

802.3ck 100G serial copper MDIs

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Summary

- MDIs are required to support copper objectives
 - Single (100GBASE-CR), dual (200GBASE-CR2), quad lane (400GBASE-CR4) MDIs needed to support objectives
 - Octal lane MDIs used for high density applications
- The MDI section should look similar to 802.3cd annex 136C.

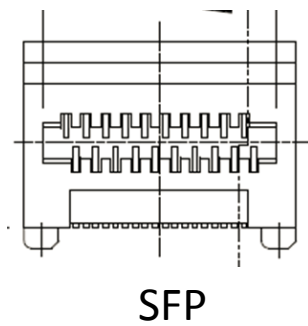
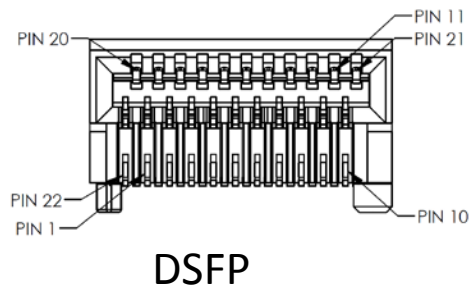
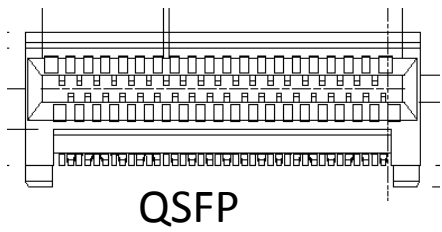
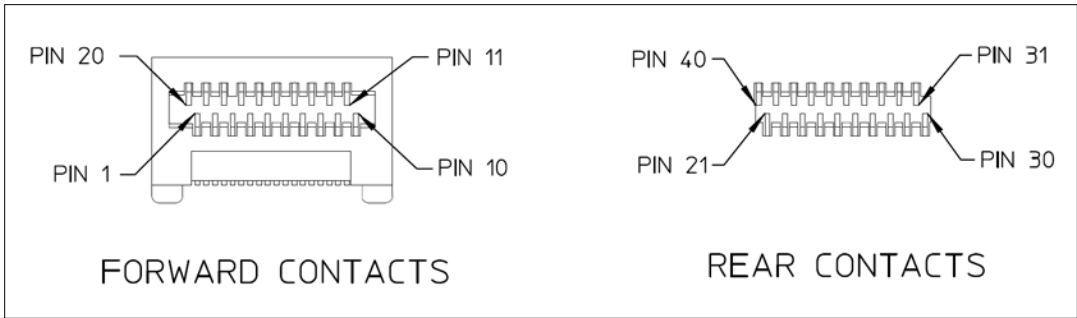
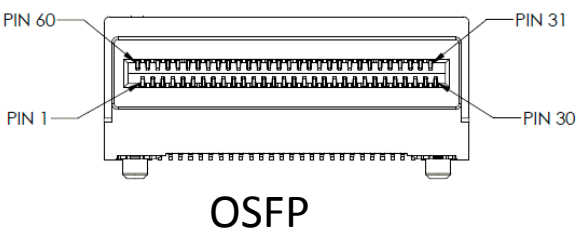
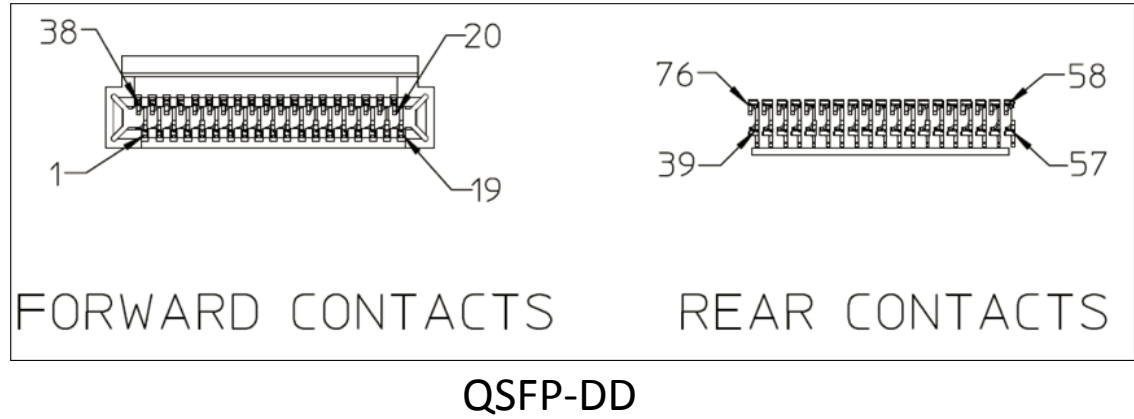
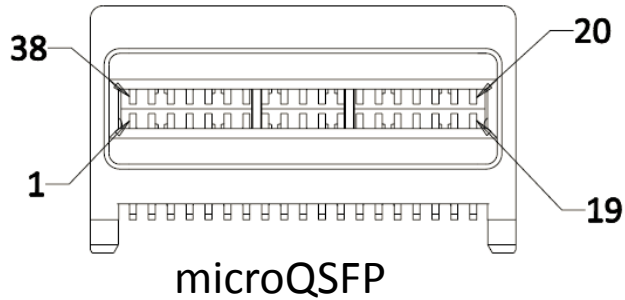
Number of PMDs supportable for each connector: (update from Table 136C-1)

MDI Types	100GBASE-CR	200GBASE-CR2	400GBASE-CR4	Reference
SFP112	1	-		
QSFP112	1,2,4	1,2	1	
microQSFP	1,2,4	1,2	1	
QSFP112-DD	1,2,4,8	1,2,4	1,2	
OSFP	1,2,4,8	1,2,4	1,2	
SFP112-DD	1,2	1	-	
DSFP	1,2	1	-	

- Proposed new MDIs

Note: New MDIs will require additional cable assembly mappings (See 802.3cd Annex 136D)

MDI drawings



Update for Table 136C-2 – PMD to connector signal assignments

PMD signal <PMD #>:<PMD signal>			Connector signal
50GBASE-CR	100GBASE-CR2	200GBASE-CR4	
0:DL0n	0:DL0n	0:DL0n	DL0n
0:DL0p	0:DL0p	0:DL0p	DL0p
1:DL0n	0:DL1n	0:DL1n	DL1n
1:DL0p	0:DL1p	0:DL1p	DL1p
2:DL0n	1:DL0n	0:DL2n	DL2n
2:DL0p	1:DL0p	0:DL2p	DL2p
3:DL0n	1:DL1n	0:DL3n	DL3n
3:DL0p	1:DL1p	0:DL3p	DL3p
4:DL0n	2:DL0n	1:DL0n	DL4n
4:DL0p	2:DL0p	1:DL0p	DL4p
5:DL0n	2:DL1n	1:DL1n	DL5n
5:DL0p	2:DL1p	1:DL1p	DL5p
6:DL0n	3:DL0n	1:DL2n	DL6n
6:DL0p	3:DL0p	1:DL2p	DL6p
7:DL0n	3:DL1n	1:DL3n	DL7n
7:DL0p	3:DL1p	1:DL3p	DL7p
0:SL0n	0:SL0n	0:SL0n	SL0n
0:SL0p	0:SL0p	0:SL0p	SL0p
1:SL0n	0:SL1n	0:SL1n	SL1n
1:SL0p	0:SL1p	0:SL1p	SL1p
2:SL0n	1:SL0n	0:SL2n	SL2n
2:SL0p	1:SL0p	0:SL2p	SL2p
3:SL0n	1:SL1n	0:SL3n	SL3n
3:SL0p	1:SL1p	0:SL3p	SL3p
4:SL0n	2:SL0n	1:SL0n	SL4n
4:SL0p	2:SL0p	1:SL0p	SL4p
5:SL0n	2:SL1n	1:SL1n	SL5n
5:SL0p	2:SL1p	1:SL1p	SL5p
6:SL0n	3:SL0n	1:SL2n	SL6n
6:SL0p	3:SL0p	1:SL2p	SL6p
7:SL0n	3:SL1n	1:SL3n	SL7n
7:SL0p	3:SL1p	1:SL3p	SL7p

Update for Table 136C-2 – PMD to connector signal assignments

100GBASE -CR	200GBASE -CR2	400GBASE- CR4	Connector Signal
0:DL0n	0:DL0n	0:DL0n	DL0n
0:DL0p	0:DL0p	0:DL0p	DL0p
1:DL0n	0:DL1n	0:DL1n	DL1n
1:DL0p	0:DL1p	0:DL1p	DL1p
2:DL0n	1:DL0n	0:DL2n	DL2n
2:DL0p	1:DL0p	0:DL2p	DL2p
3:DL0n	1:DL0n	0:DL3n	DL3n
3:DL0p	1:DL0p	0:DL3p	DL3p
4:DL0n	1:DL1n	1:DL0n	DL4n
4:DL0p	1:DL1p	1:DL0p	DL4p
5:DL0n	2:DL0n	1:DL1n	DL5n
5:DL0p	2:DL0p	1:DL1p	DL5p
6:DL0n	2:DL1n	1:DL2n	DL6n
6:DL0p	2:DL1p	1:DL2p	DL6p
7:DL0n	3:DL0n	1:DL3n	DL7n
7:DL0p	3:DL0p	1:DL3p	DL7p
0:SL0n	3:SL1n	0:SL0n	SL0n
0:SL0p	3:SL1p	0:SL0p	SL0p

Update for Table 136C-2 – PMD to connector signal assignments (continued)

100GBASE-CR	200GBASE-CR2	400GBASE-CR4	Connector Signal
1:SL0n	0:SL1n	0:SL0n	SL2n
1:SL0p	0:SL1p	0:SL0p	SL2p
2:SL0n	1:SL1n	0:SL2n	SL2n
2:SL0p	1:SL1p	0:SL2p	SL2p
3:SL0n	1:SL1n	0:SL3n	SL3n
3:SL0p	1:SL1p	0:SL3p	SL3p
4:SL0n	2:SL0n	1:SL0n	SL4n
4:SL0p	2:SL0p	1:SL0p	SL4p
5:SL0n	2:SL1n	1:SL1n	SL5n
5:SL0p	2:SL1p	1:SL1p	SL5p
6:SL0n	3:SL0n	1:SL2n	SL6n
6:SL0p	3:SL0p	1:SL2p	SL6p
7:SL0n	3:SL1n	1:SL3n	SL7n
7:SL0p	3:SL1p	1:SL3p	SL7p

New Table equivalent to Table 136C-3- MDI connector contact mapping

SFP-DD	DSFP		Description
14		GND	Ground
13		DL0p	Receiver Non-Inverted Data Output
12		DL0n	Receiver Inverted Data Output
11		GND	Ground
34		GND	Ground
33		DL1p	Receiver Non-Inverted Data Output
32		DL1n	Receiver Inverted Data Output
31		GND	Ground
20		GND	Ground
19		SL0n	Transmitter Inverted Data Input
18		SL0p	Transmitter Non-Inverted Data Input
17		GND	Ground
40		GND	Ground
39		SL1n	Transmitter Inverted Data Input
38		SL1p	Transmitter Non-Inverted Data Input
37		GND	Ground

New Cable Assembly Options Table based on text in Annex 136D

100GBASE-CR	200GBASE-CR2	400GBASE-CR4
SFP to SFP	SFP-DD/DSFP to SFP-DD/DSFP	QSFP/microQSFP to QSFP/microQSFP
SFP-DD/DSFP to 2xSFP	2xSFP-DD/DSFP to QSFP/microQSFP	2xQSFP/microQSFP to QSFP-DD/OSFP
QSFP/microQSFP to 4xSFP	4xSFP-DD/DSFP to QSFP-DD/OSFP	
QSFP-DD/OSFP to 8xSFP		