

CAT. NO. & DIMENSIONS

(NOTE3)	NO. OF CONTACTS (n)	CAT. NO.	DIMENSIONS (NOTE2)		
			A ± 0.2	B ± 0.2	C ± 0.1
	4	HFW4R-1/2ST__LF	6.6	3	5.14
	5	HFW5R-1/2ST__LF	7.6	4	6.14
	6	HFW6R-1/2ST__LF	8.6	5	7.14
	7	HFW7R-1/2ST__LF	9.6	6	8.14
	8	HFW8R-1/2ST__LF	10.6	7	9.14
	9	HFW9R-1/2ST__LF	11.6	8	10.14
	10	HFW10R-1/2ST__LF	12.6	9	11.14
	11	HFW11R-1/2ST__LF	13.6	10	12.14
	12	HFW12R-1/2ST__LF	14.6	11	13.14
	13	HFW13R-1/2ST__LF	15.6	12	14.14
	14	HFW14R-1/2ST__LF	16.6	13	15.14
	15	HFW15R-1/2ST__LF	17.6	14	16.14
	16	HFW16R-1/2ST__LF	18.6	15	17.14
	17	HFW17R-1/2ST__LF	19.6	16	18.14
	18	HFW18R-1/2ST__LF	20.6	17	19.14
	19	HFW19R-1/2ST__LF	21.6	18	20.14
	20	HFW20R-1/2ST__LF	22.6	19	21.14
	21	HFW21R-1/2ST__LF	23.6	20	22.14
	22	HFW22R-1/2ST__LF	24.6	21	23.14
	23	HFW23R-1/2ST__LF	25.6	22	24.14
	24	HFW24R-1/2ST__LF	26.6	23	25.14
	25	HFW25R-1/2ST__LF	27.6	24	26.14
	26	HFW26R-1/2ST__LF	28.6	25	27.14
	27	HFW27R-1/2ST__LF	29.6	26	28.14
*	28	HFW28R-1/2ST__LF	30.6	27	29.14
*	29	HFW29R-1/2ST__LF	31.6	28	30.14
	30	HFW30R-1/2ST__LF	32.6	29	31.14

CAT. NO. HFW (n) R - 1 ST __ LF

SERIES HFW

NO. OF CONTACTS (n)

RIGHT ANGLE TYPE R

FOR FPC/FFC, CONTACT DIRECTION - 1

1. LOWER CONTACT TYPE

2. UPPER CONTACT TYPE

FOR AUTOMATIC MOUNTING (SMT) ST

PACKAGE STYLE __

LEAD FREE LF

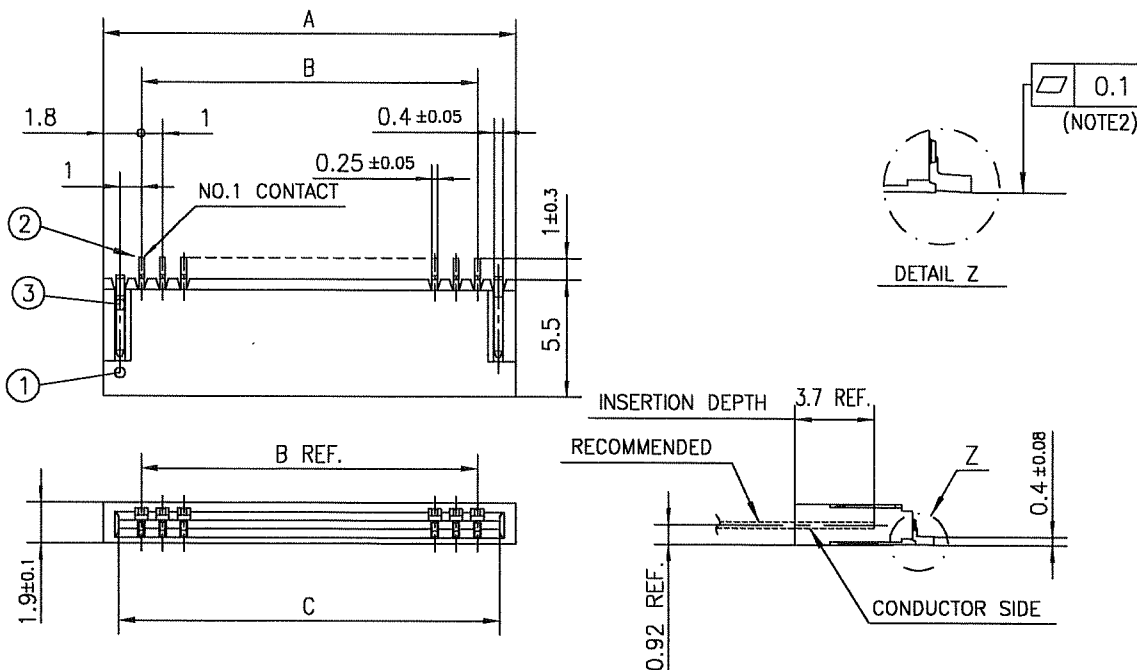
NOTES

- THIS PRODUCT IS THE CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND COPE WITH AUTOMATIC MOUNTING (SMT).
- SEE PART DRAWINGS FOR DIMENSIONS A~C.
- PLEASE CONSULT US IN CASE OF USING PARTS WITH * MARK.

mat'l. code				surface 58 / ISO 1302		tolerance ISO 406 / ISO 1101		projection		product family 58NF		CODE JP
ltr	ecn no	dr	date	tolerances, unless otherwise specified				mm		title		
A	J04-0027	H.T	4/6/04	angles linear				mm		CAT. NO. TABLE FOR 1mm SPACING SMT CONNECTOR (Cat. No. HFW__R-1/2ST__LF)		
B	J05-0056	H.T	2/4/05					scale X				
C	J06-0413	H.T	10/4/06									
				dr	10/14/06		FCI		dwg no		sheet 1 of 1	size
				enr	10/14/06				JSA 95923			A4
				chr	10/12/06				type		Product Customer Drawing	
				appd	10/12/06							
sheet index	revision	C										Rev. C
	sheet	1										

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PT. NO.	PARTS NAME	MATERIAL	Q'TY	NOTE
1	HOUSING	PA6T RESIN GLASS REINFORCED (UL94V-0)	1	COLOR:BLACK
2	CONTACT	PHOSPHOR BRONZE	n	PLATING:TIN
3	MOUNTING PLATE		2	(LEAD FREE)

n : NO. OF CONTACTS

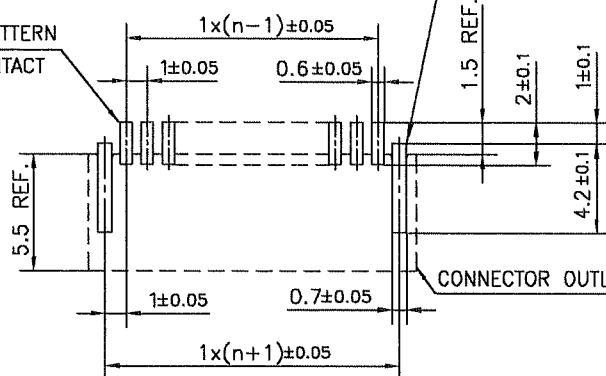
NOTES

1. THIS PRODUCT IS THE CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND COTES WITH AUTOMATIC MOUNTING (SMT).
2. FLATNESS OF CONTACT TERMINAL FOR HOUSING MUST BE WITHIN TOLERANCE IN Z PORTION DETAILED DRAWING.
3. THIS PRODUCT IS LOWER CONTACT TYPE CONNECTOR.
4. THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008
5. THE HOUSING WILL WITHSTAND EXPOSURE TO 260°C PEAK TEMPERATURE FOR 10 SECONDS IN A REFLOW SOLDERING OVEN.

RECOMMENDED PC BOARD LAYOUT (COMPONENT SIDE)

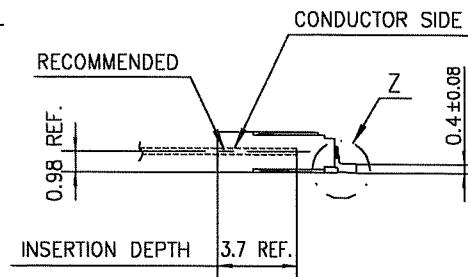
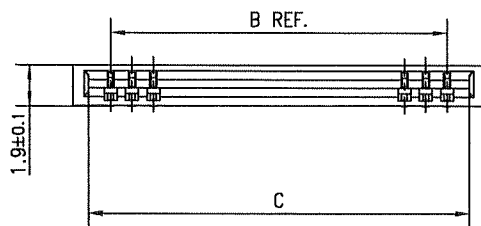
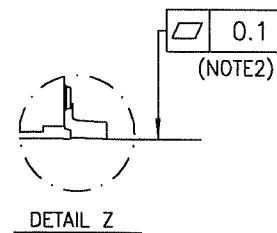
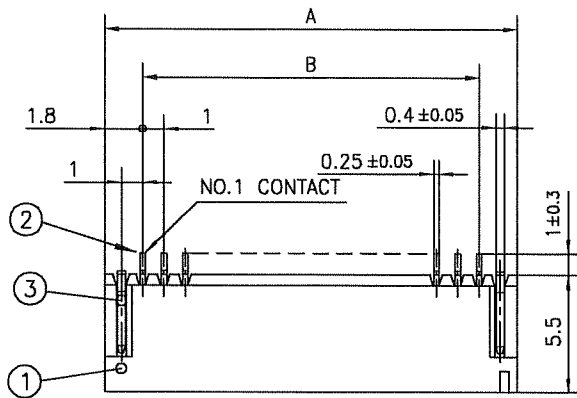
BASIC PATTERN

NO.1 CONTACT POSITION



mat'l. code				surface 58	tolerance ISO 406	projection	product family 58NF	CODE JP
ltr	ecn no	dr	date	ISO 1302	ISO 1101		title 1mm SPACING SURFACE MOUNT FPC/FFC CONNECTOR (Cat.No. HFW__R-1ST__LF)	sheet 1 of 1 size A4
A	J04-0027	H.T	4/6/'04	tolerances, unless otherwise specified		mm		
B	J05-0056	H.T	2/4/'05	angles	linear	mm		
C	J05-0732	H.T	10/28/'05			scale X		
D	J06-0413	H.T	10/4/'06	dr	10/14/'06			
				enr	10/14/'06		dwg no JSA 95924	type Product Customer Drawing
				chr	10/14/'06			
				appd	10/14/'06			
sheet index	revision	D						Rev. D
	sheet	1						

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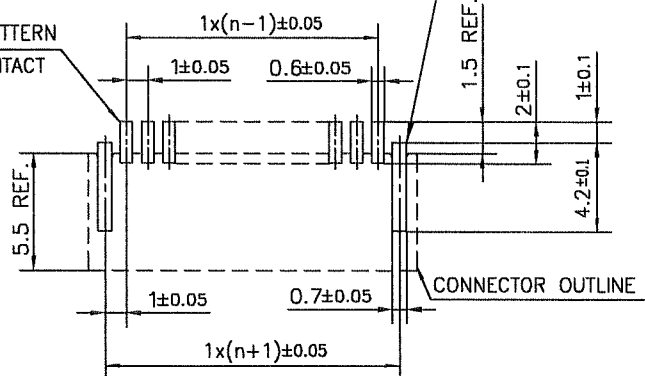


PT. NO.	PARTS NAME	MATERIAL	Q'TY	NOTE
1	HOUSING	PA6T RESIN GLASS REINFORCED (UL94V-0)	1	COLOR:BLACK
2	CONTACT	PHOSPHOR BRONZE	n	PLATING:TIN
3	MOUNTING PLATE		2	(LEAD FREE)

n : NO. OF CONTACTS

RECOMMENDED PC BOARD LAYOUT
(COMPONENT SIDE)

BASIC PATTERN
NO.1 CONTACT
POSITION



NOTES

1. THIS PRODUCT IS THE CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND COPE WITH AUTOMATIC MOUNTING (SMT).
2. FLATNESS OF CONTACT TERMINAL FOR HOUSING MUST BE WITHIN TOLERANCE IN Z PORTION DETAILED DRAWING.
3. THIS PRODUCT IS UPPER CONTACT TYPE CONNECTOR.
4. THIS PRODUCT MEETS EUROPEAN UNION DIRECTIVES AND OTHER COUNTRY REGULATIONS AS DESCRIBED IN GS-22-008
5. THE HOUSING WILL WITHSTAND EXPOSURE TO 260°C PEAK TEMPERATURE FOR 10 SECONDS IN A REFLOW SOLDERING OVEN.

mat'l. code				surface 58 / tolerance ISO 1302 ✓ ISO 406 ISO 1101		projection		product family 58NF		CODE JP	
ltr	ecn no	dr	date	tolerances unless otherwise specified		mm		title			
A	J04-0027	H.T	4/6/'04	angles	linear	mm		1mm SPACING SURFACE MOUNT FPC/FFC CONNECTOR (Cat. No. HFW__R-2ST__LF)			
B	J05-0056	H.T	2/4/'05			scale		dwg no sheet 1 of 1 size			
C	J05-0732	H.T	10/28/'05			X		JSA 95925 A4			
D	J06-0413	H.T	10/4/'06	dr	12/14/06	FCI		type Product Customer Drawing			
				enr	10/10/06						
				chr	10/12/06						
				appd	10/12/06						
sheet index	revision	D									Rev. D
	sheet	1									

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CAT. NO. & DIMENSIONS

(NOTE4)	NO. OF CONTACTS (n)	CAT. NO. (NOTE2)	DIMENSIONS (NOTE3)		
			E ± 5	F ± 0.3	G ± 0.1
	4	HFW4R-1/2STE1LF	28.4	24	—
	5	HFW5R-1/2STE1LF	28.4	24	—
	6	HFW6R-1/2STE1LF	28.4	24	—
	7	HFW7R-1/2STE1LF	28.4	24	—
	8	HFW8R-1/2STE1LF	28.4	24	—
	9	HFW9R-1/2STE1LF	28.4	24	—
	10	HFW10R-1/2STE1LF	28.4	24	—
	11	HFW11R-1/2STE1LF	28.4	24	—
	12	HFW12R-1/2STE1LF	28.4	24	—
	13	HFW13R-1/2STE1LF	28.4	24	—
	14	HFW14R-1/2STE1LF	28.4	24	—
	15	HFW15R-1/2STE1LF	36.4	32	28.4
	16	HFW16R-1/2STE1LF	36.4	32	28.4
	17	HFW17R-1/2STE1LF	36.4	32	28.4
	18	HFW18R-1/2STE1LF	36.4	32	28.4
	19	HFW19R-1/2STE1LF	48.4	44	40.4
	20	HFW20R-1/2STE1LF	48.4	44	40.4
	21	HFW21R-1/2STE1LF	48.4	44	40.4
	22	HFW22R-1/2STE1LF	48.4	44	40.4
	23	HFW23R-1/2STE1LF	48.4	44	40.4
	24	HFW24R-1/2STE1LF	48.4	44	40.4
	25	HFW25R-1/2STE1LF	48.4	44	40.4
	26	HFW26R-1/2STE1LF	48.4	44	40.4
	27	HFW27R-1/2STE1LF	48.4	44	40.4
*	28	HFW28R-1/2STE1LF	48.4	44	40.4
*	29	HFW29R-1/2STE1LF	48.4	44	40.4
	30	HFW30R-1/2STE1LF	60.4	56	52.4

CAT. NO.

HFW (n) R - 1 ST E1 LF

SERIES

NO. OF CONTACTS

RIGHT ANGLE TYPE

FOR FPC/FFC, CONTACT DIRECTION

1. LOWER CONTACT TYPE
2. UPPER CONTACT TYPE

FOR AUTOMATIC MOUNTING (SMT)

TAPE PACKAGING

LEAD FREE

NOTES

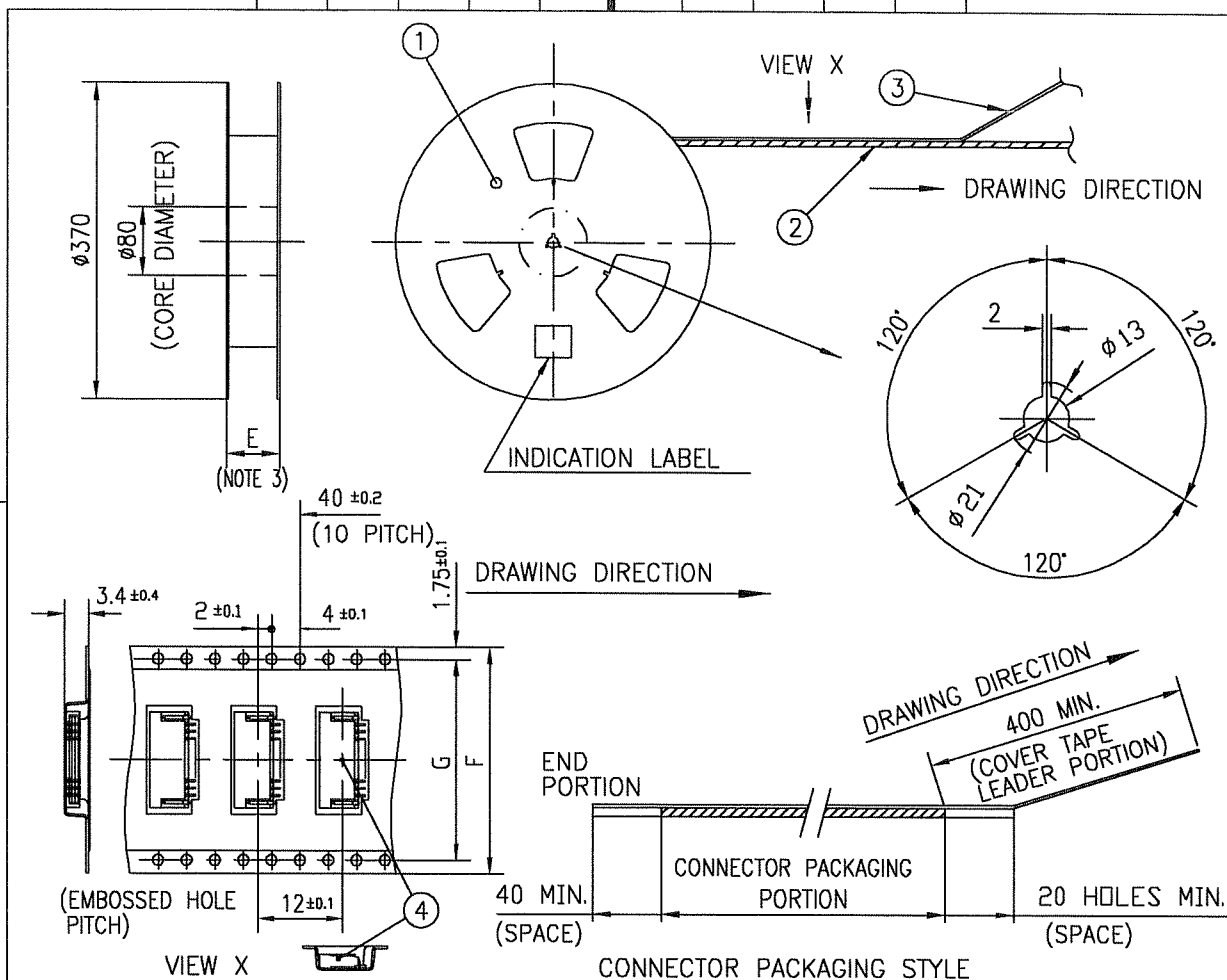
1. THIS PRODUCT IS THE CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND COPE WITH AUTOMATIC MOUNTING (SMT).
2. THIS CATALOG NO. INDICATES PLASTIC TAPE PACKAGED CONNECTOR.
3. SEE PART DRAWINGS FOR DIMENSIONS E~G.
4. PLEASE CONSULT US IN CASE OF USING PARTS WITH * MARK.

mat'l. code				surface 58/ISO 1302 ✓		tolerance ISO 406 ISO 1101		projection		product family 58NF		CODE JP	
ltr	ecn no	dr	date	tolerances, unless otherwise specified				mm		title			
A	J04-0027	H.T	4/6/04	angles linear				mm		CAT. NO. TABLE FOR PLASTIC TAPE PACKAGED 1mm SPACING SMT CONN. (Cat.No. HFW__R-1/2STE1LF)			
B	J05-0056	H.T	2/4/05										
C	J06-0413	H.T	10/4/06					scale X					
				dr	10/4/06		FCJ		dwg no		sheet 1 of 1		size
				enrg	10/4/06				JSA 95926				A4
				chr	10/12/06				type		Product Customer Drawing		
				appd	10/12/06								
sheet index	revision	C											Rev. C
	sheet	1											

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1

2



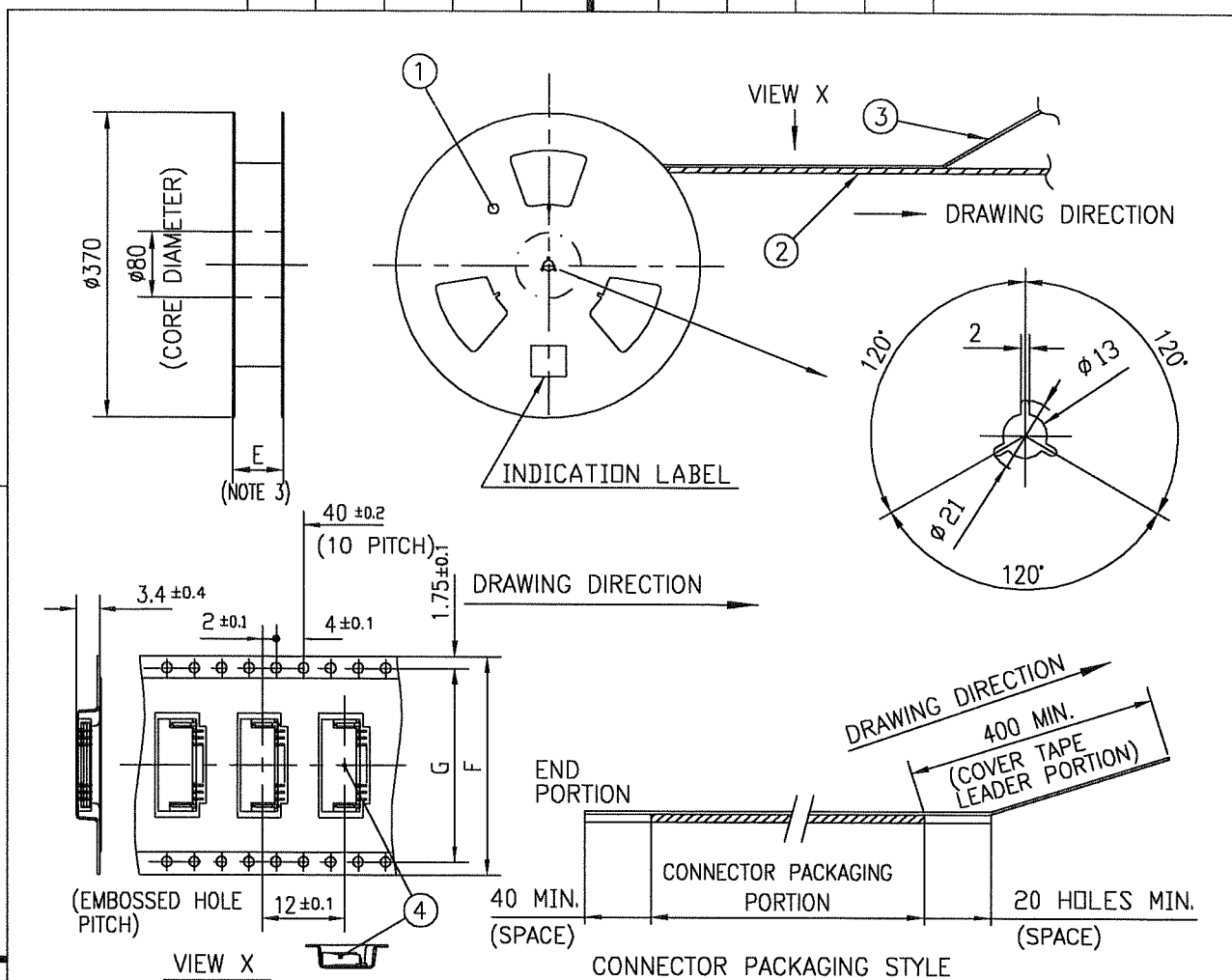
PT. NO.	PARTS NAME	CAT. NO.	MATERIAL	Q'TY	NOTE
1	REEL	—	CARDBOARD	1	COLOR:WHITE
2	PLASTIC (EMBOSSED) TAPE	—	PET	—	COLOR:TRANSPARENCY
3	COVER	—	POLYESTER	—	COLOR:TRANSPARENCY
4	CONNECTOR	HFW__R-1ST__LF	SEE ATTACHED DWG.	2000	LOWER CONTACT TYPE

NOTES

1. THIS IS PLASTIC TAPE PACKAGED CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND CYPES WITH AUTOMATIC MOUNTING (SMT).
2. SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSSED) TAPE AND REEL.
3. E DIMENSION IS PORTION OF THE CORE.

mat'l. code				surface 58	tolerance ISO 406	projection	product family 58NF	CODE JP
				ISO 1302	ISO 1101			
ltr	ecn no	dr	date	tolerances unless otherwise specified			title	
A	J04-0027	H.T	4/6/04	angles	linear	mm	1mm SPACING SMT CONNECTOR	
B	J05-0056	H.T	2/4/05				(Cat.No. HFW__R-1STE1LF)	
C	J06-0413	H.T	10/4/06	±5°		scale X	dwg no sheet 1 of 1 size	
				dr	10/16/06	FCJ	JSA 95927	
				enr	10/16/06			
				chr	10/12/06			
				appd	10/12/06			
sheet index	revision	C					type Product Customer Drawing	
	sheet	1						

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PT. NO.	PARTS NAME	CAT. NO.	MATERIAL	Q'TY	NOTE
1	REEL	—	CARDBOARD	1	COLOR:WHITE
2	PLASTIC (EMBOSSD) TAPE	—	PET	—	COLOR:TRANSPARENCY
3	COVER	—	POLYESTER	—	COLOR:TRANSPARENCY
4	CONNECTOR	HFW__R-2ST__-LF	SEE ATTACHED DWG.	2000	UPPER CONTACT TYPE

NOTES

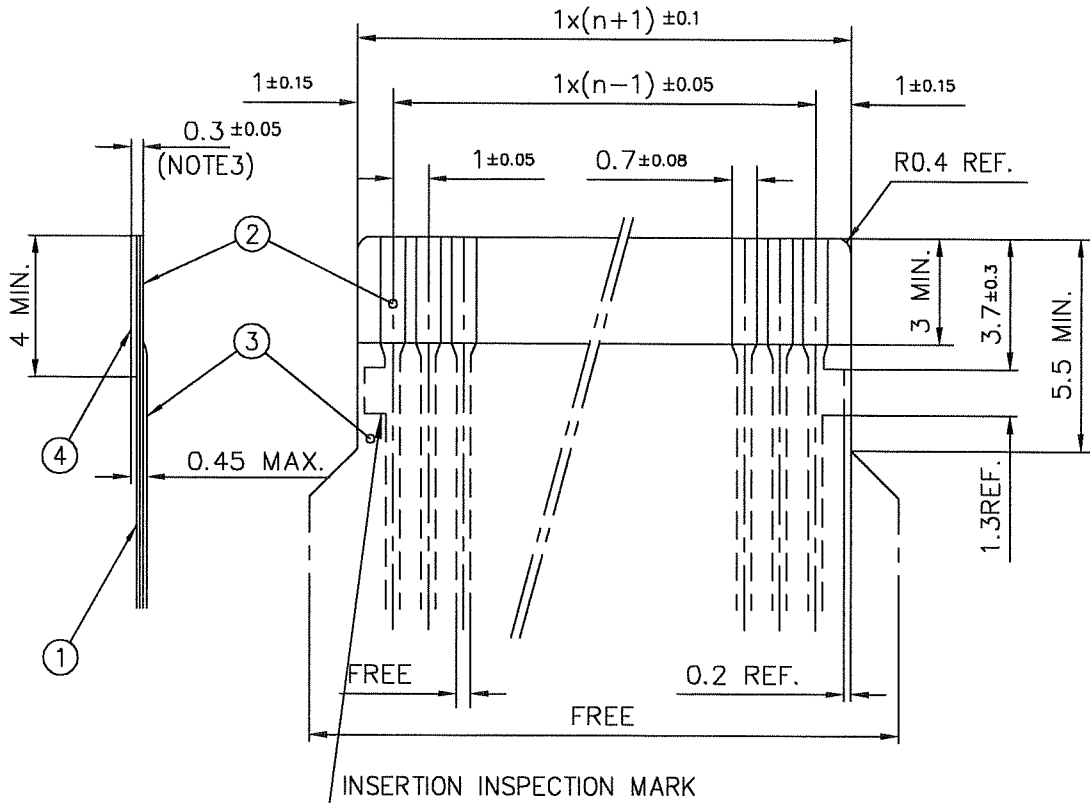
- THIS IS PLASTIC TAPE PACKAGED CONNECTOR DESIGNED TO TERMINATE FPC/FFC AND CYPES WITH AUTOMATIC MOUNTING (SMT).
- SEE JIS C 0806 (PACKING OF ELECTRONIC COMPONENTS ON CONTINUOUS TAPES (SURFACE MOUNTING DEVICES)) FOR SHAPE AND DIMENSIONS OF PLASTIC (EMBOSSD) TAPE AND REEL.
- E DIMENSION IS PORTION OF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

mat'l. code				surface 58/ISO 1302 ✓		tolerance ISO 406 ISO 1101		projection		product family 58NF		CODE JP	
ltr	ecn no	dr	date	tolerances unless otherwise specified				mm		title			
A	J04-0027	H.T	4/6/'04	angles linear				±5		1mm SPACING SMT CONNECTOR			
B	J05-0056	H.T	2/4/'05	±5'				scale X		(Cat.No. HFW__R-2STE1LF)			
C	J06-0413	H.T	10/4/'06	dr				12/24/06		dwg no sheet 1 of 1 size			
				enr				10/14/06		JSA 95928 A4			
				chr				10/12/06		type Product Customer Drawing			
				appd				10/12/06					
sheet index		revision C		sheet 1								Rev. C	

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form: A4

RECOMMENDED CABLE (FPC)

n : NO. OF CONDUCTORS



PT. NO.	DESCRIPTION	MATERIAL	THICKNESS (μm)
1	BASE FILM	POLYIMIDE OR POLYESTER OR EQUIVALENT	25
2	CONDUCTOR	COPPER FOIL(PLATING : SOLDER 1μm MIN.)	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.

mat'l. code				surface 58 / tolerance ISO 1302 ✓ / ISO 406 / ISO 1101		projection		product family 58NF		CODE JP	
ltr	ecn no	dr	date	tolerances unless otherwise specified		mm		title			
A	J06-0413	H.T	10/4/06			scale X		RECOMMENDED CABLE (Cat. No. HFW__R-1/2__)			
				angles	linear			dwg no			
								sheet 1 of 1			
				dr	10/14/06			JSA 93573			
			enr	10/14/06	size A4						
			chr	10/12/06							
			appd	10/12/06							
sheet index		revision sheet 1						type Product Customer Drawing		Rev. A	

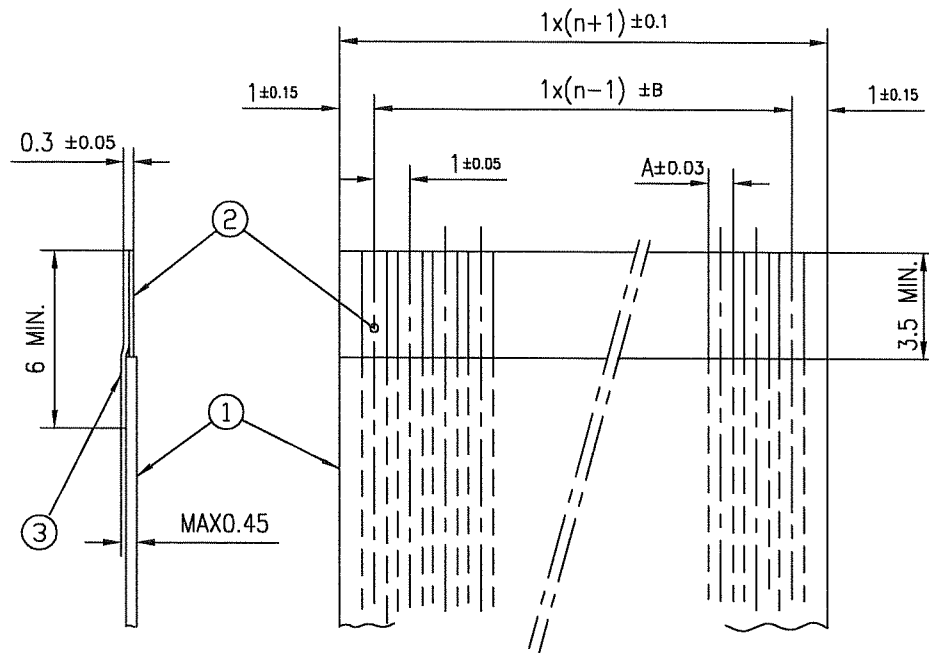
form: A4

1

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RECOMMENDED CABLE (FFC)

n : NO. OF CONDUCTORS



(NOTE 3)	DIMENSION A	TOLERANCE B
1	0.7	0.1
2	0.6	0.07

PT. NO.	DESCRIPTION	MATERIAL	NOTE
1	INSULATOR	FLAME RESISTING POLYESTER OR EQUIVALENT	_____
2	CONDUCTOR	COPPER FOIL	PLATING: TIN OR SOLDER 1μm MIN.
3	SUPPORTING TAPE	FLAME RESISTING POLYESTER OR EQUIVALENT	_____

NOTES

1. NO BURR AT EACH PORTION.
2. NO PEELING IN COMMON USE.
3. BOTH COMBINATION IS ALLOWED.

mat'l. code				surface 58/ISO 1302 ✓		tolerance ISO 406 ISO 1101		projection		product family 58NF		CODE JP	
ltr	ecn no	dr	date	tolerances unless otherwise specified				mm		title			
1	—	T.M	4/30/'02	angles linear				mm		RECOMMENDED CABLE			
A	J06-0413	H.T	10/4/'06					scale X		(Cat. No. HFW__R-1/2__)			
				dr		10/12/06				dwg no		sheet 1 of 1	
				enr		10/14/06				JSA 93574		size A4	
				chr		10/12/06							
				appd		10/12/06							
sheet index		revision sheet		A		1						Rev. A	

form: A4

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2