND CAGE 10098871

13. OTHER TESTING PERFORMED AS REQUIRED BY PRODUCT SPECIFICATION: MINISAS HD GS-12-651, MINI SAS 2.1 GS-12-548

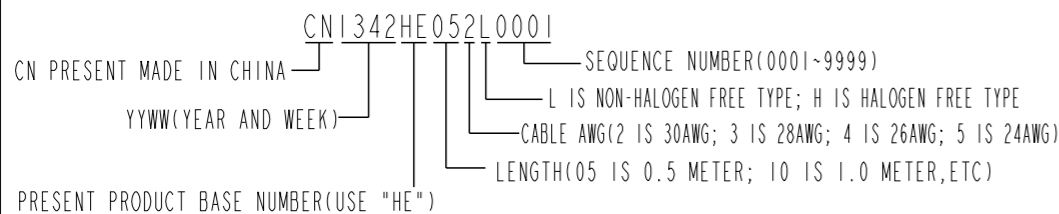
△ 14. EEPROM INFORMATION OF MSHD SIDE REFER TO FCI PRODUCT SPEC. GS-12-651.

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

△ CABLE LABEL EXAMPLE:



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



CE MARK VERTICAL DIMENSION MAY NOT BE LESS THAN 5mm,



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dr	Deborah Ingram	2011/06/07	projection MM ←→	size	A3	scale	1:1
eng	Tommy Lin	2013/12/19		ecn no	ELX-N-16475-1		
chr	-	-		rel level	Released		
appr	Roger Cheng	2013/12/19	product family	C&A			
www.fci.com		cat. no.	-		Product - Customer Drw	sheet 6 of 6	
FCI		Mini SAS HD 4X TO Mini SAS 2.1 FINAL ASSEMBLY (6Gb/s)		dwg no	10117946		rev C