

0.5mm & 1mm Pitch FPC Connectors

Description

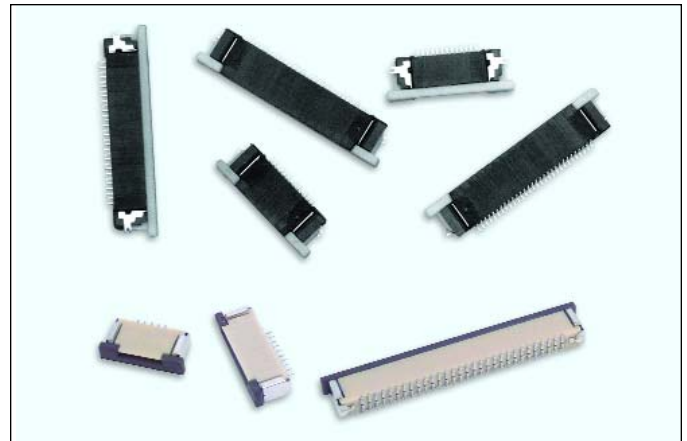
Delphi Connection Systems' 0.5mm and 1mm Pitch Flexible Printed Circuit (FPC) Connectors interface with flat flexible cable or flexible printed circuits. The contacts use a Zero Insertion Force (ZIF) actuator mechanism which snaps down over the cable for termination.

0.5mm —

0.5mm Pitch FPC Connectors are horizontal configurations that interface with pads on 0.5mm [0.020 in.] centers and with a thickness of 0.3mm [0.012 in.]. Sizes accommodate 4 through 50 positions.

1mm —

1mm Pitch FPC Connectors are available in horizontal or vertical configurations. These connectors interface with pads on 1mm centers with a thickness of 0.3mm [0.12 in.]. Sizes accommodate 3 through 32 positions.



Typical Applications

FPC Connectors are used in a variety of electronic applications, including:

- Mobile phones
- Keyboards
- Disk drives
- Fax machines
- Handheld scanners
- Keypads
- Printers
- Laptop and notebook computers

Industry Approvals

These components have been evaluated by Underwriters Laboratories as recognized components, and are included in UL File E134099.

Performance Characteristics	0.5mm	1mm
Total No. of Positions	4 through 50	3 through 32
Orientation	Top or bottom contact, horizontal format	Top or bottom contact, horizontal or vertical formats
Mounting Style	Surface mount (SMT)	Surface mount (SMT)
Contact Style	Stamped and formed	Stamped and formed
Packaging Type	Tubes (standard), or Tape & reel (available upon request)	Tubes (standard), or Tape & reel (available upon request)
Insulator Material	Molded thermoplastic, UL94V-0	Molded thermoplastic, UL94V-0
Contact Base Material	Phosphor bronze	Phosphor bronze
Current Rating	0.3 amps max.	1 amp max.
Contact Resistance	40 mΩ max. (final)	40 mΩ max. (final)
Voltage Rating	25 VDC	200 VAC RMS
Operating Temperature	-25°C to +85°C	-40°C to +85°C
Durability (Mating Cycles)	30 cycles	30 cycles
Plating (Contact Area)	2.54 μm [.100 μin.] tin/lead over nickel	2.54 μm [.100 μin.] tin/lead over nickel
Insulator Color	Black	Tan (natural)
Actuator Color	Tan (natural)	Brown

Horizontal FPC Connectors

Ordering Nomenclature

FPC **HT** **03** **T** **R**

Series:
FPC5 = 0.5mm
FPC = 1mm

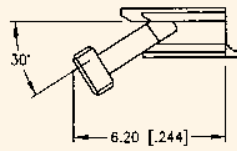
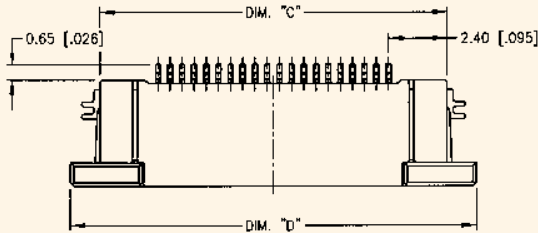
Configuration:
HT = Horizontal Top

Packaging:
T = Tubes (standard)
R = Tape and reel

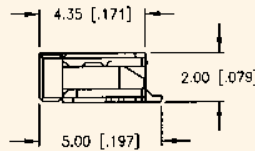
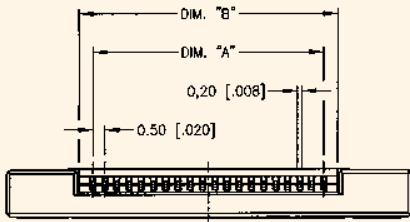
Plating:
T = Tin/lead

No. of Contact Positions:
04 through **50** = 0.5mm
03 through **32** = 1mm

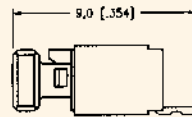
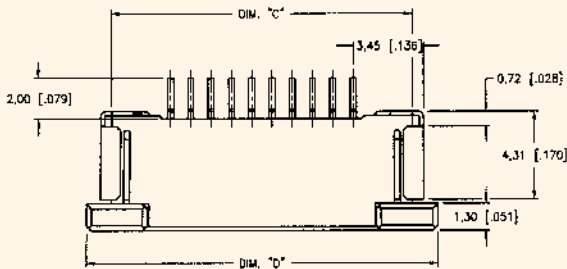
0.5mm Top Contact



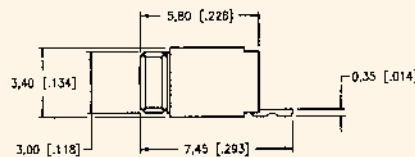
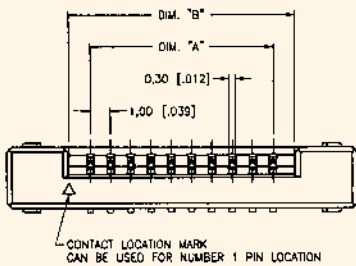
Actuator open



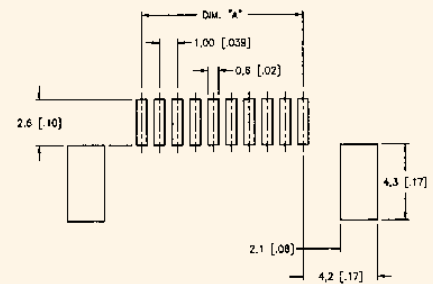
1mm Top Contact



Actuator open



PCB Layout



For dimensions "A", "B", "C", and "D", see charts on page 6.

Dimensions shown are for reference only. Unless otherwise specified, dimensions are in millimeters and [inches].

Horizontal FPC Connectors

Ordering Nomenclature

FPC **HB** **03** **T** **R**

Series:
FPC5 = 0.5mm
FPC = 1mm

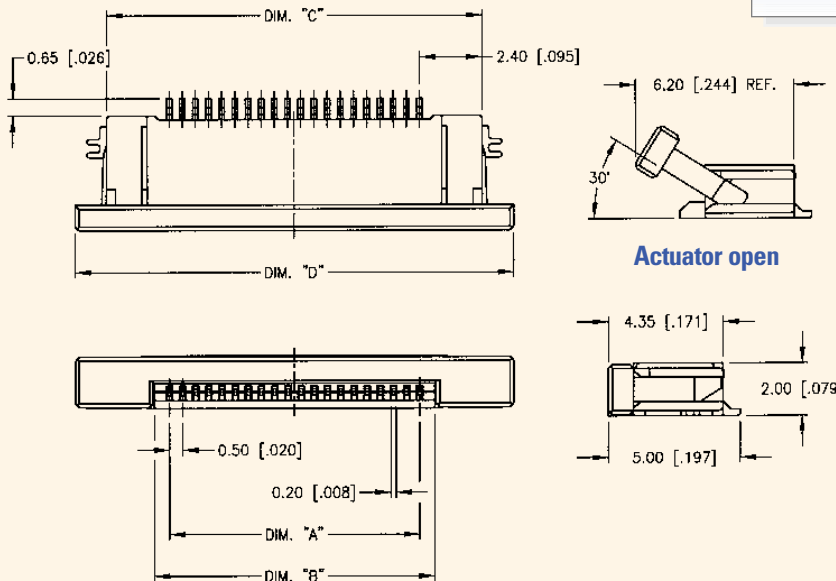
Packaging:
T = Tubes (standard)
R = Tape and reel

Configuration:
HB = Horizontal Bottom

Plating:
T = Tin/lead

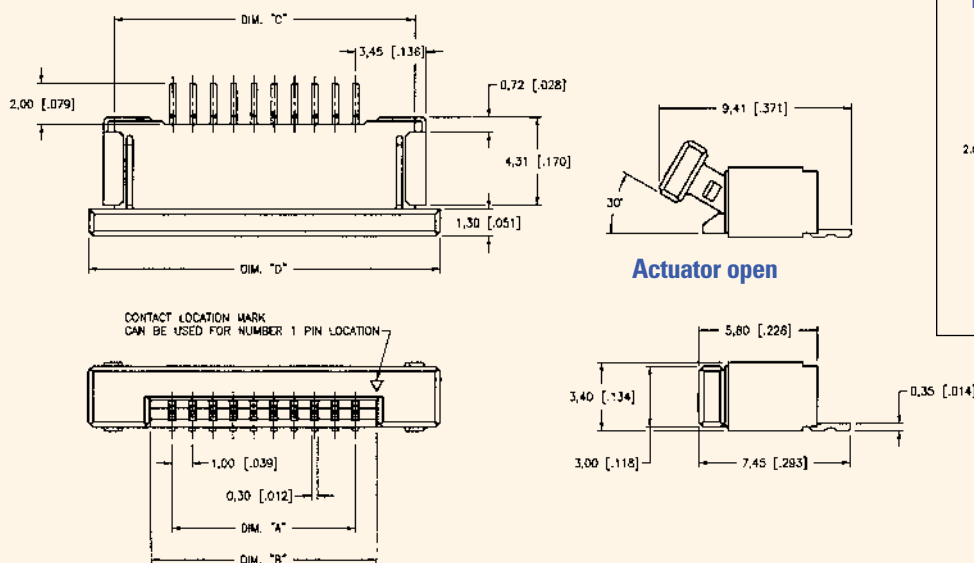
No. of Contact Positions:
04 through **50** = 0.5mm
03 through **32** = 1mm

0.5mm Bottom Contact



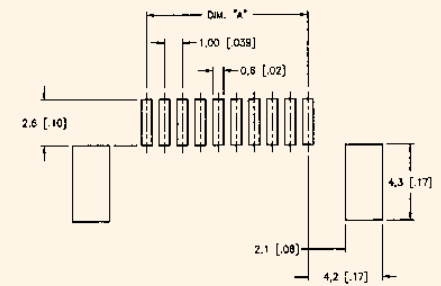
Actuator open

1mm Bottom Contact



Actuator open

PCB Layout

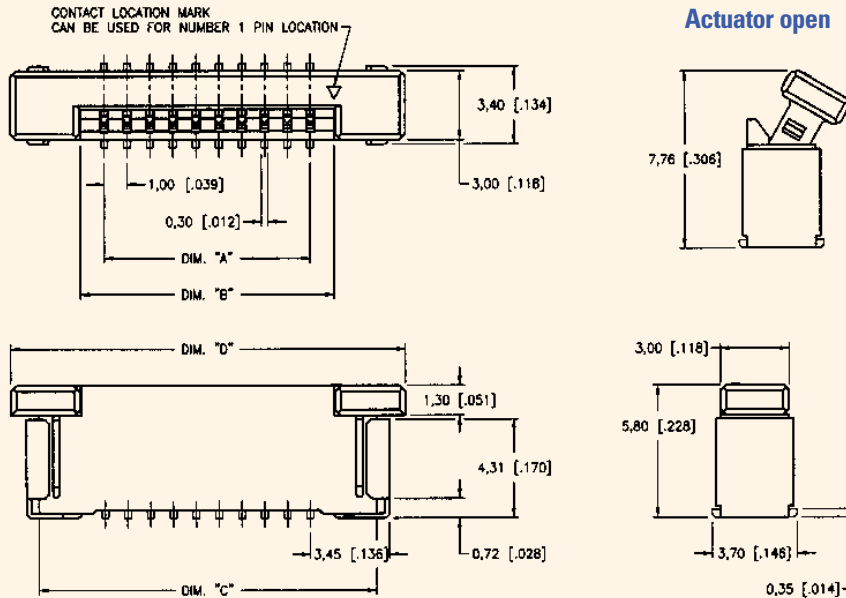


For dimensions "A", "B", "C", and "D", see charts on page 6.

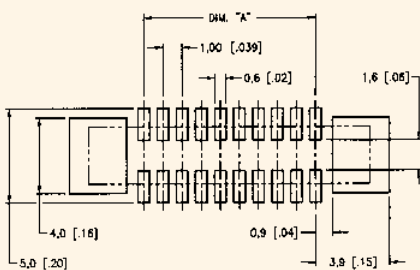
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1mm Vertical FPC Connectors

1mm Vertical Connectors



PCB Layout



Ordering Nomenclature

FPC V 03 T R

Series:
FPC = 1mm

Configuration:
V = Vertical

Packaging:
T = Tubes (standard)
R = Tape and reel

Plating:
T = Tin/lead

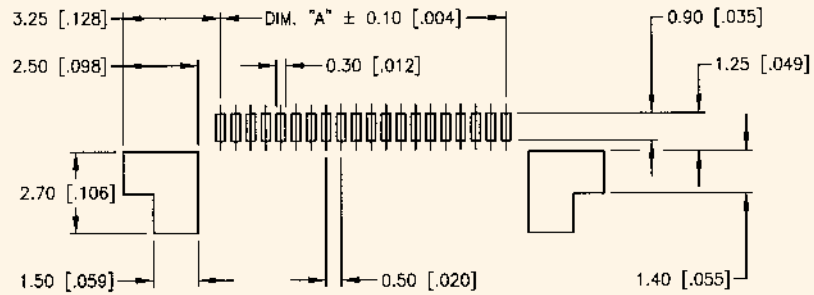
No. of Contact Positions:
03 through 32

For dimensions "A", "B", "C", and "D", see chart on page 6.

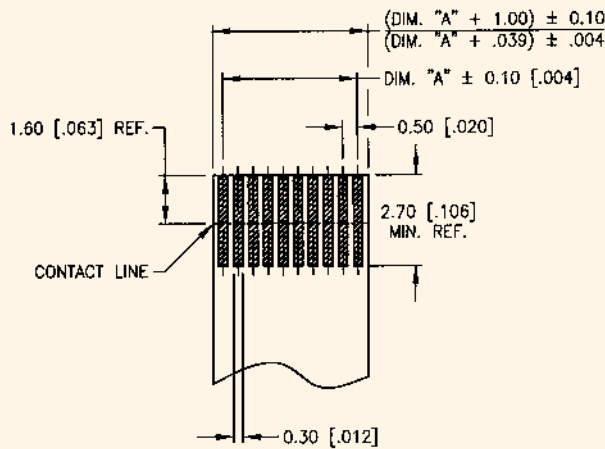
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0.5mm & 1mm FPC Connectors

0.5mm PCB Layout

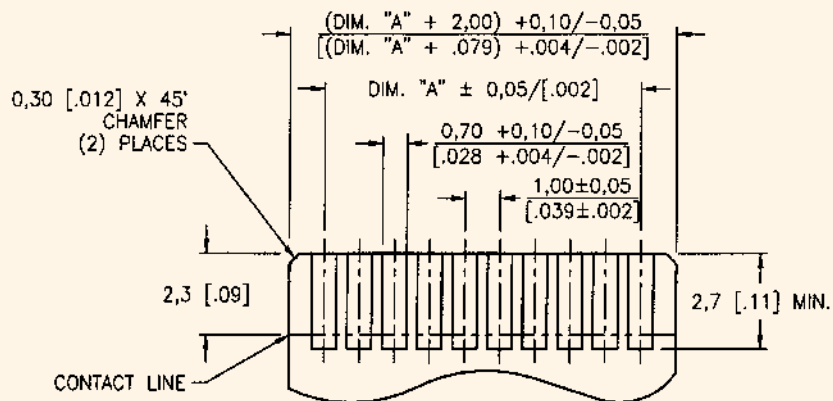


0.5mm Recommended Mating Cable Layout



THICKNESS: $\frac{0.30 \pm 0.05}{.012 \pm .002}$

1mm Recommended Mating Cable Layout



THICKNESS: $\frac{0.30 \pm 0.05}{.012 \pm .002}$

For dimensions "A", "B", "C", and "D", see charts on page 6.

Dimensions shown are for reference only. Unless otherwise specified, dimensions are in millimeters and [inches].

0.5mm & 1mm FPC Dimensions

0.5mm Dimensions

No. of Positions	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
4	1.50 [.059]	2.65 [.104]	6.30 [.248]	8.70 [.343]
5	2.00 [.079]	3.15 [.124]	6.80 [.268]	9.20 [.362]
6	2.50 [.098]	3.65 [.144]	7.30 [.287]	9.70 [.382]
7	3.00 [.118]	4.15 [.163]	7.80 [.307]	10.20 [.402]
8	3.50 [.138]	4.65 [.183]	8.30 [.327]	10.70 [.421]
9	4.00 [.157]	5.15 [.203]	8.80 [.346]	11.20 [.441]
10	4.50 [.177]	5.65 [.222]	9.30 [.366]	11.70 [.461]
11	5.00 [.197]	6.15 [.242]	9.80 [.386]	12.20 [.480]
12	5.50 [.217]	6.65 [.262]	10.30 [.406]	12.70 [.500]
13	6.00 [.236]	7.15 [.281]	10.80 [.425]	13.20 [.520]
14	6.50 [.256]	7.65 [.301]	11.30 [.445]	13.70 [.539]
15	7.00 [.276]	8.15 [.321]	11.80 [.465]	14.20 [.559]
16	7.50 [.295]	8.65 [.341]	12.30 [.484]	14.70 [.579]
17	8.00 [.315]	9.15 [.360]	12.80 [.504]	15.20 [.598]
18	8.50 [.335]	9.65 [.380]	13.30 [.524]	15.70 [.618]
19	9.00 [.354]	10.15 [.400]	13.80 [.543]	16.20 [.638]
20	9.50 [.374]	10.65 [.419]	14.30 [.563]	16.70 [.657]
21	10.00 [.394]	11.15 [.439]	14.80 [.583]	17.20 [.677]
22	10.50 [.413]	11.65 [.459]	15.30 [.602]	17.70 [.697]
23	11.00 [.433]	12.15 [.478]	15.80 [.622]	18.20 [.717]
24	11.50 [.453]	12.65 [.498]	16.30 [.642]	18.70 [.736]
25	12.00 [.472]	13.15 [.518]	16.80 [.661]	19.20 [.756]
26	12.50 [.492]	13.65 [.537]	17.30 [.681]	19.70 [.776]
27	13.00 [.512]	14.15 [.557]	17.80 [.701]	20.20 [.795]

No. of Positions	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
28	13.50 [.531]	14.65 [.577]	18.30 [.720]	20.70 [.815]
29	14.00 [.551]	15.15 [.596]	18.80 [.740]	21.20 [.835]
30	14.50 [.571]	15.65 [.616]	19.30 [.760]	21.70 [.854]
31	15.00 [.591]	16.15 [.636]	19.80 [.780]	22.20 [.874]
32	15.50 [.610]	16.65 [.656]	20.30 [.799]	22.70 [.894]
33	16.00 [.630]	17.15 [.675]	20.80 [.819]	23.20 [.913]
34	16.50 [.650]	17.65 [.695]	21.30 [.839]	23.70 [.933]
35	17.00 [.669]	18.15 [.715]	21.80 [.858]	24.20 [.953]
36	17.50 [.689]	18.65 [.734]	22.30 [.878]	24.70 [.972]
37	18.00 [.709]	19.15 [.754]	22.80 [.898]	25.20 [.992]
38	18.50 [.728]	19.65 [.774]	23.30 [.917]	25.70 [1.012]
39	19.00 [.748]	20.15 [.793]	23.80 [.937]	26.20 [1.031]
40	19.50 [.768]	20.65 [.813]	24.30 [.957]	26.70 [1.051]
41	20.00 [.787]	21.15 [.833]	24.80 [.976]	27.20 [1.071]
42	20.50 [.807]	21.65 [.852]	25.30 [.996]	27.70 [1.091]
43	21.00 [.827]	22.15 [.872]	25.80 [1.016]	28.20 [1.110]
44	21.50 [.846]	22.65 [.892]	26.30 [1.035]	28.70 [1.130]
45	22.00 [.866]	23.15 [.911]	26.80 [1.055]	29.20 [1.150]
46	22.50 [.886]	23.65 [.931]	27.30 [1.075]	29.70 [1.169]
47	23.00 [.906]	24.15 [.951]	27.80 [1.094]	30.20 [1.189]
48	23.50 [.925]	24.65 [.970]	28.30 [1.114]	30.70 [1.209]
49	24.00 [.945]	25.15 [.990]	28.80 [1.134]	31.20 [1.228]
50	24.50 [.965]	25.65 [1.010]	29.30 [1.154]	31.70 [1.248]

1mm Dimensions

No. of Positions	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
3	2.00 [.079]	4.30 [.169]	7.80 [.307]	10.30 [.406]
4	3.00 [.118]	5.30 [.209]	8.80 [.346]	11.30 [.445]
5	4.00 [.157]	6.30 [.248]	9.80 [.386]	12.30 [.484]
6	5.00 [.197]	7.30 [.287]	10.80 [.425]	13.30 [.524]
7	6.00 [.236]	8.30 [.327]	11.80 [.465]	14.30 [.563]
8	7.00 [.276]	9.30 [.366]	12.80 [.504]	15.30 [.602]
9	8.00 [.315]	10.30 [.406]	13.80 [.543]	16.30 [.642]
10	9.00 [.354]	11.30 [.445]	14.80 [.583]	17.30 [.681]
11	10.00 [.394]	12.30 [.484]	15.80 [.622]	18.30 [.720]
12	11.00 [.433]	13.30 [.524]	16.80 [.661]	19.30 [.760]
13	12.00 [.472]	14.30 [.563]	17.80 [.701]	20.30 [.799]
14	13.00 [.512]	15.30 [.602]	18.80 [.740]	21.30 [.839]
15	14.00 [.551]	16.30 [.642]	19.80 [.780]	22.30 [.878]
16	15.00 [.591]	17.30 [.681]	20.80 [.819]	23.30 [.917]
17	16.00 [.630]	18.30 [.720]	21.80 [.858]	24.30 [.957]

No. of Positions	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
18	17.00 [.669]	19.30 [.760]	22.80 [.898]	25.30 [.996]
19	18.00 [.709]	20.30 [.799]	23.80 [.937]	26.30 [1.035]
20	19.00 [.748]	21.30 [.839]	24.80 [.976]	27.30 [1.075]
21	20.00 [.787]	22.30 [.878]	25.80 [1.016]	28.30 [1.114]
22	21.00 [.827]	23.30 [.917]	26.80 [1.055]	29.30 [1.154]
23	22.00 [.866]	24.30 [.957]	27.80 [1.094]	30.30 [1.193]
24	23.00 [.906]	25.30 [.996]	28.80 [1.134]	31.30 [1.232]
25	24.00 [.945]	26.30 [1.035]	29.80 [1.173]	32.30 [1.272]
26	25.00 [.984]	27.30 [1.075]	30.80 [1.213]	33.30 [1.311]
27	26.00 [1.024]	28.30 [1.114]	31.80 [1.252]	34.30 [1.350]
28	27.00 [1.063]	29.30 [1.154]	32.80 [1.291]	35.30 [1.390]
29	28.00 [1.102]	30.30 [1.193]	33.80 [1.331]	36.30 [1.429]
30	29.00 [1.142]	31.30 [1.232]	34.80 [1.370]	37.30 [1.469]
31	30.00 [1.181]	32.30 [1.272]	35.80 [1.409]	38.30 [1.508]
32	31.00 [1.220]	33.30 [1.311]	36.80 [1.449]	39.30 [1.547]


Dimensions shown are for reference only.

Unless otherwise specified, dimensions are in millimeters and [inches].

All information is deemed correct as of the date of publication and subject to change without notice. For additional information, please contact Delphi Connection Systems.

DELPHI

www.delphi.com/connect

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