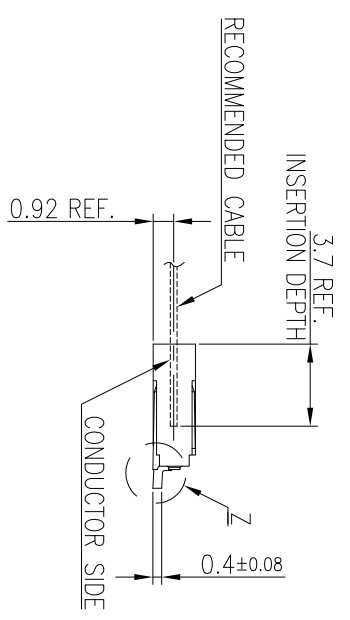
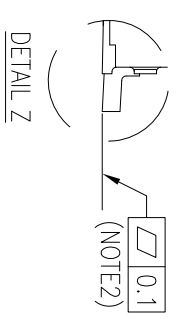
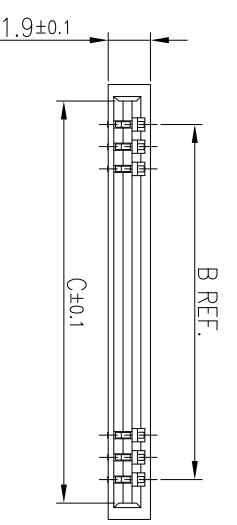
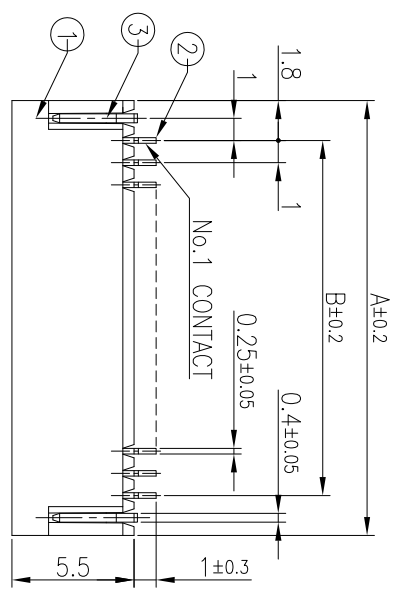


PRODUCT NO.
HFW_R-1ST___H1LF



MATERIAL TABLE

PT. NO.	PARTS NAME	MATERIAL	Q'TY	NOTE
1	HOUSING	LCP RESIN GLASS REINFORCED (UL94V-0)	1	COLOR : BLACK (HALOGEN FREE)
2	CONTACT		n	PLATING : SEE PLATING OPTION (LEAD FREE)
3	MOUNTING PLATE	PHOSPHOR BRONZE	2	PLATING : MATTE TIN 1.5um min (LEAD FREE) NICKEL UNDER PLATING 1.27um min.

n : NO. OF CONTACTS

- NOTES**
1. THIS PRODUCT IS THE LOWER CONTACT TYPE CONNECTOR DESIGNED TO TERMINATE FPC/FCC AND COPES WITH AUTOMATIC MOUNTING (SMT).
 2. FLATNESS OF CONTACT TERMINAL AND MOUNTING PLATE TO HOUSING MUST BE WITHIN TOLERANCE IN Z PORTION DETAILED DRAWING.
 3. THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS47-0004.
 4. THE HOUSING WILL WITHSTAND EXPOSURE TO 260°C PEAK TEMPERATURE FOR 10 SECONDS IN A REFLOW SOLDERING OVEN.
 5. CATALOG NUMBER STRUCTURE IS AS FOLLOWS.

SERIES NAME _____ HFW (n) R - 1 ST A ___ H1LF
 NO. OF CONTACT _____
 RIGHT ANGLE TYPE _____
 LOWER CONTACT TYPE FOR FPC/FCC _____
 FOR AUTOMATIC MOUNTING (SMT) _____
 PLATING OPTION _____
 1.27um min. Ni UNDER PLATING FOR ALL OPTIONS
 FINISH PLATING : REFER TO PLATING OPTION TABLE
 PACKAGING OPTION _____
 REFER TO SHEET2
 HALOGEN AND LEAD FREE _____

CAT. NO. & DIMENSIONS

NO. OF CONT (n)	CAT. NO.	DIMENSIONS		
		A	B	C
4	HFW4R-1ST___H1LF	6.6	3	5.14
5	HFW5R-1ST___H1LF	7.6	4	6.14
6	HFW6R-1ST___H1LF	8.6	5	7.14
7	HFW7R-1ST___H1LF	9.6	6	8.14
8	HFW8R-1ST___H1LF	10.6	7	9.14
9	HFW9R-1ST___H1LF	11.6	8	10.14
10	HFW10R-1ST___H1LF	12.6	9	11.14
11	HFW11R-1ST___H1LF	13.6	10	12.14
12	HFW12R-1ST___H1LF	14.6	11	13.14
13	HFW13R-1ST___H1LF	15.6	12	14.14
14	HFW14R-1ST___H1LF	16.6	13	15.14
15	HFW15R-1ST___H1LF	17.6	14	16.14
16	HFW16R-1ST___H1LF	18.6	15	17.14
17	HFW17R-1ST___H1LF	19.6	16	18.14
18	HFW18R-1ST___H1LF	20.6	17	19.14
19	HFW19R-1ST___H1LF	21.6	18	20.14
20	HFW20R-1ST___H1LF	22.6	19	21.14
21	HFW21R-1ST___H1LF	23.6	20	22.14
22	HFW22R-1ST___H1LF	24.6	21	23.14
23	HFW23R-1ST___H1LF	25.6	22	24.14
24	HFW24R-1ST___H1LF	26.6	23	25.14
25	HFW25R-1ST___H1LF	27.6	24	26.14
26	HFW26R-1ST___H1LF	28.6	25	27.14
27	HFW27R-1ST___H1LF	29.6	26	28.14
28	HFW28R-1ST___H1LF	30.6	27	29.14
29	HFW29R-1ST___H1LF	31.6	28	30.14
30	HFW30R-1ST___H1LF	32.6	29	31.14

PLATING OPTION TABLE

PRODUCT NUMBER	PLATING OPTION	CONTACT PLATING	TERMINAL PLATING
HFW_R-1ST___H1LF	BLANK	MATTE TIN : 2um min.	MATTE TIN : 2um min.
HFW_R-1STZ___H1LF	Z	MATTE THIN TIN PLATING	MATTE TIN : 1um min.
HFW_R-1STA___H1LF	A	GOLD : 0.3um min.	GOLD : 0.05um min.
HFW_R-1STB___H1LF	B	GOLD : 0.3um min.	MATTE TIN : 1um min.
HFW_R-1STG___H1LF	G	GOLD : 0.05um min. WITH Ni DAM	GOLD : 0.05um min.

mat'l. code	surface	tolerance	projection	product family
SEE TABLE	ISO 1302	ISO 406 ISO 1101	MM	58NF

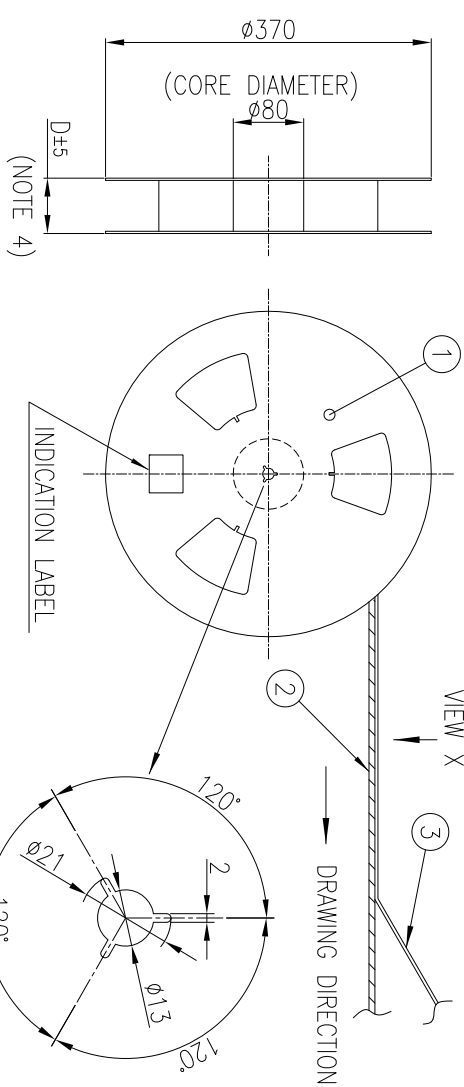
ltr	ecr	no	dr	date	tolerances unless otherwise specified	angles	linear	scale	file
A			S.W.	2018-10-18	0.X/±0.2		0.XXX/±0.2	3:1	1mm SPACING SMT CONNECTOR
B	ELX-J-32753	S.W.	S.W.	2019-02-22	0.XXX/±0.2		0.XXX/±0.2		(Cat. No. HFW_R-1ST___H1LF)

sheet index	revision	sheet	1	2	3	4	5	dwg no	sheet 1 of 5	size
	B	B	B	B	B	B	B	10149903		A3

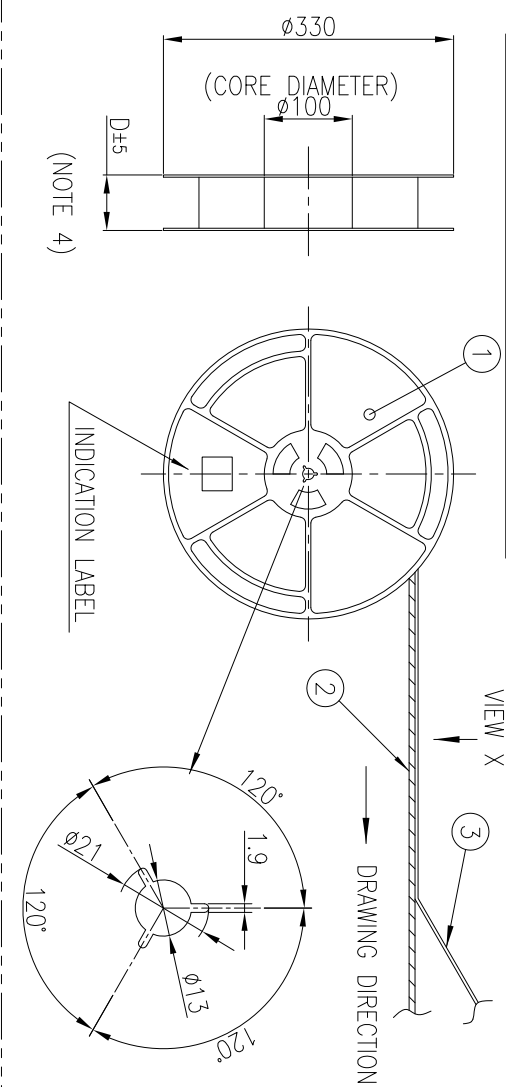
sheet index	revision	sheet	1	2	3	4	5	type	CUSTOMER DRAWING
	B	B	B	B	B	B	B		

PRODUCT NO.
HFW__R-1ST_E_H1LF

FOR E1 PACKAGING OPTION



FOR E5 AND E9 PACKAGING OPTION

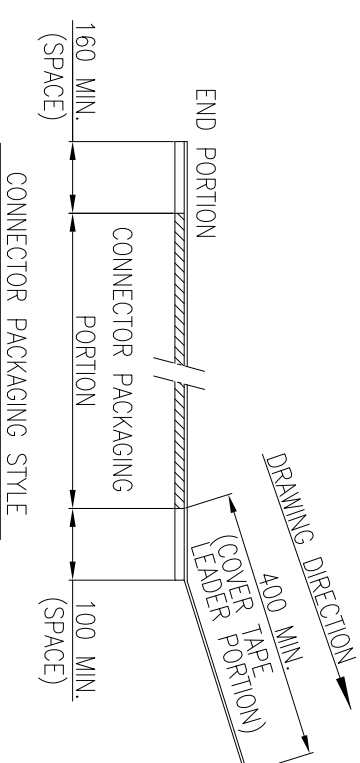
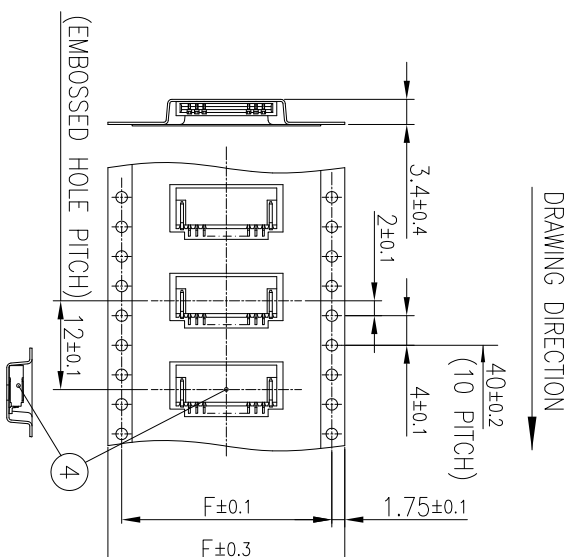


PRODUCT NUMBER	PACKAGING OPTION	REEL MATERIAL	REEL DIAMETER	CONNECTOR QUANTITY
HFW_R-1ST_E_H1LF	E1	CARDBOARD	φ370	2000 / REEL
HFW_R-1ST_E5H1LF	E5	PLASTIC	φ330	1500 / REEL
HFW_R-1ST_E9H1LF	E9	PLASTIC	φ330	500 / REEL

- NOTES
- THIS IS PLASTIC TAPE PACKAGED CONNECTOR DESIGNED TO TERMINATE FPC/FCC AND COPES WITH AUTOMATIC MOUNTING (SMT).
 - SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSSED) TAPE AND REEL.
 - D DIMENSION IS PORTION OF THE CORE.

CAT. NO. & DIMENSIONS

NO. OF CONT (n)	CAT. NO.	DIMENSIONS		
		D	E	F
4	HFW4R-1ST_E_H1LF	28.4	24	—
5	HFW5R-1ST_E_H1LF	28.4	24	—
6	HFW6R-1ST_E_H1LF	28.4	24	—
7	HFW7R-1ST_E_H1LF	28.4	24	—
8	HFW8R-1ST_E_H1LF	28.4	24	—
9	HFW9R-1ST_E_H1LF	28.4	24	—
10	HFW10R-1ST_E_H1LF	28.4	24	—
11	HFW11R-1ST_E_H1LF	28.4	24	—
12	HFW12R-1ST_E_H1LF	28.4	24	—
13	HFW13R-1ST_E_H1LF	28.4	24	—
14	HFW14R-1ST_E_H1LF	28.4	24	—
15	HFW15R-1ST_E_H1LF	36.4	32	28.4
16	HFW16R-1ST_E_H1LF	36.4	32	28.4
17	HFW17R-1ST_E_H1LF	36.4	32	28.4
18	HFW18R-1ST_E_H1LF	36.4	32	28.4
19	HFW19R-1ST_E_H1LF	48.4	44	40.4
20	HFW20R-1ST_E_H1LF	48.4	44	40.4
21	HFW21R-1ST_E_H1LF	48.4	44	40.4
22	HFW22R-1ST_E_H1LF	48.4	44	40.4
23	HFW23R-1ST_E_H1LF	48.4	44	40.4
24	HFW24R-1ST_E_H1LF	48.4	44	40.4
25	HFW25R-1ST_E_H1LF	48.4	44	40.4
26	HFW26R-1ST_E_H1LF	48.4	44	40.4
27	HFW27R-1ST_E_H1LF	48.4	44	40.4
28	HFW28R-1ST_E_H1LF	48.4	44	40.4
29	HFW29R-1ST_E_H1LF	48.4	44	40.4
30	HFW30R-1ST_E_H1LF	60.4	56	52.4

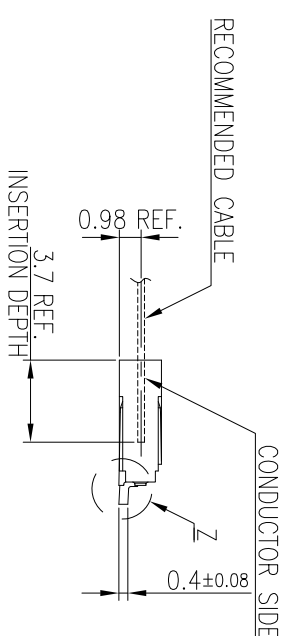
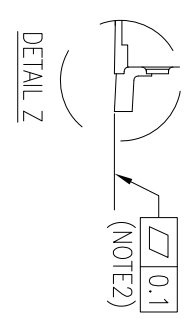
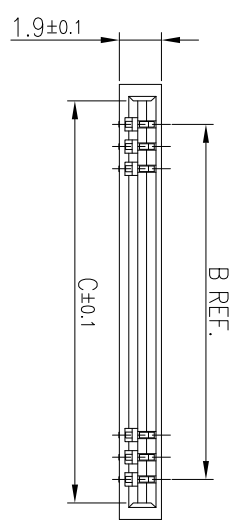
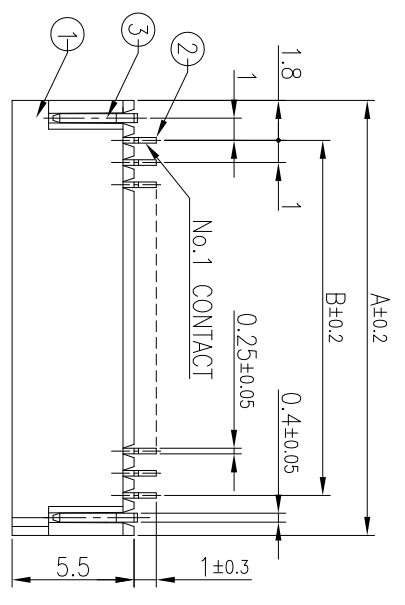


MATERIAL TABLE

PT. NO.	PARTS NAME	CAT. NO.	MATERIAL	COLOR
1	REEL	—	CARDBOARD POLYSTYRENE	WHITE BLACK
2	EMBOSS TAPE	—	PS or A-PET	TRANSPARENT
3	COVER TAPE	—	△ POLYESTER, POLYETHYLENE	TRANSPARENT
4	CONNECTOR	HFW_R-1ST__H1LF	SEE SHEET 1	—

mat'l. code		surface		tolerance		projection		product family	
SEE_TABLE		ISO 1302		ISO 406 ISO 1101		MM		58NF	
ltr	ecr no	dr	date	tolerances unless otherwise specified		MM		title	
B				angles	0.X/±0.5	←		1mm SPACING SMT CONNECTOR	
				linear	0.XXX/±0.5	→		(Cat.No. HFW__R-1ST_E_H1LF)	
				0°±5°	0.XXX/±0.5	scale N/A		dwg no	
				dr	S.WATANABE	2019-02-22		sheet 2 of 5	
				engr	S.WATANABE	2019-02-22		size	
				chr	S-H,THO	2019-02-25		A3	
				dppd	Y.KAMEDA	2019-02-25		CUSTOMER DRAWING	
sheet	revision								
index	sheet								

PRODUCT NO.
HFW_R-2ST___H1LF



CAT. NO. & DIMENSIONS

NO. OF CONT (n)	CAT. NO.	DIMENSIONS		
		A	B	C
4	HFW4R-2ST___H1LF	6.6	3	5.14
5	HFW5R-2ST___H1LF	7.6	4	6.14
6	HFW6R-2ST___H1LF	8.6	5	7.14
7	HFW7R-2ST___H1LF	9.6	6	8.14
8	HFW8R-2ST___H1LF	10.6	7	9.14
9	HFW9R-2ST___H1LF	11.6	8	10.14
10	HFW10R-2ST___H1LF	12.6	9	11.14
11	HFW11R-2ST___H1LF	13.6	10	12.14
12	HFW12R-2ST___H1LF	14.6	11	13.14
13	HFW13R-2ST___H1LF	15.6	12	14.14
14	HFW14R-2ST___H1LF	16.6	13	15.14
15	HFW15R-2ST___H1LF	17.6	14	16.14
16	HFW16R-2ST___H1LF	18.6	15	17.14
17	HFW17R-2ST___H1LF	19.6	16	18.14
18	HFW18R-2ST___H1LF	20.6	17	19.14
19	HFW19R-2ST___H1LF	21.6	18	20.14
20	HFW20R-2ST___H1LF	22.6	19	21.14
21	HFW21R-2ST___H1LF	23.6	20	22.14
22	HFW22R-2ST___H1LF	24.6	21	23.14
23	HFW23R-2ST___H1LF	25.6	22	24.14
24	HFW24R-2ST___H1LF	26.6	23	25.14
25	HFW25R-2ST___H1LF	27.6	24	26.14
26	HFW26R-2ST___H1LF	28.6	25	27.14
27	HFW27R-2ST___H1LF	29.6	26	28.14
28	HFW28R-2ST___H1LF	30.6	27	29.14
29	HFW29R-2ST___H1LF	31.6	28	30.14
30	HFW30R-2ST___H1LF	32.6	29	31.14

MATERIAL TABLE

PT. NO.	PARTS NAME	MATERIAL	Q'TY	NOTE
1	HOUSING	LCP RESIN GLASS REINFORCED (UL94V-0)	1	COLOR : BLACK (HALOGEN FREE)
2	CONTACT		n	PLATING : SEE PLATING OPTION (LEAD FREE)
3	MOUNTING PLATE	PHOSPHOR BRONZE	2	PLATING : MATTE TIN 1.5um min. (LEAD FREE) NICKEL UNDER PLATING 1.27um min.

n : NO. OF CONTACTS

NOTES

- THIS PRODUCT IS THE UPPER CONTACT TYPE CONNECTOR DESIGNED TO TERMINATE FPC/FCC AND COPES WITH AUTOMATIC MOUNTING (SMT).
- FLATNESS OF CONTACT TERMINAL AND MOUNTING PLATE TO HOUSING MUST BE WITHIN TOLERANCE IN Z PORTION DETAILED DRAWING.
- THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS47-0004.
- THE HOUSING WILL WITHSTAND EXPOSURE TO 260°C PEAK TEMPERATURE FOR 10 SECONDS IN A REFLOW SOLDERING OVEN.
- CATALOG NUMBER STRUCTURE IS AS FOLLOWS.

SERIES NAME _____ HFW (n) R - 2 ST A ___ H1LF
 NO. OF CONTACT _____
 RIGHT ANGLE TYPE _____
 UPPER CONTACT TYPE FOR FPC/FCC _____
 FOR AUTOMATIC MOUNTING (SMT) _____
 PLATING OPTION _____
 1.27um min. Ni UNDER PLATING FOR ALL OPTIONS
 FINISH PLATING : REFER TO PLATING OPTION TABLE
 PACKAGING OPTION _____
 REFER TO SHEET4
 HALOGEN AND LEAD FREE _____

PLATING OPTION TABLE

PRODUCT NUMBER	PLATING OPTION	CONTACT PLATING	TERMINAL PLATING
HFW_R-2ST___H1LF	BLANK	MATTE TIN : 2um min.	MATTE TIN : 2um min.
HFW_R-2STZ___H1LF	Z	MATTE THIN TIN PLATING	MATTE TIN : 1um min.
HFW_R-2STA___H1LF	A	GOLD : 0.3um min.	GOLD : 0.05um min.
HFW_R-2STB___H1LF	B	GOLD : 0.3um min.	MATTE TIN : 1um min.
HFW_R-2STG___H1LF	G	GOLD : 0.05um min. WITH Ni DAM	GOLD : 0.05um min.

mat'l. code		SEE TABLE		surface	tolerance	projection	product family	
ltr	ecr	no	dr	date	ISO 1302	ISO 406	ISO 1101	58NF
B					tolerances unless otherwise specified	angles linear	0.X/±0.2	1mm SPACING SMT CONNECTOR
					0°±2°	linear	0.XXX/±0.2	(Cat. No. HFW_R-2ST___H1LF)
					dr	S.WATANABE	2019-02-22	sheet 3 of 5
					engr	S.WATANABE	2019-02-22	size
					chr	S-H.THO	2019-02-25	A3
					dppd	Y.KAMEDA	2019-02-25	CUSTOMER DRAWING
sheet index	revision	sheet						

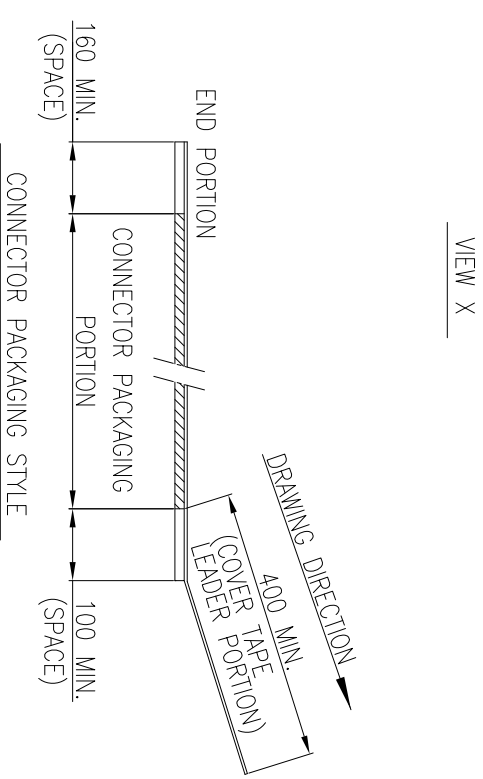
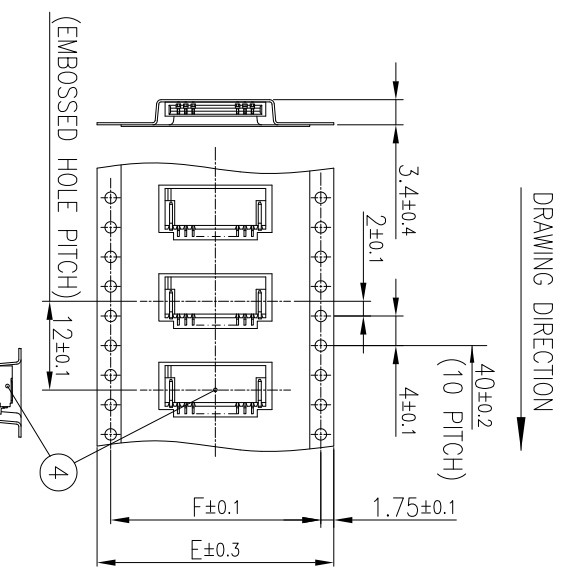
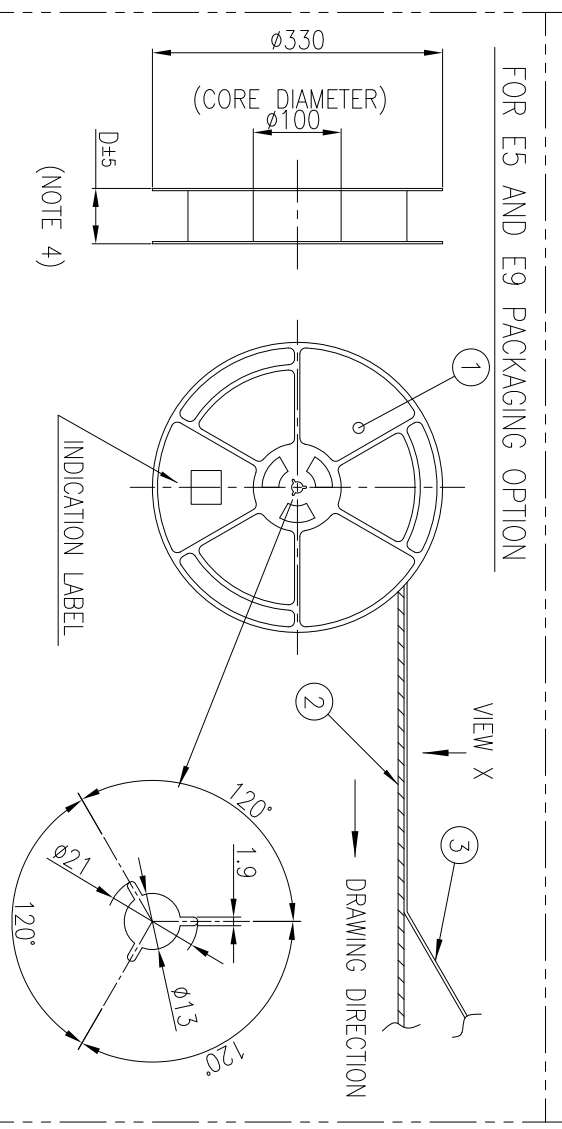
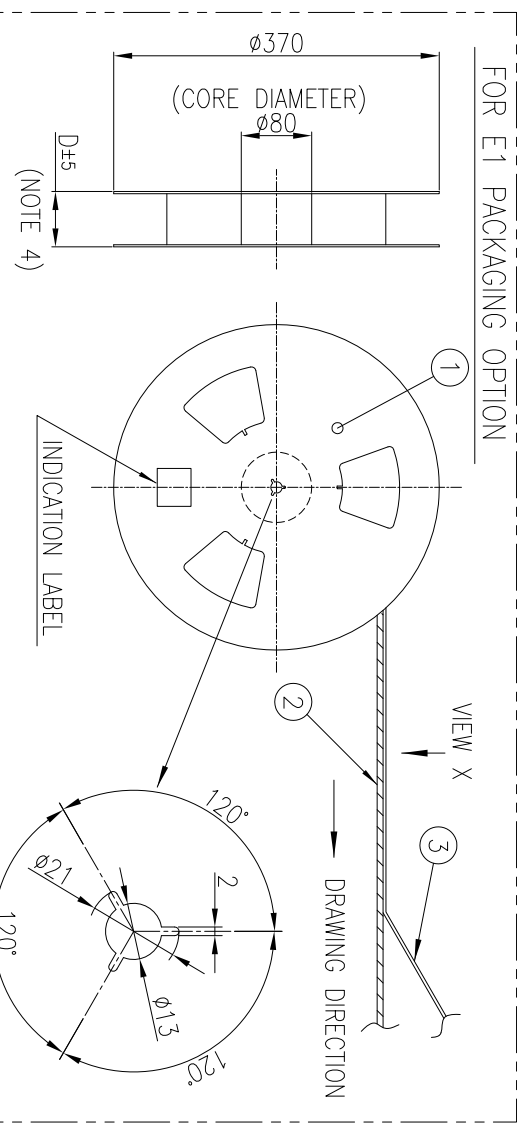


PRODUCT NO.
HFW__R-2ST_E_H1LF

1 | 2 | 3 | 4 | 5 | 6

CAT. NO. & DIMENSIONS

NO. OF CONT (n)	CAT. NO.	DIMENSIONS		
		D	E	F
4	HFW4R-2ST_E_H1LF	28.4	24	—
5	HFW5R-2ST_E_H1LF	28.4	24	—
6	HFW6R-2ST_E_H1LF	28.4	24	—
7	HFW7R-2ST_E_H1LF	28.4	24	—
8	HFW8R-2ST_E_H1LF	28.4	24	—
9	HFW9R-2ST_E_H1LF	28.4	24	—
10	HFW10R-2ST_E_H1LF	28.4	24	—
11	HFW11R-2ST_E_H1LF	28.4	24	—
12	HFW12R-2ST_E_H1LF	28.4	24	—
13	HFW13R-2ST_E_H1LF	28.4	24	—
14	HFW14R-2ST_E_H1LF	28.4	24	—
15	HFW15R-2ST_E_H1LF	36.4	32	28.4
16	HFW16R-2ST_E_H1LF	36.4	32	28.4
17	HFW17R-2ST_E_H1LF	36.4	32	28.4
18	HFW18R-2ST_E_H1LF	36.4	32	28.4
19	HFW19R-2ST_E_H1LF	48.4	44	40.4
20	HFW20R-2ST_E_H1LF	48.4	44	40.4
21	HFW21R-2ST_E_H1LF	48.4	44	40.4
22	HFW22R-2ST_E_H1LF	48.4	44	40.4
23	HFW23R-2ST_E_H1LF	48.4	44	40.4
24	HFW24R-2ST_E_H1LF	48.4	44	40.4
25	HFW25R-2ST_E_H1LF	48.4	44	40.4
26	HFW26R-2ST_E_H1LF	48.4	44	40.4
27	HFW27R-2ST_E_H1LF	48.4	44	40.4
28	HFW28R-2ST_E_H1LF	48.4	44	40.4
29	HFW29R-2ST_E_H1LF	48.4	44	40.4
30	HFW30R-2ST_E_H1LF	60.4	56	52.4



MATERIAL TABLE

PT. NO.	PARTS NAME	CAT. NO.	MATERIAL	COLOR
1	REEL	—	CARDBOARD POLYSTYRENE	WHITE BLACK
2	EMBOSS TAPE	—	PS or A-PET	TRANSPARENT
3	COVER TAPE	—	POLYESTER, POLYETHYLENE	TRANSPARENT
4	CONNECTOR	HFW_R-2ST__H1LF	SEE SHEET 3	

PACKAGING OPTION TABLE

PRODUCT NUMBER	PACKAGING OPTION	REEL MATERIAL	REEL DIAMETER	CONNECTOR QUANTITY
HFW_R-2ST_E1H1LF	E1	CARDBOARD	φ370	2000 / REEL
HFW_R-2ST_E5H1LF	E5	PLASTIC	φ330	1500 / REEL
HFW_R-2ST_E9H1LF	E9	PLASTIC	φ330	500 / REEL

- NOTES
- THIS IS PLASTIC TAPE PACKAGED CONNECTOR DESIGNED TO TERMINATE FPC/FCC AND COPES WITH AUTOMATIC MOUNTING (SMT).
 - SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSSED) TAPE AND REEL.
 - D DIMENSION IS PORTION OF THE CORE.

mat'l. code	SEE TABLE	surface	tolerance	projection	product family
ltr	ecn no	dr	date	ISO 1302	58NF
B				ISO 406	
				ISO 1101	
				tolerances unless otherwise specified	
				angles	
				linear	
				0°±5°	
				0.XX/±0.5	
				0.XXX/±0.5	
				scale N/A	
				dr	S.WATANABE
				engr	S.WATANABE
				chr	S-H,THO
				dppd	Y.KAMEDA
					2019-02-22
					2019-02-22
					2019-02-25
					2019-02-25
sheet	revision				
index	sheet				

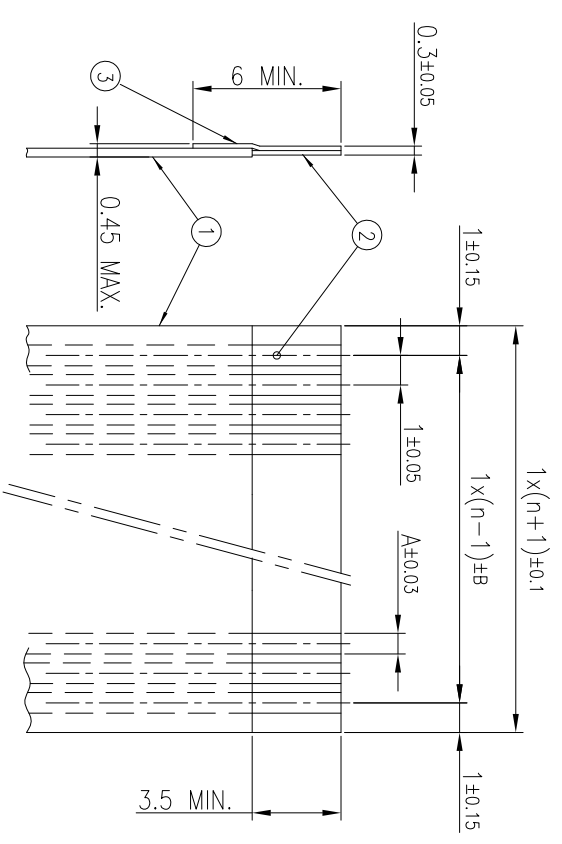
title	product family	dwg no	sheet 4 of 5	size
1mm SPACING SMT CONNECTOR (Cat.No. HFW__R-2ST_E_H1LF)	58NF	10149903		A3
				CUSTOMER DRAWING



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form: A3-2016-02-24 1 | 2 | 3 | 4 | 5 | 6

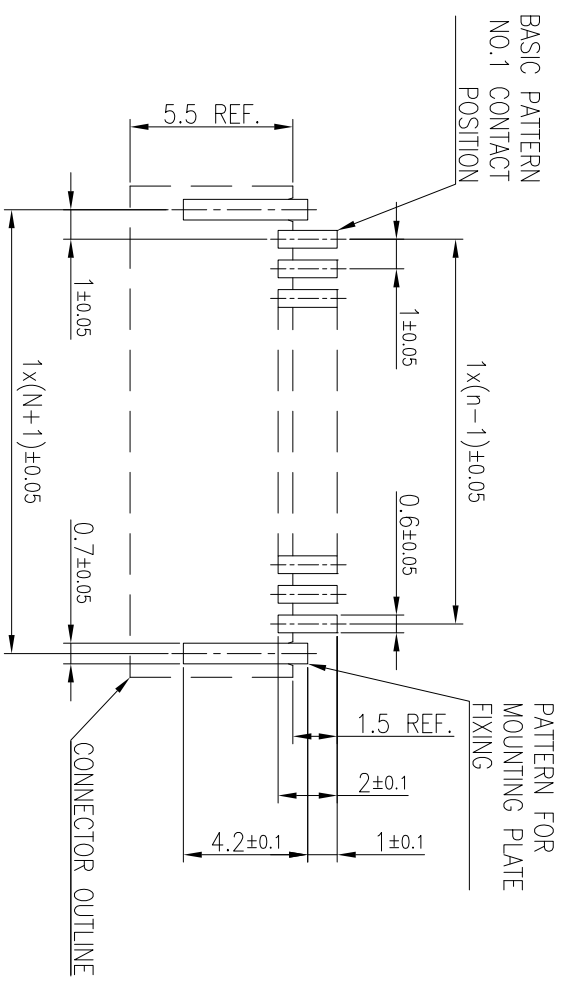
RECOMMENDED CABLE (FFC)
(NOTE1, NOTE2)



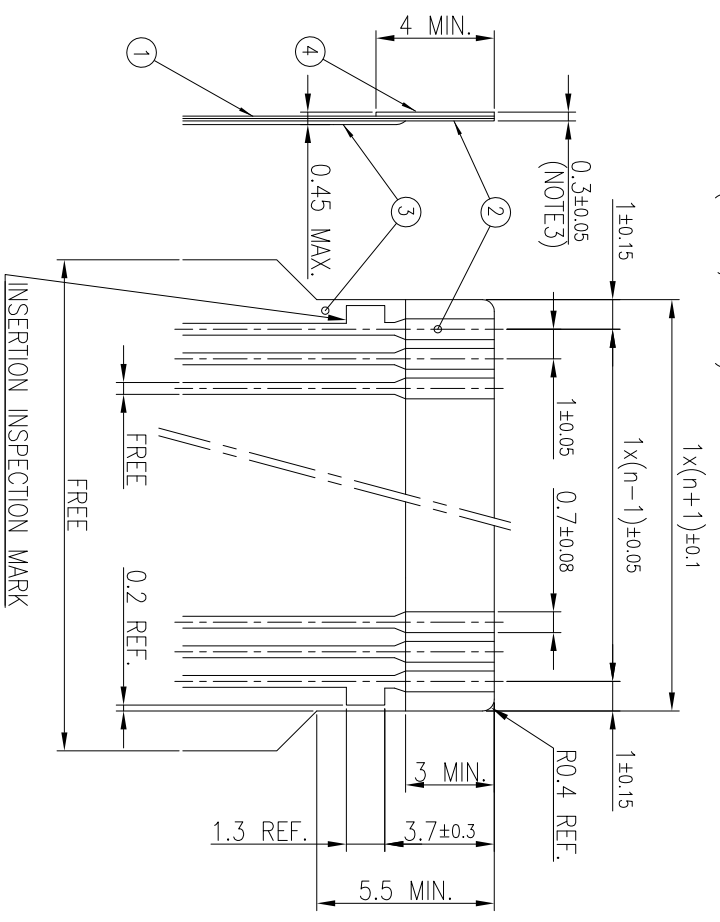
(NOTE4) DIMENSION A	TOLERANCE B
1	0.7
2	0.6
	0.07

PT. NO.	DESCRIPTION	MATERIAL
1	INSULATOR	FLAME RESISTING POLYESTER OR EQUIVALENT
2	CONDUCTOR	COPPER FOIL (PLATING : TIN OR GOLD) (NOTES)
3	SUPPORTING TAPE	FLAME RESISTING POLYESTER OR EQUIVALENT

RECOMMENDED PC BOARD LAYOUT
(COMPONENT SIDE)



RECOMMENDED CABLE (FPC)
(NOTE1, NOTE2)



PT. NO.	DESCRIPTION	MATERIAL	THICKNESS (um)
1	BASE FILM	POLYIMIDE OR POLYESTER OR EQUIVALENT	25
2	CONDUCTOR	COPPER FOIL (PLATING : TIN OR GOLD) (NOTES)	35
3	OVERLAY	POLYIMIDE OR POLYESTER OR EQUIVALENT	—
4	SUPPORTING TAPE	POLYESTER OR POLYIMIDE OR EQUIVALENT	188

NOTES

1. NO BURR AT EACH PORTION.
2. NO PEELING IN COMMON USE.
3. TOTAL THICKNESS LIMIT OF EACH MATERIAL (INCLUDING ADHESIVE AGENT) IS SPECIFIED.
4. BOTH COMBINATIONS ARE ALLOWED.
5. FINISH PLATING OF CABLE CONDUCTOR AND CONTACT SHOULD BE MATCHED.

mat'l. code	SEE TABLE	surface	ISO 1302	tolerance	ISO 406 ISO 1101	projection	MM	product family	58NF
ltr ecn no	dr	date	tolerances unless otherwise specified	angles	linear	0.X/±0.3	0.XXX/±0.3	title	RECOMMENDED CABLE AND PCB (Cat. No. HFW_R-1/2ST_E_H1LF)
B			0°±2°	0.0XX/±0.3	0.0XXX/±0.3	scale	4:1	dwg no	10149903
								sheet 5 of 5	A3
								type	CUSTOMER DRAWING
sheet index	revision sheet								