



# DIN signal female connector angled SMC, tape & reel



### General information

Design	IEC 60603-2 types: 2Q, 3Q, 2R, 3R female	
No. of contacts	max. 48	
Contact spacing	2,54 mm	
Test voltage	1000V	
Contact resistance	max. 20mOhm	
Insulation resistance	min. 10 <sup>9</sup> Ohm	
Working current	2A at 20°C (see derating diagram)	
Temperature range	-55°C ... +125°C	
Termination technology	SMC (Surface Mount Compatible) with solder pins	
Clearance & creepage distance	min. 1.2mm each	
Insertion and withdrawal force	20-pole max. 20N	32-pole max. 30N
	30-pole max. 30N	48-pole max. 45N
Mating cycles	PL 1 acc. to IEC 60603-2	500 mating cycles
	PL 2 acc. to IEC 60603-2	400 mating cycles
	PL 3 acc. to IEC 60603-2	50 mating cycles
UL file	E102079	
RoHS - compliant	Yes	
Leadfree	Yes	
Hot plugging	No	

### Insulator material

Material	PCT (thermoplastics, glass fiber reinforcement 30%)	
Color	natural-colored, color deviations and speckles permitted	
UL classification	UL 94-V0	
Material group acc. IEC 60664-1	II (400 ≤ CTI < 600)	
NFF classification	I3, F3	

### Contact material

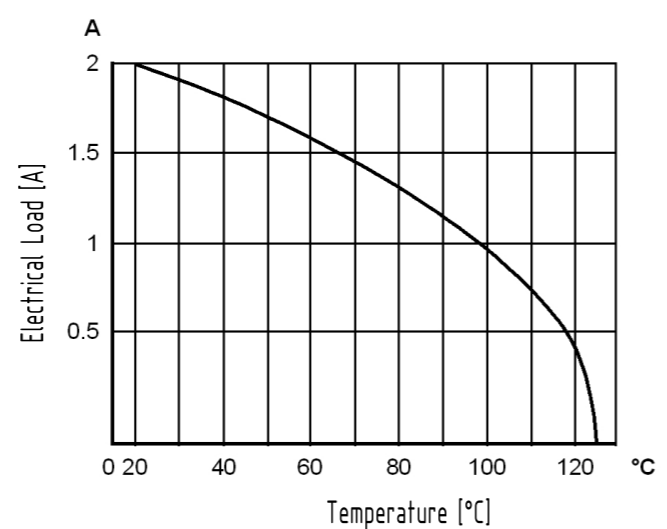
Contact material	Copper alloy
Plating termination zone	Sn over Ni
Plating contact zone	Au over PdNi over Ni

### 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



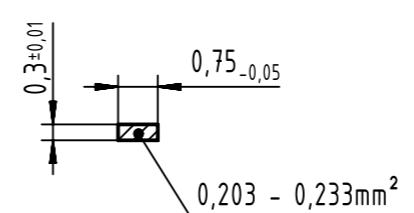
### Assembly and soldering instructions

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

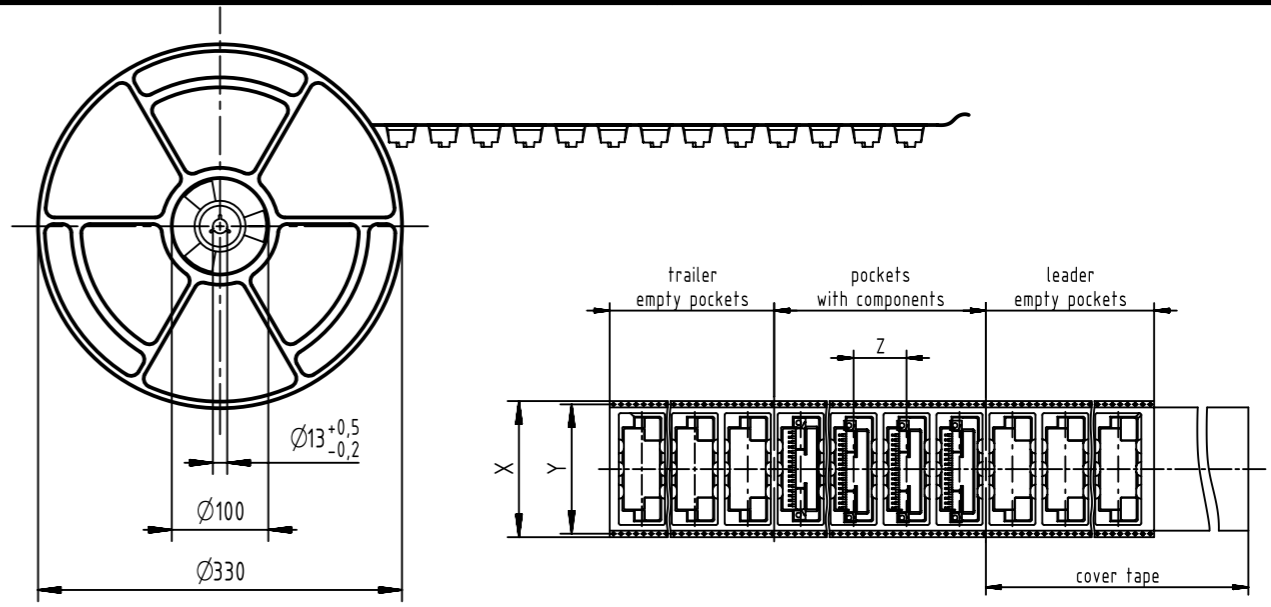
(1) For prototypes and short runs protect the connectors with an industrial adhesive tape, e.g. Tesaband 4331 (www.tesa.de). Cover the underside of the connector moulding and the adjacent parts of the pcb as well as the open sides of the connector. This will prevent heat and gases of the soldering apparatus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



### Tape & Reel layout acc. to EIA-481-D



type	2Q	3Q	2R	3R
X	72 ±0,3	56 ±0,3	72 ±0,3	72 ±0,3
Y	68,4 ±0,15	52,4 ±0,15	68,4 ±0,15	68,4 ±0,15
Z	28 ±0,15	24 ±0,15	28 ±0,15	28 ±0,15
leading pockets	5	6	5	5
trailing pockets	6	7	6	6
pockets with components	150	240	150	150
cover tape	400	400	400	400

	All rights reserved	Created by	Inspected by	Standardisation	Date	State
	Department EC PD - DE	STORCK	LEHNERT	HOFFMANN	2017-04-12	Final Release
Title						Doc-Key / ECM-Nr. 100692769/UGD/000/C 500000118116
DIN signal female connector angled SMC, tape & reel						
HARTING Electronics GmbH D-32339 Espelkamp		Type	Number		Rev.	Page
		DS	09732230202		C	1/1