

5 Recommended reflow temperature profile for lead-free solder.

Time (seconds)	Temperature (°C)
0	25
60	150
120	220
180	250
240	220
300	180
360	150
420	220
480	250
540	220
600	180
660	150
720	220
780	250
840	220
900	180
960	150
1020	220
1080	250
1140	220
1200	180
1260	150
1320	220
1380	250
1440	220
1500	180
1560	150
1620	220
1680	250
1740	220
1800	180
1860	150
1920	220
1980	250
2040	220
2100	180
2160	150
2220	220
2280	250
2340	220
2400	180
2460	150
2520	220
2580	250
2640	220
2700	180
2760	150
2820	220
2880	250
2940	220
3000	180
3060	150
3120	220
3180	250
3240	220
3300	180
3360	150
3420	220
3480	250
3540	220
3600	180
3660	150
3720	220
3780	250
3840	220
3900	180
3960	150
4020	220
4080	250
4140	220
4200	180
4260	150
4320	220
4380	250
4440	220
4500	180
4560	150
4620	220
4680	250
4740	220
4800	180
4860	150
4920	220
4980	250
5040	220
5100	180
5160	150
5220	220
5280	250
5340	220
5400	180
5460	150
5520	220
5580	250
5640	220
5700	180
5760	150
5820	220
5880	250
5940	220
6000	180
6060	150
6120	220
6180	250
6240	220
6300	180
6360	150
6420	220
6480	250
6540	220
6600	180
6660	150
6720	220
6780	250
6840	220
6900	180
6960	150
7020	220
7080	250
7140	220
7200	180
7260	150
7320	220
7380	250
7440	220
7500	180
7560	150
7620	220
7680	250
7740	220
7800	180
7860	150
7920	220
7980	250
8040	220
8100	180
8160	150
8220	220
8280	250
8340	220
8400	180
8460	150
8520	220
8580	250
8640	220
8700	180
8760	150
8820	220
8880	250
8940	220
9000	180
9060	150
9120	220
9180	250
9240	220
9300	180
9360	150
9420	220
9480	250
9540	220
9600	180
9660	150
9720	220
9780	250
9840	220
9900	180
9960	150
10020	220
10080	250
10140	220
10200	180
10260	150
10320	220
10380	250
10440	220
10500	180
10560	150
10620	220
10680	250
10740	220
10800	180
10860	150
10920	220
10980	250
11040	220
11100	180
11160	150
11220	220
11280	250
11340	220
11400	180
11460	150
11520	220
11580	250
11640	220
11700	180
11760	150
11820	220
11880	250
11940	220
12000	180
12060	150
12120	220
12180	250
12240	220
12300	180
12360	150
12420	220
12480	250
12540	220
12600	180
12660	150
12720	220
12780	250
12840	220
12900	180
12960	150
13020	220
13080	250
13140	220
13200	180
13260	150
13320	220
13380	250
13440	220
13500	180
13560	150
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13680	250
13740	220
13800	180
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14100	180
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14280	250
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14940	220
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15120	220
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16020	220
16080	250
16140	220
16200	180
16260	150
16320	220
16380	250
16440	220
16500	180
16560	150
16620	220
16680	250
16740	220
16800	180
16860	150
16920	220
16980	250
17040	220
17100	180
17160	150
17220	220
17280	250
17340	220
17400	180
17460	150
17520	220
17580	250
17640	220
17700	180
17760	150
17820	220
17880	250
17940	220
18000	180
18060	150
18120	220
18180	250
18240	220
18300	180
18360	150
18420	220
18480	250
18540	220
18600	180
18660	150
18720	220
18780	250
18840	220
18900	180
18960	150
19020	220
19080	250
19140	220
19200	180
19260	150
19320	220
19380	250
19440	220
19500	180
19560	150
19620	220
19680	250
19740	220
19800	180
19860	150
19920	220
19980	250
20040	220
20100	180
20160	150
20220	220
20280	250
20340	220
20400	180
20460	150
20520	220
20580	250
20640	220
20700	180
20760	150
20820	220
20880	250
20940	220
21000	180
21060	150
21120	220
21180	250
21240	220
21300	180
21360	150
21420	220
21480	250
21540	220
21600	180
21660	150
21720	220
21780	250
21840	220
21900	180
21960	150
22020	220
22080	250
22140	220
22200	180
22260	150
22320	220
22380	250
22440	220
22500	180
22560	150
22620	220
22680	250
22740	220
22800	180
22860	150
22920	220
22980	250
23040	220
23100	180
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23220	220
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24060	150
24120	220
24180	250
24240	220
24300	180
24360	150
24420	220
24480	250
24540	220
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24780	250
24840	220
24900	180
24960	150
25020	220
25080	250
25140	220
25200	180
25260	150
25320	220
25380	250
25440	220
25500	180
25560	150
25620	220
25680	250
25740	220
25800	180
25860	150
25920	220
25980	250
26040	220
26100	180
26160	150
26220	220
26280	250
26340	220
26400	180
26460	150
26520	220
26580	250
26640	220
26700	180
26760	150
26820	220
26880	250
26940	220
27000	180
27060	150
27120	220
27180	250
27240	220
27300	180
27360	150
27420	220
27480	250
27540	220
27600	180
27660	150
27720	220
27780	250
27840	220
27900	180
27960	150
28020	220
28080	250
28140	220
28200	180
28260	150
28320	220
28380	250
28440	220
28500	180
28560	150
28620	220
28680	250
28740	220
28800	180
28860	150
28920	220
28980	250
29040	220
29100	180
29160	150
29220	220
29280	250
29340	220
29400	180
29460	150
29520	220
29580	250
29640	220
29700	180
29760	150
29820	220
29880	250
29940	220
30000	180
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30120	220
30180	250
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30360	150
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30900	180
30960	150
31020	220
31080	250
31140	220
31200	180
31260	150
31320	220
31380	250
31440	220
31500	180
31560	150
31620	220
31680	250
31740	220
31800	180
31860	150
31920	220
31980	250
32040	220
32100	180
32160	150
32220	

Recommended metal mask thickness : 120 μ m
Recommended metal mask opening ratio : 80% for lead pad

Reflow method : IR reflow
Number of reflow cycles : 2 cycles max.

Number of reflow cycles : 2 cycles max.

1) Reflow time	2) Pre-heat time
Duration above 220°C, 60 sec max. (peak temperature : 250°C max)	Pre-heat temperature (min) : 150°C Pre-heat temperature (max) : 180°C Pre-heat time : 90-120 sec.

Note

- 1. All lead co-planarity will be 0.1mm max.
- 2. Each one contact at 4 corners be reinforced fittings.
- 3. HRS mark and cavity No. are indicated at approximate location.
- 4. Plating specifications
 - Contact area : Gold 0.05 μm min
 - SMT lead : Gold 0.05 μm min
 - Under plating : Nickel 1 μm min
 - (Surface : Sealing)
- 5. This temperature profile is based on the suggested metal mask and footprint. Please contact us if using different settings from our recommendation.
- 6. Gate trace may appear in indicated area.
- 7. The resin may overlap the top surface of the metal but will not affect the contact reliability.

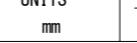
The diagram shows a 24-pin DIP package. A horizontal dashed line passes through the center of the package. A vertical dashed line also passes through the center. Pin 6 is indicated by a leader line pointing to the sixth pin from the left on the bottom row. The package has a total of 24 pins arranged in two rows of 12.

Pick and place area : 1.13 ± 0.1

0.26 ± 0.12

0.05 ± 0.05

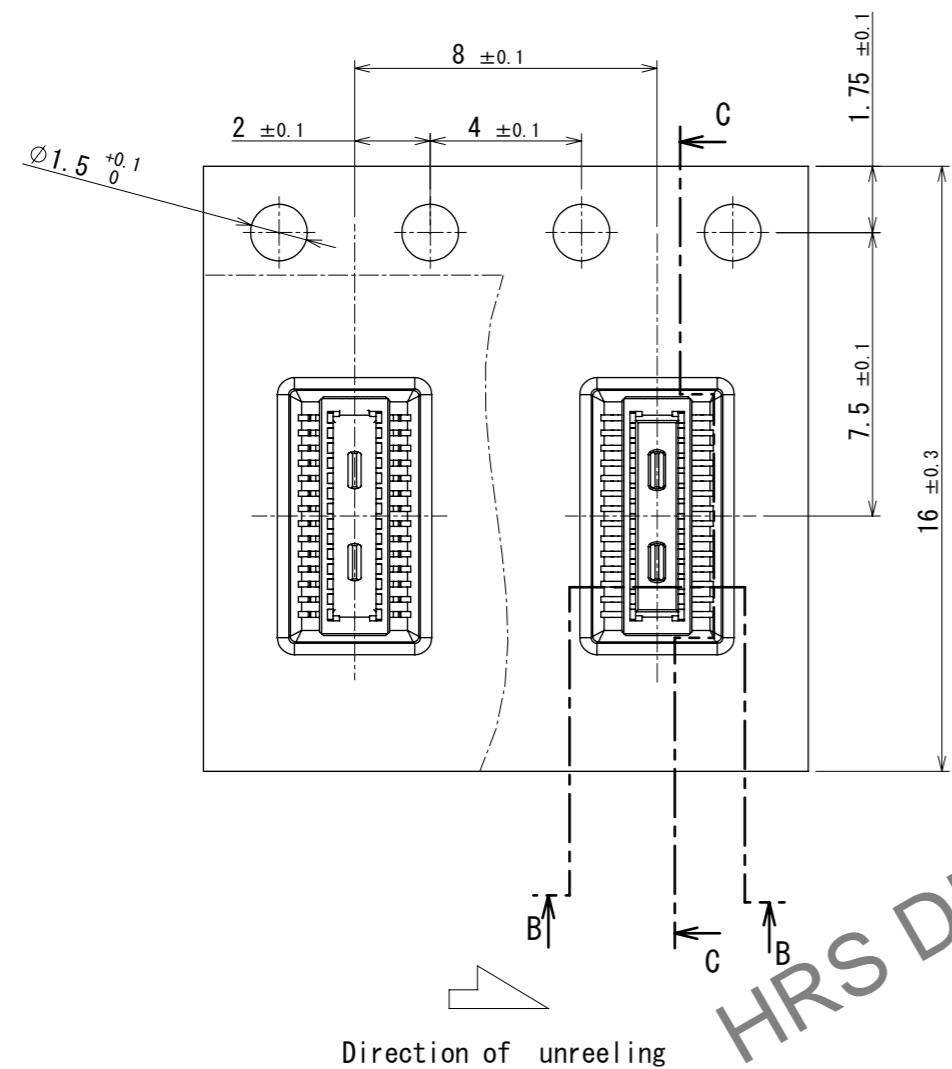
A-A
(20 : 1)

				6	PS	Clear, Rainforcement collar	
				5	PS	Black, Plastic reel	
2	Copper alloy	4>		4	Polyester	Clear, Cover tape	
1	LCP	Black		3	PS	Clear, Embossed carrier tape	
NO.	MATERIAL	FINISH , REMARKS		NO.	MATERIAL	FINISH , REMARKS	
UNITS mm	 	SCALE 10:1	COUNT 1	DESCRIPTION OF REVISIONS DIS-H-00021705	DESIGNED NK. TOYOSU	CHECKED YK. SAKATE	DATE 2024. 10. 31
 HIROSE ELECTRIC CO., LTD.		APPROVED : TY. 001		2024. 01. 15	DRAWING NO.	EDC-404943-51-00	
		CHECKED : RT. SHIMIZU		2024. 01. 15	PART NO.	DF40TC-24DP-0. 4V(51)	
		DESIGNED : YK. SAKATE		2024. 01. 15	CODE NO.	CL0684-4308-0-51	
		DRAWN : NK. TOYOSU		2024. 01. 15			

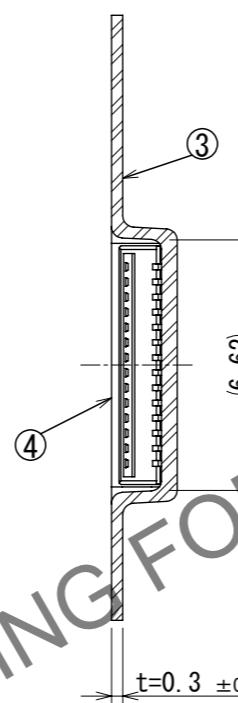
10

B —
C —
D —
E —

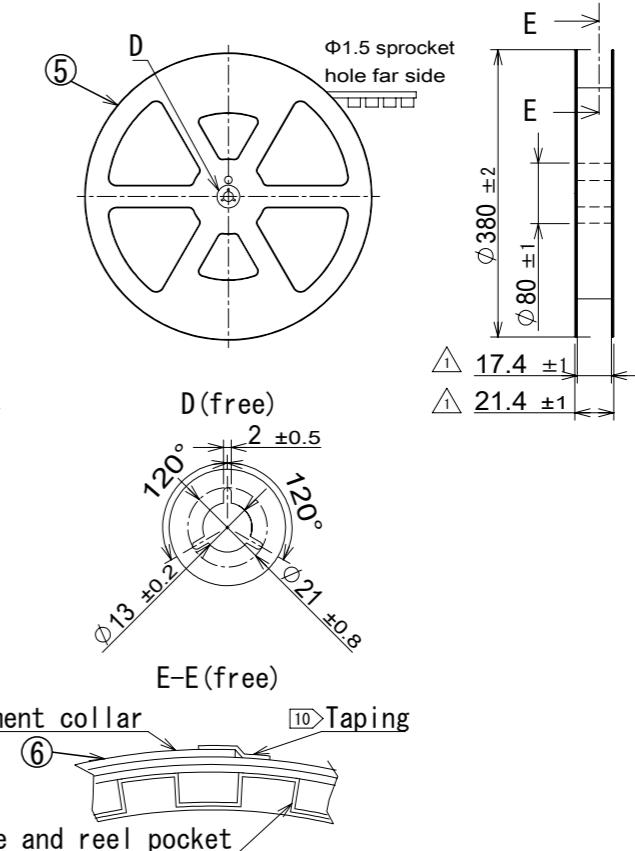
Embossed carrier tape packaging (5 : 1)



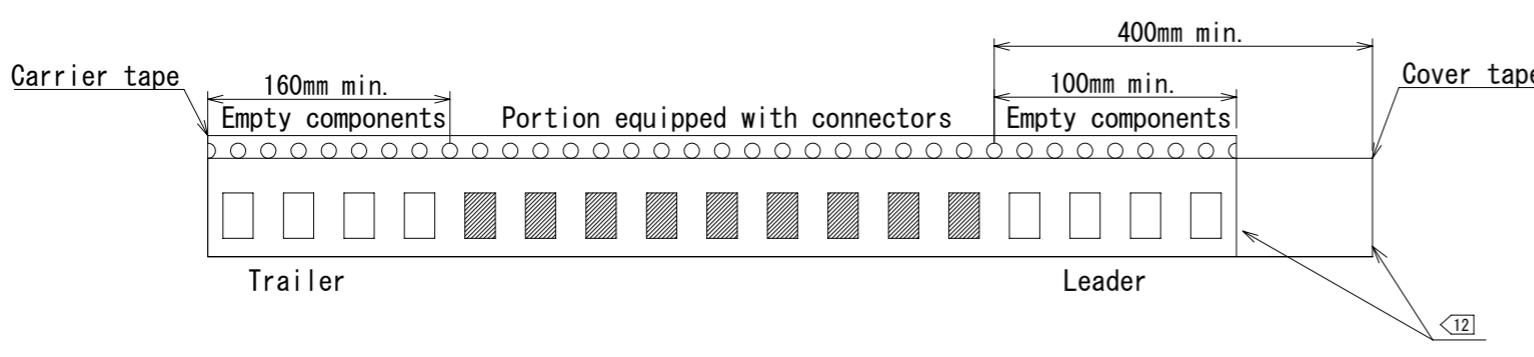
0-0
(5 : 1



Style and dimension of reel (free)



10 Tap hole (free)

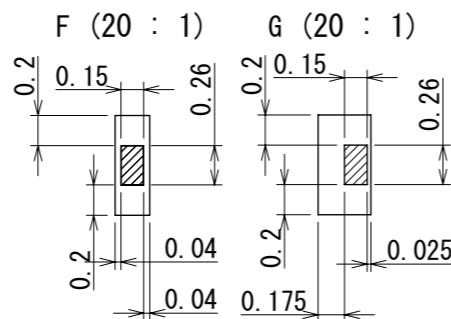
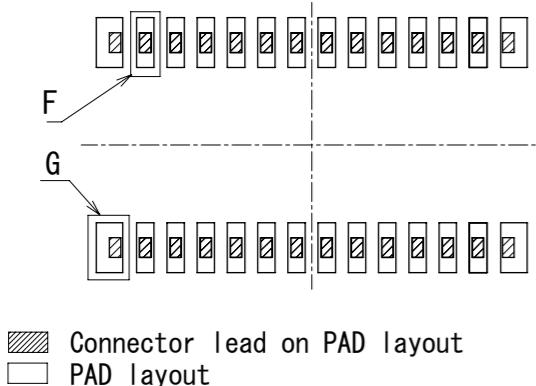


8. 5,000 connectors per reel.
9. The dimensions in parentheses are only for reference.
10. Refer to IEC 60286-3 (packaging of components for automatic handling)
11. The reinforcing collar is wrapped around the emboss tape and taped down at the end of the collar.
12. The end of cover tape might be the same length with emboss carrier tape

	DRAWING NO.	EDC-404943-51-00
	PART NO.	DF40TC-24DP-0.4V (51)
	CODE NO.	CL0684-4308-0-51

13. Please refer to the product guideline ETAD-H1015 for detail of connector handling.

The position between the connector and PAD

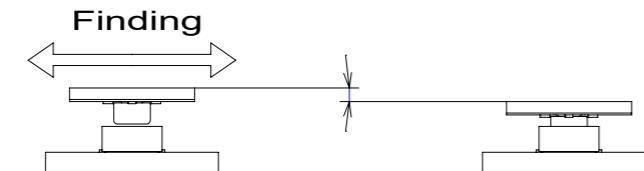
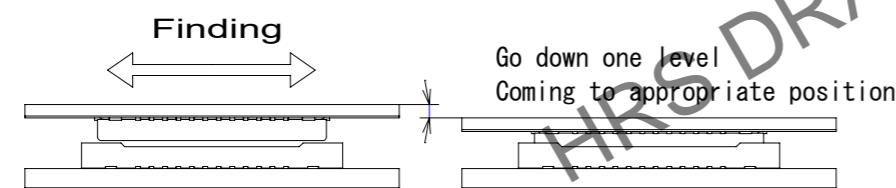


Mating method

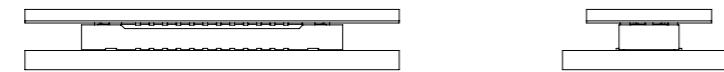
Please mate the connector by hand.

Mating procedure

- (1) Find the alignment area to the connector in the appropriate mating position. This connector has an alignment chamber (guidance ribs) on receptacle side and "r" on plug side, so that the connector will be self-aligned. When the connector comes to the appropriate position, the connector goes into the aligned position. When aligned, it can be felt by hand.



- (2) When guiding, the connectors are aligned parallel to each other, with longitudinal and lateral movements restricted. Mate them properly by applying force in this condition.

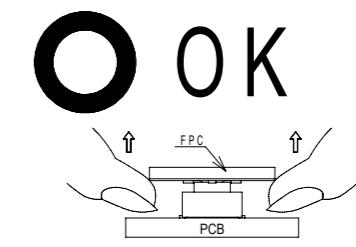
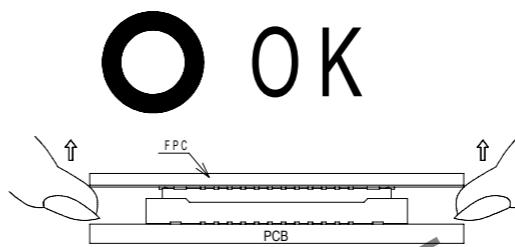


- (3) Make sure the connectors are mated correctly. If one side is floating or the connectors are mated in one direction, un-mate them once, and then mate them again, following the procedures above from the beginning.

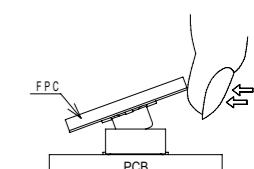
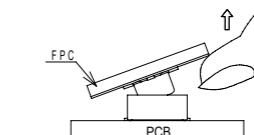
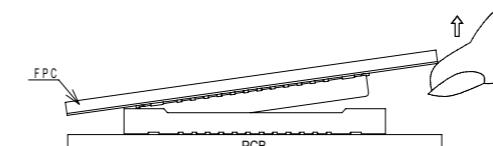
Un-mating method

Please un-mate the connector by hand

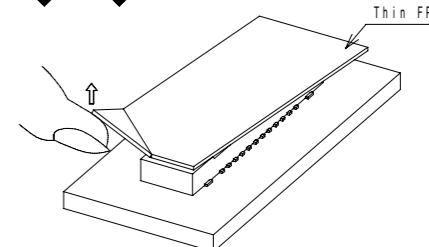
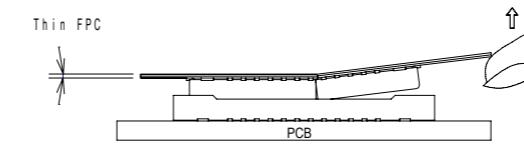
- (1) Un-mate the connectors parallel to each other. However, if the connectors have high pin counts or thinner fpc and stiffener, it becomes more difficult to do so.



- (2) If the connector cannot be un-mated parallel it can be removed diagonally from the pitch direction. Be careful to do so since this action applies stress on the contact.



- (3) If the fpc is not rigid, the connector can be broken. Please check the action of the fpc to be used repeatedly at the time of trial production. Be careful to un-mate them from the pitch direction, pulling it from the corner can also risk to putting stress on contacts.



HRS	DRAWING NO. PART NO. CODE NO.	EDC-404943-51-00 DF40TC-24DP-0.4V(51) CL0684-4308-0-51
		3/3