



# DIN Signal har-bus 64 male connector



## General information

Design	IEC 61076-4-113	type: har-bus 64 male
No. of contacts	max. 160	
Contact spacing	2,54mm	
Test voltage	1000V	
Contact resistance	max. 20mOhm for rows a, b, c	max. 30mOhm for rows d, z
Insulation resistance	min. 10 <sup>10</sup> Ohm	
Working current	1A at 70°C (see derating diagram)	
Temperature range	-55°C ... +125°C	
Termination technology	solder	

Clearance & creepage		minimum distance		
		rows a, b, c	rows d, z	
between 2 rows	clearance	1,2mm	1,2mm	
	creepage	1,2mm	1,2mm	
	between 2 contacts in a row	clearance	1,2mm	1,0mm
		creepage	1,2mm	1,0mm

Insertion and withdrawal force	max. 160N
PCB thickness	min. 1,6mm
Mating cycles	acc. to performance level, see table below
UL file	E102079
RoHS - compliant	Yes
Leadfree	Yes

## Insulator material

Material	LCP (Liquid Cristal Polymer)
Colour	nature
UL classification	UL 94-V0
Material group acc. to IEC 60664-1	IIIa (175 ≤ CTI < 400)

## Contact material

Contact material	Copper alloy
Plating termination zone	Sn over Ni
Plating contact zone	acc. to performance level, see table below

performance level	mating cycles		plating contact zone	
	acc. to IEC 61076-4-113	complementary acc. to IEC 61076-4-113	row d,z	row a,b,c
1	500		<b>Au over Ni</b>	<b>Au over PdNi over Ni</b>
2	250		<b>Au over Ni</b>	<b>Au over PdNi over Ni</b>
3		50	<b>Au over Ni</b>	<b>Au over PdNi over Ni</b>
Au30		500	min. 0,76µm (30pinch) <b>Au over Ni</b>	
Au50		500	min. 1,27µm (50pinch) <b>Au over Ni</b>	

Standard plating options highlighted in bold, other plating options are available on request.

## Soldering instructions

The connectors should be protected when being soldered in a dip, flow or film soldering bath. Otherwise, they might become contaminated as a result of soldering operations or deformed as a result of overheating.

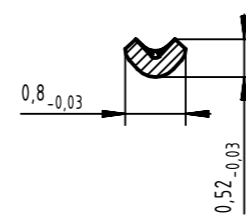
(1) For prototypes and short runs protect the connectors with an industrial adhesive tape, e.g. Tesaband 4331 (www.tesa.de). Cover the underside of the connector moulding and the adjacent parts of the pcb as well as the open sides of the connector. This will prevent heat and gases of the soldering apparatus from damaging the connector. About 140 + 5 mm of the tape should suffice.

(2) For large series a jig is recommended. Its protective cover with a fast action mechanical locking device shields the connectors from gas and heat generated by the soldering apparatus. As an additional protection a foil can be used for covering the parts that should not be soldered.

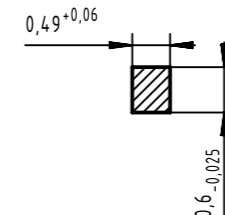
## Cross section of solder pins

Recommended plated hole diameter:  $\varnothing 1 \pm 0,1\text{mm}$

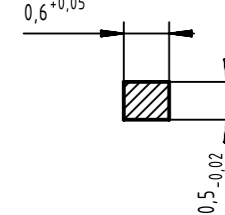
Row z:  $A = 0,21\text{mm}^2 - 0,25\text{mm}^2$



Row a, b, c:  $A = 0,28\text{mm}^2 - 0,33\text{mm}^2$



Row d:  $A = 0,29\text{mm}^2 - 0,33\text{mm}^2$

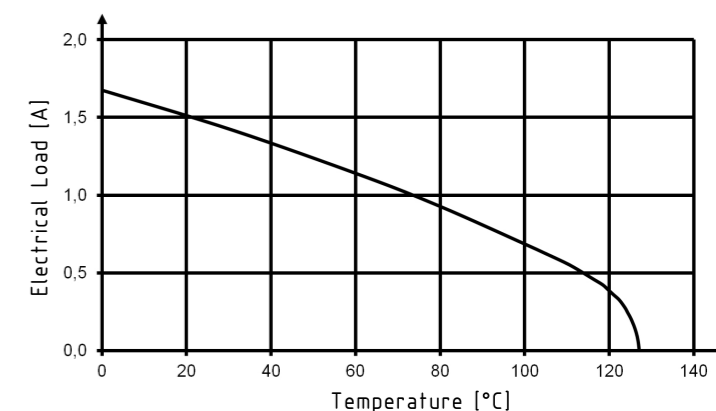


## Derating diagram acc. to IEC 60512-5 (Current carrying capacity)

The current carrying capacity is limited by maximum temperature of materials for inserts and contacts including terminals.

The current capacity curve is valid for continuous, non interrupted current loaded contacts of connectors when simultaneous power on all contacts is given, without exceeding the maximum temperature. Control and test procedures according to DIN IEC 60512-5

With selective loading higher currents can be transmitted. The requirements according to VITA 1.7 are fulfilled.



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