MXP50 – 50 Gbps multicoax solution

Key features

- Operating range at up to 50 Gbps/50 GHz
- Standard absolute phase matching down to ± 2 ps
- Highest density – lowest loss
- Slide-on mounting – no threading
- Highly flexible and ultra stable Multiflex cable
- Extensive technical support

Benefits

- **Testing at the highest stage**
  The broadband characteristics and the true 50 Gbps/50 GHz coaxial-to-PCB transition allow the design of evaluation boards (test set-ups) for the latest generation of semiconductor standards.
- **Space saving**
  Due to the dense interface pitch, the PCB connectors take up less space on boards. This is advantageous, as expensive high-performance board material is essential for good signal integrity at high data rates.
- **Shorter transmission lines**
  The compact design of the PCB connector allows it to be positioned directly adjacent to the DUT/chip. This helps to keep the transmission lines on the board short and the losses low.
- **Reliable push-on mating**
  Thanks to the revolutionary slide-on interface design, assemblies can be replugged quickly and easily, while guaranteeing stable electrical values even after numerous mating cycles.
- **Easy channel handling**
  The highly flexible Multiflex cable in combination with a detailed numbering and coding system ensures easy channel handling without any degradation of the signal integrity.
- **Overall cost savings and service benefits**
  Reduced cost of ownership compared to single interfaces thanks to lower outlay for PCB population and channel handling. 3D files, modelling data and customised footprints are available upon request.

Comprehensive range of standard products (1 × 8 and 2 × 8 ganged systems)

- 1 × 8 and 2 × 8 straight PCB connectors (SMD)
- 1 × 8 and 2 × 8 breakout assemblies MXP-to-PC 2.4
- 1 × 8 and 2 × 8 jumper assemblies MXP-to-MXP
- Loop back assembly
- 2 × 8 MXP-to-MXP board-to-board adaptor
- Standardised SUCOFLEX assembly lengths with different classes of phase matching
- Customised assemblies on request

MXP50 – technical data

Typical electrical data	Testing condition	Performance
Operating range/data rate		up to 50 Gbps
Frequency range		DC to 50 GHz
Impedance		50 Ω
Return loss	mated condition gated measurement: cable connector/ PCB transition PCB: Rogers RO3003 cable: HUBER+SUHNER Multiflex 53-02	≥ 20 dB up to 22.5 GHz ≥ 15 dB up to 50 GHz
Insertion loss	Multiflex 53-02	
Cross-talk	at PCB transition	≤ –40 dB up to 40 GHz ≤ –35 dB up to 50 GHz

Typical mechanical data	Testing condition	Requirements
Mating force (per single channel)		max. 3.4 N (typical 1.1 N)
Demating force (per single channel)		max. 3.4 N (typical 1.1 N)
Durability (matings)	MIL-PRF-39012, paragraph 4.7.12	> 500

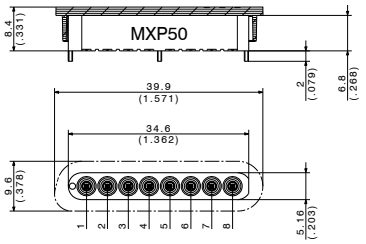
Material data cable connector	Material	Coating
Center contact	copper beryllium	SUCOPRO® gold plating
Outer contact	brass	SUCOPRO® gold plating
Insulator	PTFE	n/a
Body	aluminium	gold anodised

Material data PCB connector	Material	Coating
Center contact	copper beryllium	SUCOPRO® gold plating
Outer contact	BZ4	SUCOPRO® gold plating
Body	brass	SUCOPRO® gold plating
Insulator	PEEK	n/a

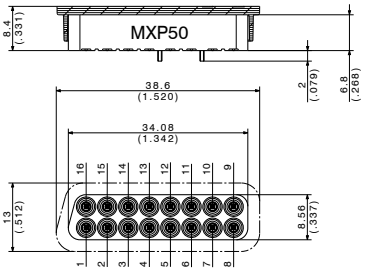
Typical environmental data	Testing condition	Requirements
Temperature range		–55 to +85 °C
Thermal aging (mated condition)	IEC 60068-2-2, test B	120 °C/260 h
Change of temperature	IEC 60068-2-14, test na	assembly: –55 to +85 °C PCB: –55 to +85 °C
Vibration	IEC 60068-2-6	on request
Mechanical shock (transport)	MIL-STD-202, method 213, condition I	100 g /6 ms
Damp heat steady state	IEC 60068-2-78, test ca	40 °C/humidity 93 %/96 h

MXP50 – PCB connectors

- Pitch 4 mm (0.16")
- Via-in-pad capable
- 0.7 mm (0.028") pin size allows easy matching to smallest trace width
- SMD technology – ground pins for better mechanical stability of solder joint



Type 1 × 8 ganged	Item no.	Packaging	Notes
1x8A_81_MXP-S50-0-3/111_NE	85022694	tape	symmetric design (non keyed)



Type 2 × 8 ganged	Item no.	Packaging	Notes
2x8A_81_MXP-S50-0-4/111_NE	85023106	tape	assymmetric design (keyed) optimised grounding pin layout for differential pair routing

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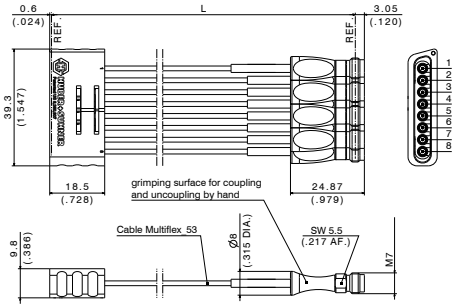
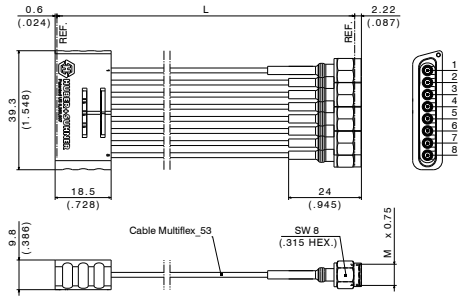
MXP50 – breakout to PC 2.4



Type 1 × 8 ganged	Item no.	Length	Notes
MF53/1x8A_21MXP/21PC24_erg/152	85024118	152 mm (6″)	single channels numbered with ergo grip on PC 2.4 side
MF53/1x8A_21MXP/21PC24_erg/229	85024116	229 mm (9″)	
MF53/1x8A_21MXP/21PC24_erg/305	85024113	305 mm (12″)	



Type 1 × 8 ganged	Item no.	Length	Notes
MF53/1x8A_21MXP/11PC24/152	85025933	152 mm (6″)	single channels numbered
MF53/1x8A_21MXP/11PC24/229	85025934	229 mm (9″)	
MF53/1x8A_21MXP/11PC24/305	85025935	305 mm (12″)	

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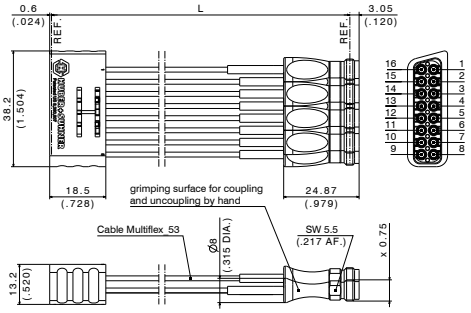
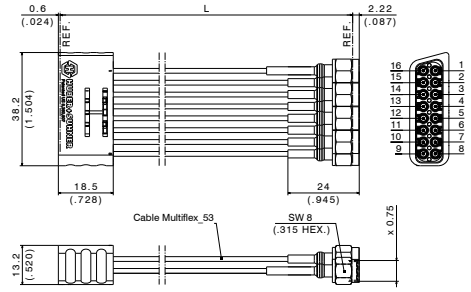
MXP50 – breakout to PC 2.4



Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/21PC24_erg/152	85023135	152 mm (6″)	single channels numbered with ergo grip on PC 2.4 side
MF53/2x8A_21MXP/21PC24_erg/229	85023167	229 mm (9″)	
MF53/2x8A_21MXP/21PC24_erg/305	85023168	305 mm (12″)	



Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/11PC24/152	85025930	152 mm (6″)	single channels numbered
MF53/2x8A_21MXP/11PC24/229	85025932	229 mm (9″)	
MF53/2x8A_21MXP/11PC24/305	85025931	305 mm (12″)	

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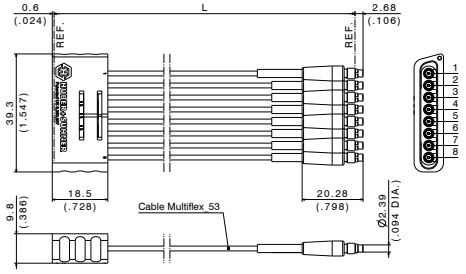
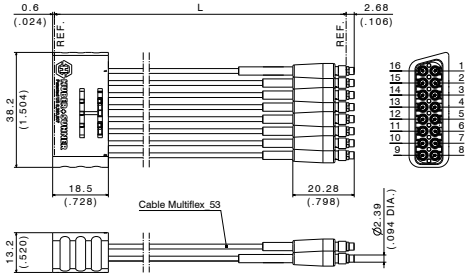
MXP50 – breakout to MMPX



Type 1 × 8 ganged	Item no.	Length	Notes
MF53/1x8A_21MXP/11MMPX/152	85021537	152 mm (6″)	single channels numbered
MF53/1x8A_21MXP/11MMPX/229	85018173	229 mm (9″)	
MF53/1x8A_21MXP/11MMPX/305	85025640	305 mm (12″)	
MF53/1x8A_21MXP/11MMPX/610	85025641	610 mm (24″)	



Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/11MMPX/152	85025642	152 mm (6″)	single channels numbered
MF53/2x8A_21MXP/11MMPX/229	85024572	229 mm (9″)	
MF53/2x8A_21MXP/11MMPX/305	85025643	305 mm (12″)	
MF53/2x8A_21MXP/11MMPX/610	85006750	610 mm (24″)	

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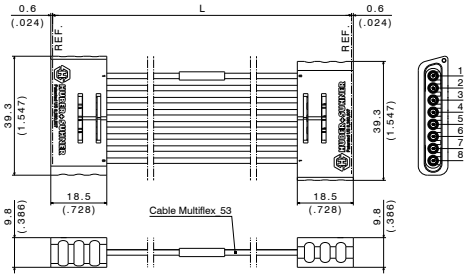
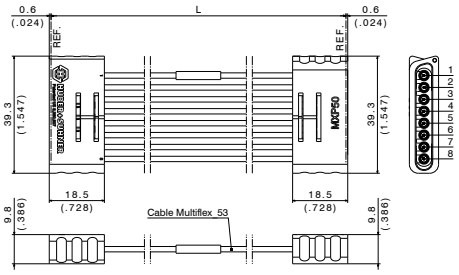
MXP50 – jumper



Type 1 × 8 ganged	Item no.	Length	Notes
MF53/1x8A_21MXP/21MXP/152	84129711	152 mm (6″)	pin map: 1 to 8
MF53/1x8A_21MXP/21MXP/229	85009276	229 mm (9″)	
MF53/1x8A_21MXP/21MXP/305	84099960	305 mm (12″)	
MF53/1x8A_21MXP/21MXP/610	84100060	610 mm (24″)	



Type 1 × 8 ganged	Item no.	Length	Notes
MF53/1x8A_21MXP/21MXP/152_1	84129722	152 mm (6″)	pin map: 1 to 1
MF53/1x8A_21MXP/21MXP/229_1	85009284	229 mm (9″)	
MF53/1x8A_21MXP/21MXP/305_1	84099634	305 mm (12″)	
MF53/1x8A_21MXP/21MXP/610_1	84099914	610 mm (24″)	

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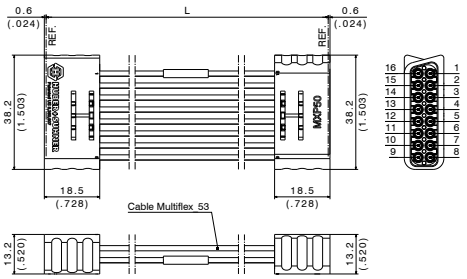
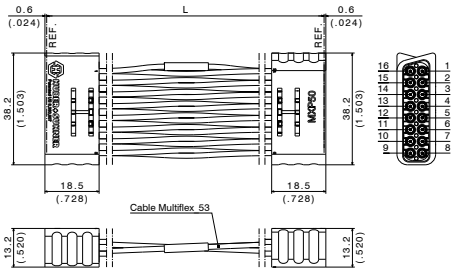
MXP50 – jumper



Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/21MXP/152	85009288	152 mm (6″)	pin map: 1 to 16
MF53/2x8A_21MXP/21MXP/229	85009287	229 mm (9″)	
MF53/2x8A_21MXP/21MXP/305	84099955	305 mm (12″)	
MF53/2x8A_21MXP/21MXP/457	84131766	457 mm (18″)	
MF53/2x8A_21MXP/21MXP/610	84099957	610 mm (24″)	



Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/21MXP/152_1	84116942	152 mm (6″)	pin map: 1 to 1
MF53/2x8A_21MXP/21MXP/229_1	85009289	229 mm (9″)	
MF53/2x8A_21MXP/21MXP/305_1	84099487	305 mm (12″)	
MF53/2x8A_21MXP/21MXP/457_1	84150019	457 mm (18″)	
MF53/2x8A_21MXP/21MXP/610_1	84099511	610 mm (24″)	

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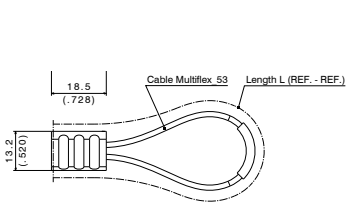
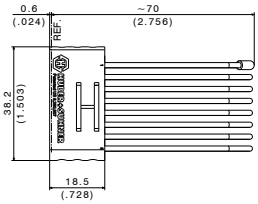
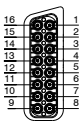
MXP50 – loop back

Typical application

Channel bridging

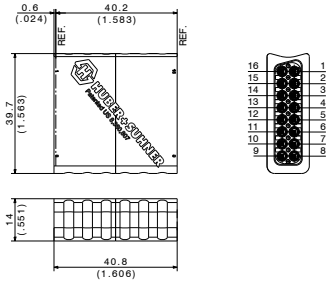






Type 2 × 8 ganged	Item no.	Length	Notes
MF53/2x8A_21MXP/152	84095097	152 mm (6")	loop back configuration Pin map: 1 to 16

MXP – board-to-board adaptor



Type 2 × 8 ganged	Item no.	Height	Notes
2x8A_31_MXP-50-0-1	85022967	40 mm	limited misalignment tolerance

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