SEK 19 male angled LP solder pins

RoHS compliant

General information

Design	IEC 60603-13		
No. of contacts	6,10,14,16,20,26,30,34,40,50,60,64		
Contact spacing	2,54 mm x 2,54 mm		
Test voltage Ur.m.s	1 kV		
Working voltage	500 V for pullution degree 1		
Contact resistance	max. 20mOhm		
Insulation resistance	min. 10^9Ohm		
Working current acc. to IEC 60512-2	See derating diagram		
Temperature range	-55°C ... +125°C		
Termination technology	solder		
Clearance & creepage distance	min. 0,5 mm clearance min. 0,56 creepage		
Insertion and withdrawal forces	6-poles max. 12N for PL1-2 / 18N for PL3	; 26-poles max. 52N for PL1-2 / 78N for PL3	
	10-poles max. 20N for PL1-2 / 30N for PL3	; 34-poles max. 68N for PL1-2 / 102N for PL3	
	14-poles max. 28N for PL1-2 / 42 for PL3	; 40-poles max. 80N for PL1-2 / 120N for PL3	
	16-poles max. 32N for PL1-2 / 48N for PL3	; 50-poles max. 100N for PL1-2 / 150N for PL3	
	20-poles max. 40N for PL1-2 / 60N for PL3	; 60-poles max. 120N for PL1-2 / 180N for PL3	
		; 64-poles max. 128N for PL1-2 / 192N for PL3	
Mating cycles	S4 surface treatment	0,76 µm Au or PdNi equivalent	
	PL 1 acc. to IEC 60603-13	500 mating cycles	10 days gas test
	PL 2 acc. to IEC 60603-13	250 mating cycles	4 days gas test
	PL 3 acc. to IEC 60603-13	50 mating cycles	No gas test
UL file	No		
RoHS - compliant	Yes		
Leadfree	Yes		
Hot plugging	No		

Insulator material

Material	PCT (thermoplastics, glass fiber reinforcement 30%)
Color	Black (RAL 7001) or beige
UL classification	UL94-V0
Material group acc. IEC 60664-1	II (400 < CTI < 600)
NF F 16-101 classification	No

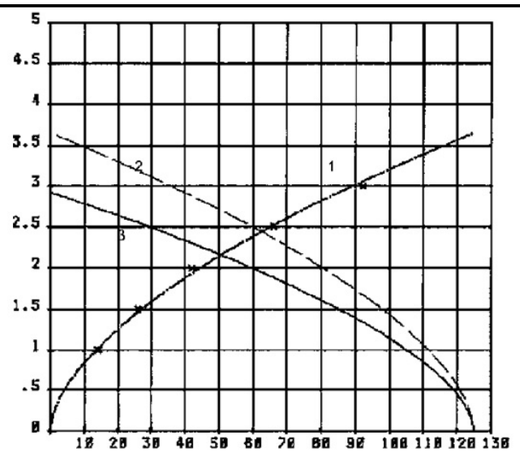
Contact material

Contact material	Copper alloy
Plating termination zone	Sn over Ni
Plating contact sliding side	Au or PdNi according to Performance level

Derating diagram acc to IEC 60512-2 (Current carrying capacity)

The current carrying capacity is ilmited by maximum temperature of materials for inserts and contacts including terminals.
The current capacity-curve is valid for continuous, not 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.

1) Temperature rise
2) Derating
3) Derating curve at I max x 0.8(IEC 60512-2)



Soldering instructions

SMC (Surface Mount Compatible) connectors are designed to be used in the reflow oven together with other SMD (Surface Mount Device) components. In this process, called as well "Pin in hole intrusive reflow", the connectors are inserted into plated through holes in a comparable way to conventional component mounting. All other components can be assembled on the PCB surface.

The length of the connector contacts should be such that they protrude by no more than 1,5 millimeters after insertion to the PCB. Each contact collects solder on its tip as it penetrates the solder paste in the hole,So if the contact is too long, this solder would no longer be able to reflow back into the plated throught hole by capillary action during the soldering process, therefore the quality of the soldered connection would suffer as a result.

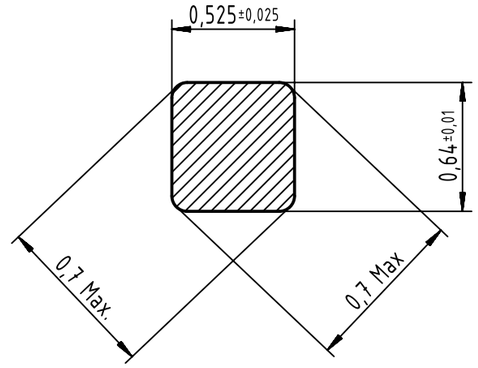
Quantity of solder paste

Before the components are assembled, solder paste must be applied to all solder pads (for connecting surface-mount components) and the plated through holes.
To ensure that tha plated through holes are completely filled, significatly more solder paste must ba apllied than traditionel solder pads on the PCB.
the following rule of thumb has proved valuable in practice:

Vpaste=2(VH-VP)
in which:
VPaste = Required volume of solder paste
VH= Volume of plated through hole
VP= Volume of the connector termination in the hole

comment: the multiplier "2" compensatesfor solder paste shrinkage during soldering, for this purpose, it was assumed that 50% of the paste consists of the actual solder, tha other 50% being soldering aids.

Cross section of solder terminations



All Dimensions in mm
Original Size DIN A3

Scale 1:1

Free size tol.

Ref.

Sub.

Department EC PD - FR

HARTING Electronics GmbH
D-32339 Espelkamp

Created by	Inspected by	Standardisation	Date	State
DOUGE	BAGDIKIAN	HOFFMANN	2014-10-10	Final Release

Title: SEK 19 male angled Low profile solder pins

Doc-Key / ECM-Nr.: 100555122/UGD/001/B 500000080387

Type: DS

Number: 09191230201

Rev.: B

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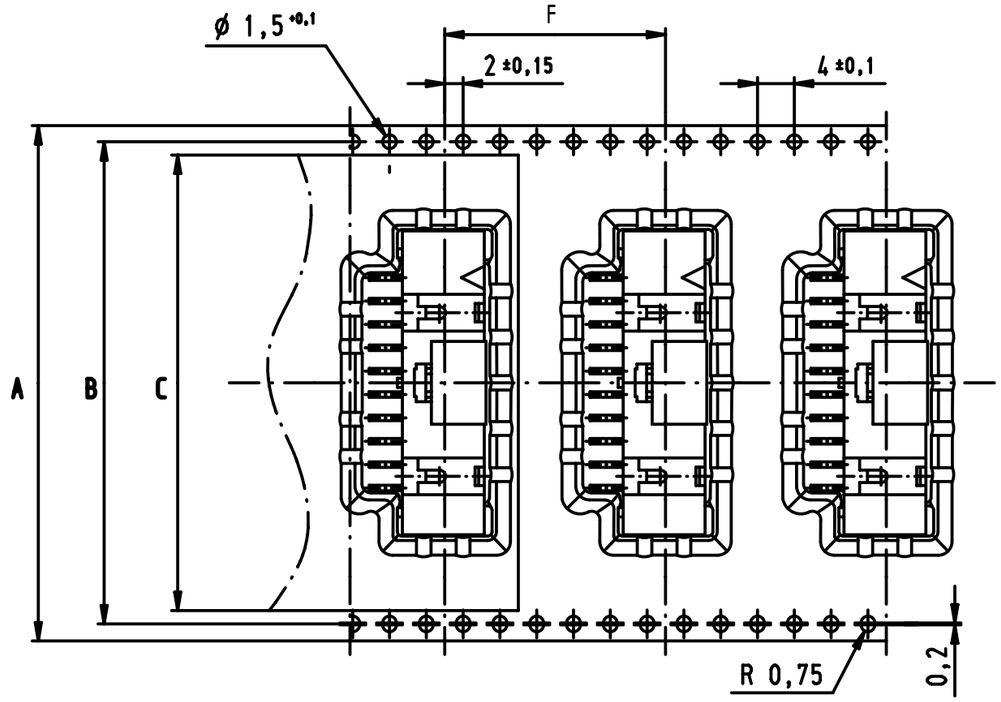
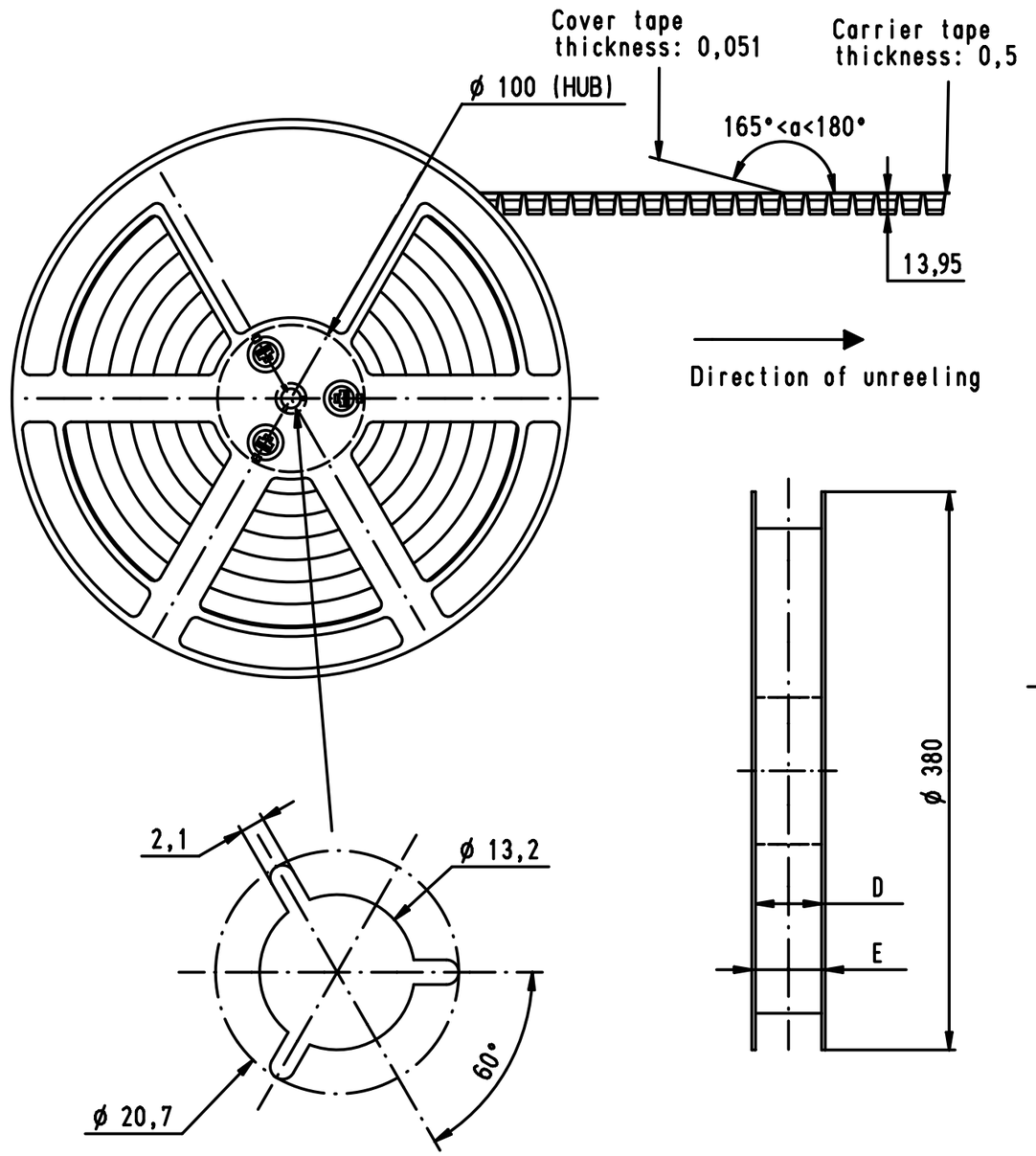
Tape layout & packaging



colour	Part number
beige	0919 5xx x32x 740
black	0919 5xx x32x 741

Pins	A	B	C	D	E	F	-Trailer- Nb of empty Cavities	Nb of Conn. per Reel	-Leader- Nb of empty Cavities
40	72	68,4	65,5	73	78	24	14	280	16
34	72	68,4	65,5	73	78	24	14	280	16
30	56	52,4	49,5	57	62	24	14	280	16
26	56	52,4	49,5	57	62	24	14	280	16
20	56	52,4	49,5	57	62	24	14	280	16
16	44	40,4	37,5	45	50	24	14	280	16
14	44	40,4	37,5	45	50	24	14	280	16
10	44	40,4	37,5	45	50	24	14	280	16
6	32	28,4	25,5	33	38	24	14	280	16

Reel dimension



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