

# DT SERIES

## 0.5mm PITCH FLOATING CONNECTOR FOR HIGH-SPEED TRANSMISSION

RoHS  
Compliant



### FEATURES

- ▶ High-speed serial transmission in the SATA standard level is supported, satisfying all the transmission characteristics required by the SATA Rev 3.0.
- ▶ Floating amount  $\pm 0.5\text{mm}$  in both X and Y directions.
- ▶ The effective mating length of stacked and vertical connection is 1.5mm(0.059"). The effective mating length of the horizontal connection is 1.7mm(0.067").
- ▶ 3 Variations for Stacked / Vertical / Horizontal mating.
- ▶ Wide variations of stacked mating heights of 10, 17, 18, 19 and 20mm. (0.394, 0.669, 0.709, 0.748, 0.787") \* Stacked mating height of 25mm is under development.
- ▶ Wide variations of contacts (30, 40, 60, 80, 100, 140, and 240 pins) are available.\* Additional number of contact variations are under development.
- ▶ Arc-shaped contacts prevent foreign matters which may cause mating error.

### ORDER CODE

DT0    -        -    -      -   

①                      ②                      ③                      ④                      ⑤

\*Please order in multiples of the quantity per package.

- ① **[Type]** Receptacle **DT00** : Without positioning posts **DT01** : With positioning posts
- ② **[Number of contacts]** **030** : 30 pin **040** : 40 pin **060** : 60 pin **080** : 80 pin **100** : 100 pin **140** : 140 pin **240** : 240 pin (Only S type)
- ③ **[Contact tail style]** **S** : Straight **L** : Right angle
- ④ **[Packaging style]** **Omit** : Embossed tape (tape&reel) **TR** : Tray (S type : 240 pin, L type : 140 pin)
- ⑤ **[Anti-dust tape]** **T** : With anti-dust tape (S type) **Omit** : Without anti-dust tape (L type)

### ORDER CODE

DT1    -        -    -      -      -   

①                      ②                      ③                      ④                      ⑤                      ⑥

\*Please order in multiples of the quantity per package.

- ① **[Type]** Plug **DT10** : Without positioning posts **DT11** : With positioning posts
- ② **[Number of contacts]** **030** : 30 pin **040** : 40 pin **060** : 60 pin **080** : 80 pin **100** : 100 pin **140** : 140 pin **240** : 240 pin (Stacked height 10mm)
- ③ **[Contact tail style]** **S** : Straight **L** : Right angle
- ④ **[Stacked height]** (S type) **10** : 10mm(0.394") **17** : 17mm(0.669") **18** : 18mm(0.709") **19** : 19mm(0.748") **20** : 20mm(0.788")
- ⑤ **[Packaging style]** **Omit** : Embossed tape (Tape&Reel) **TR** : Tray (S type : 240 pin, L type : 140 pin)
- ⑥ **[Anti-dust tape]** **T** : With anti-dust tape (S type) **Omit** : Without anti-dust tape (L type)

### SPECIFICATIONS

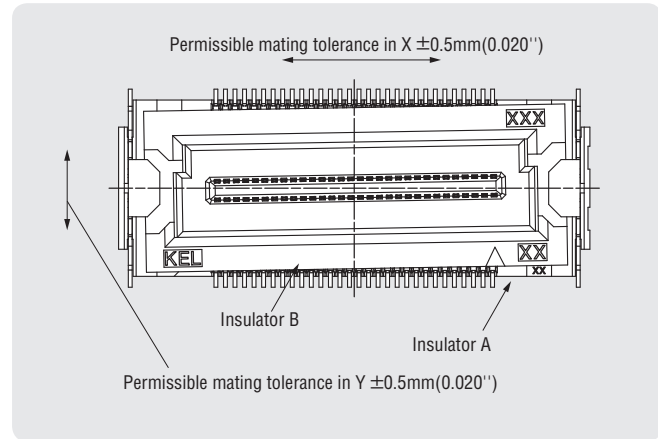
Material and plating		Electrical Characteristics	
Insulator material	Glass-filled LCP(UL94V-0), Black	Current rating	0.4A per contact
Contact material	Copper alloy	Contact resistance	80mΩ max.
Contact plating	Gold over Nickel	Dielectric withstanding voltage	200V AC for 1 minute
Retention clip material	Copper alloy	Insulation resistance	100MΩ min. at 250V DC
Retention clip plating	Tin over Nickel	Operating temperature	-40°C to +105°C

\*Regarding the rated current of the DT series, it is possible to design a current capacity exceeding the standard 0.4 A / pin. i.e. 0.5 A / pin. Please contact your local KEL sales office.

## Floating Structure

When the connector is mounted on the printed circuit board, a position error in the two directions of horizontal and vertical (XY direction) may occur at both connectors. In addition, if each printed circuit board is fixed to a case by screws after mating connectors, the connectors may have to compensate for the position error because a gap occurs during screwing the printed circuit board. A connector having a tolerance to compensate for such an error or gap caused by vibration is called a floating connector.

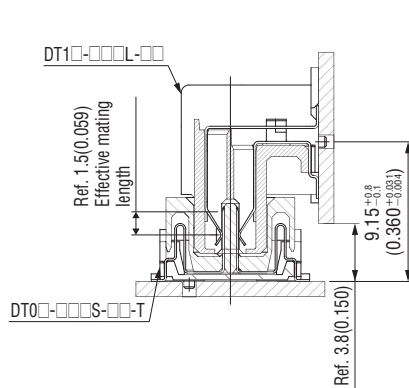
The DT series is a 0.5mm(0.020'') fine pitch connector with  $\pm 0.5\text{mm}(0.020'')$  floating structure and ensures sufficient compensation for position errors.



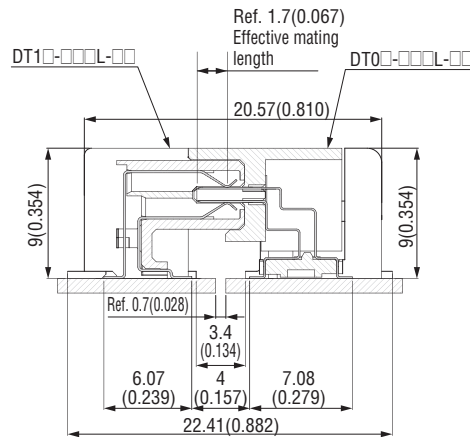
## Mating Drawing

Unit : mm(inch)

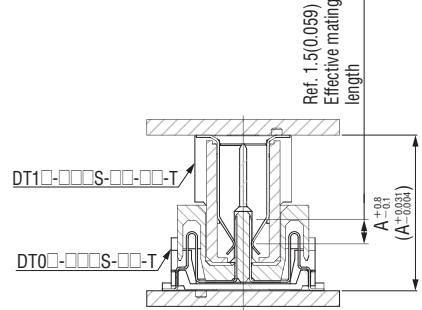
### Vertical Mating



### Horizontal Mating



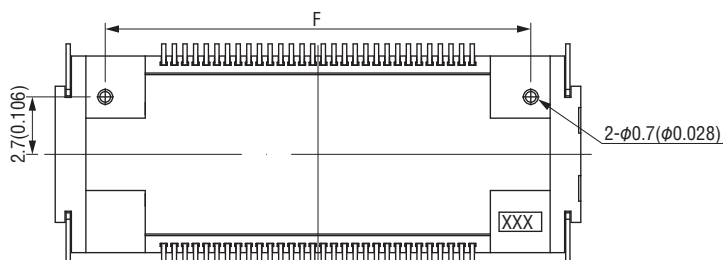
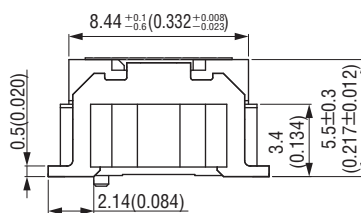
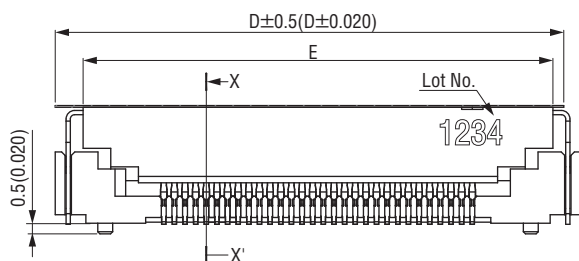
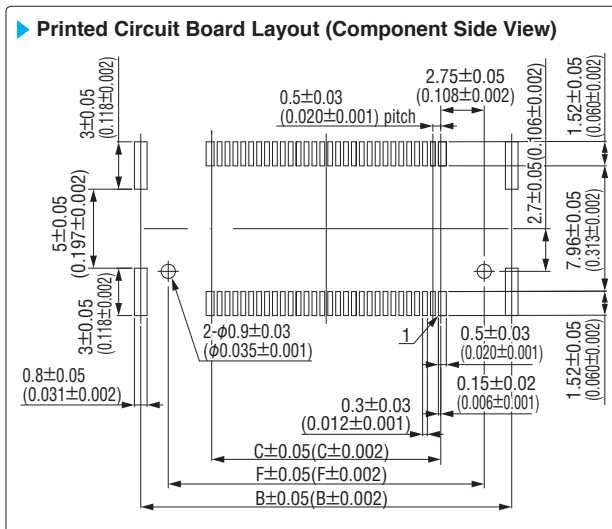
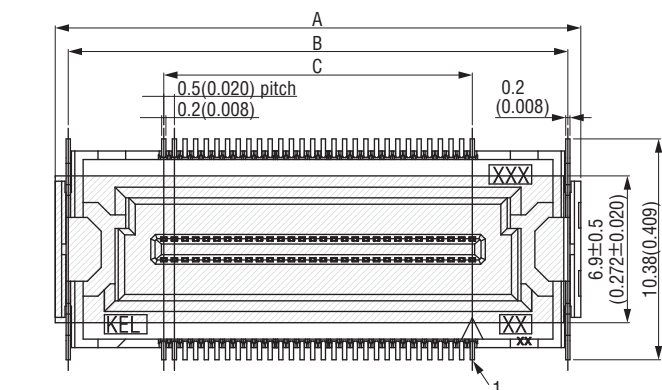
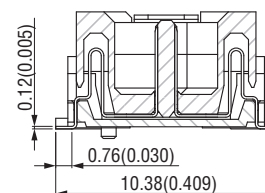
### Stacked Mating



Part Number	A
DT1□-□□□□-10-□□-□□-□□-□□-□□-□□	10(0.394)
DT1□-□□□□-17-□□-□□-□□-□□-□□-□□	17(0.669)
DT1□-□□□□-18-□□-□□-□□-□□-□□-□□	18(0.709)
DT1□-□□□□-19-□□-□□-□□-□□-□□-□□	19(0.748)
DT1□-□□□□-20-□□-□□-□□-□□-□□-□□	20(0.787)

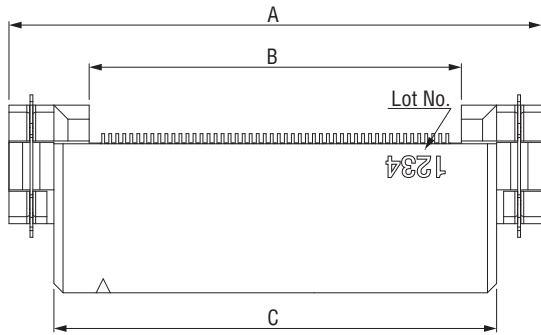
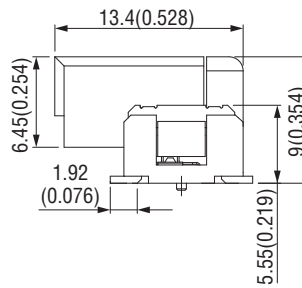
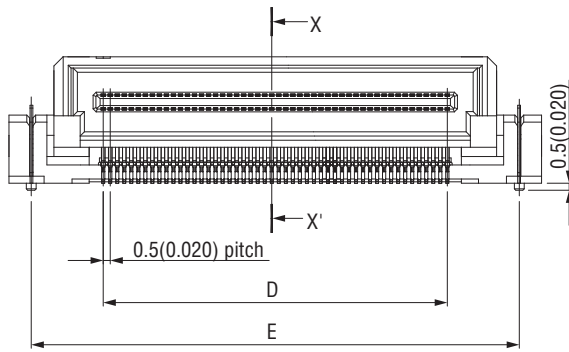
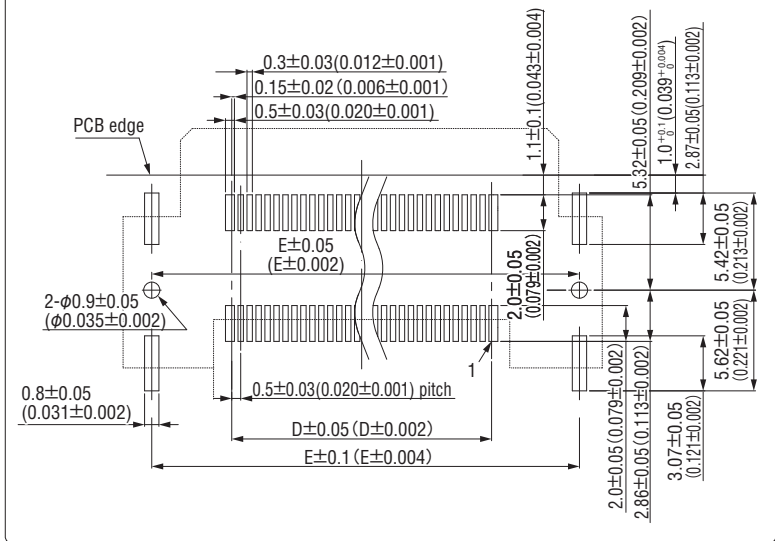
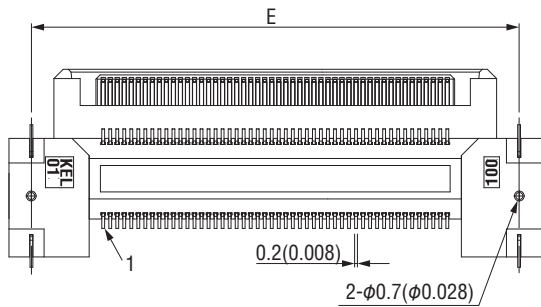
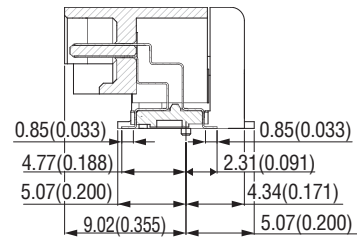
## Mating Matrix

Order Code		Receptacle	
		DT0□-□□□□-□□-□□-□□-□□-□□-□□-□□	DT0□-□□□□-□□
Plug	DT1□-□□□□-□□-□□-□□-□□-□□-□□-□□	Stacked Mating (Stacked Height : 10mm(0.394), 17mm(0.669), 18mm(0.709), 19mm(0.748), 20mm(0.787))	—
	DT1□-□□□□-□□	Vertical Mating	Horizontal Mating


**X-X' Cross Section**

**Product Table / Dimensions**

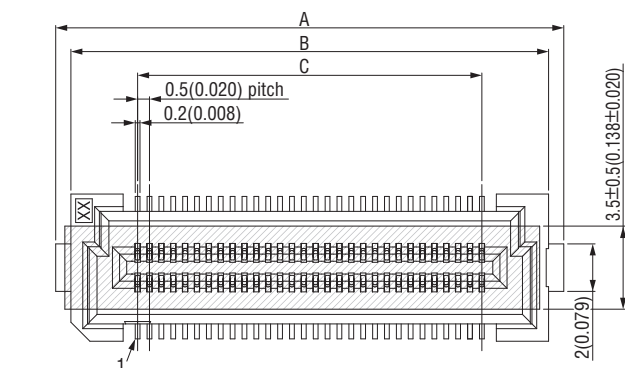
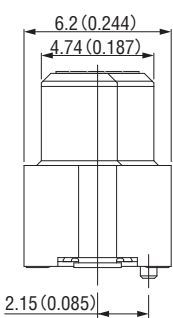
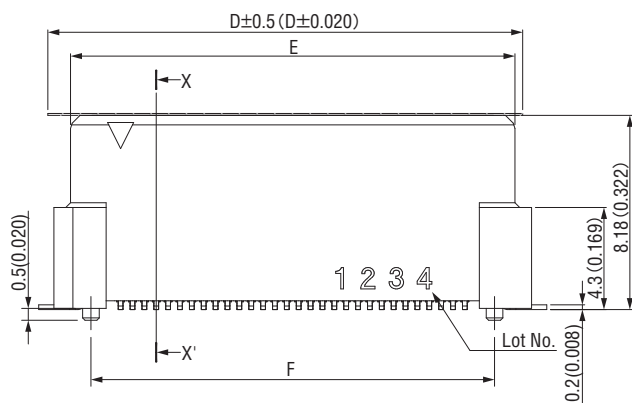
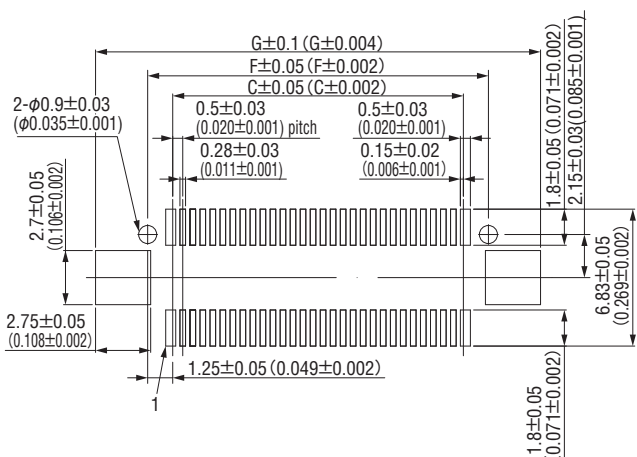
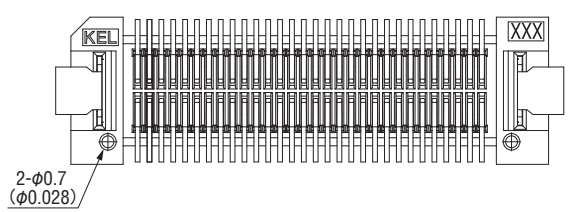
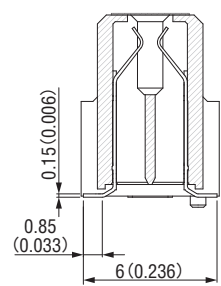
No. of contacts	Part Number	A	B	C	D	E	F	Packaging style	
								Embossed tape	Tray
30	DT0□-030S-T	17.2 (0.677)	15.98 (0.629)	7.0 (0.276)	16.4 (0.646)	14.58 (0.574)	12.5 (0.492)	800	—
40	DT0□-040S-T	19.7 (0.776)	18.48 (0.728)	9.5 (0.374)	18.9 (0.744)	17.08 (0.672)	15.0 (0.591)	800	—
60	DT0□-060S-T	24.7 (0.972)	23.48 (0.924)	14.5 (0.571)	23.9 (0.941)	22.08 (0.869)	20.0 (0.787)	800	—
80	DT0□-080S-T	29.7 (1.169)	28.48 (1.121)	19.5 (0.768)	28.9 (1.138)	27.08 (1.066)	25.0 (0.984)	800	—
100	DT0□-100S-T	34.7 (1.366)	33.48 (1.318)	24.5 (0.965)	33.9 (1.335)	32.08 (1.263)	30.0 (1.181)	800	—
140	DT0□-140S-T	44.7 (1.760)	43.48 (1.712)	34.5 (1.358)	43.9 (1.728)	42.08 (1.657)	40.0 (1.575)	800	—
240	DT0□-240S-TR-T	69.7 (2.744)	68.48 (2.696)	59.5 (2.343)	68.9 (2.713)	67.08 (2.641)	65.0 (2.559)	—	20

\* 240 pin connectors are supplied in trays, and the minimum purchase quantity is 200. Please place your order in multiples of the minimum quantity.


**Printed Circuit Board Layout (Component Side View)**

**X-X' Cross Section**

**Product Table / Dimensions**

No. of contacts	Part Number	A	B	C	D	E	Packaging style	
							Embossed tape	Tray
30	DT0□-030L	20.42 (0.804)	9.1 (0.358)	14.02 (0.552)	7.0 (0.276)	17.25 (0.679)	300	—
40	DT0□-040L	22.92 (0.902)	11.6 (0.457)	16.52 (0.650)	9.5 (0.374)	19.75 (0.778)	300	—
60	DT0□-060L	27.92 (1.099)	16.6 (0.654)	21.52 (0.847)	14.5 (0.571)	24.75 (0.974)	300	—
80	DT0□-080L	32.92 (1.296)	21.6 (0.850)	26.52 (1.044)	19.5 (0.768)	29.75 (1.171)	300	—
100	DT0□-100L	37.92 (1.493)	26.6 (1.047)	31.52 (1.241)	24.5 (0.965)	34.75 (1.368)	300	—
140	DT0□-140L-TR	47.92 (1.887)	36.6 (1.441)	41.52 (1.635)	34.5 (1.358)	44.75 (1.762)	—	24

\* 140 pin connectors are supplied in trays, and the minimum purchase quantity is 192. Please place your order in multiples of the minimum quantity.


**Printed Circuit Board Layout (Component Side View)**

**X-X' Cross Section**


Packaging style	
Embossed tape	Tray

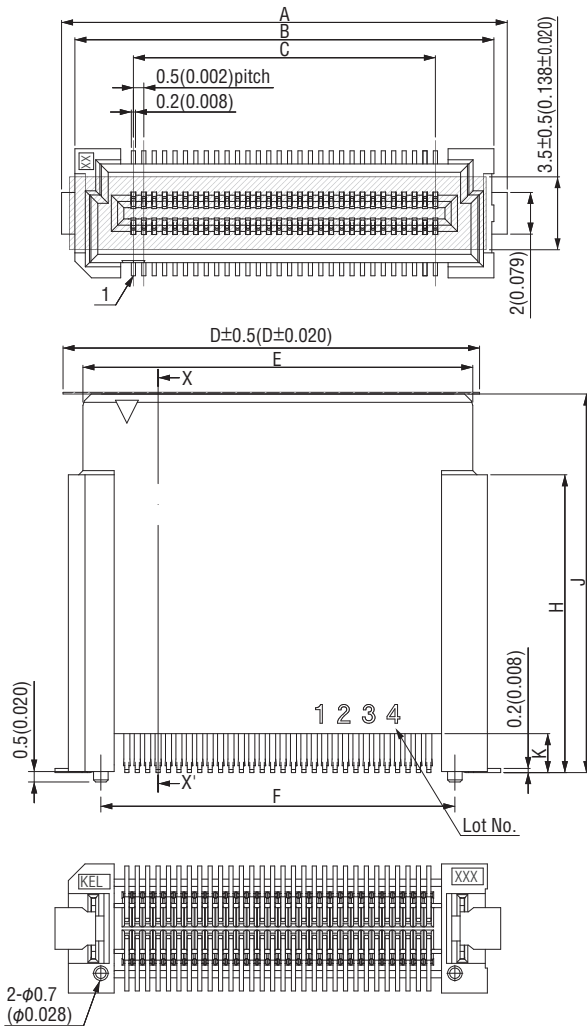
**Product Table / Dimensions**

No. of contacts	Part Number	A	B	C	D	E	F	G	Number of packaging	
30	DT1□-030S-10-T	13.9 (0.547)	12.62 (0.497)	7.0 (0.276)	12.5 (0.492)	11.22 (0.442)	9.5 (0.374)	14.7 (0.579)	500	—
40	DT1□-040S-10-T	16.4 (0.646)	15.12 (0.595)	9.5 (0.374)	15.0 (0.591)	13.72 (0.540)	12.0 (0.472)	17.2 (0.677)	500	—
60	DT1□-060S-10-T	21.4 (0.843)	20.12 (0.792)	14.5 (0.571)	20.0 (0.787)	18.72 (0.737)	17.0 (0.669)	22.2 (0.874)	500	—
80	DT1□-080S-10-T	26.4 (1.039)	25.12 (0.989)	19.5 (0.768)	25.0 (0.984)	23.72 (0.934)	22.0 (0.866)	27.2 (1.071)	500	—
100	DT1□-100S-10-T	31.4 (1.236)	30.12 (1.186)	24.5 (0.965)	30.0 (1.181)	28.72 (1.131)	27.0 (1.063)	32.2 (1.268)	500	—
140	DT1□-140S-10-T	41.4 (1.630)	40.12 (1.580)	34.5 (1.358)	40.0 (1.575)	38.72 (1.524)	37.0 (1.457)	42.2 (1.661)	500	—
240	DT1□-240S-10-TR-T	66.4 (2.614)	65.12 (2.564)	59.5 (2.343)	65.0 (2.559)	63.72 (2.509)	62.0 (2.441)	67.2 (2.646)	—	20

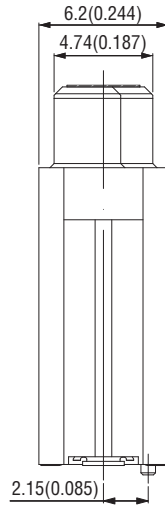
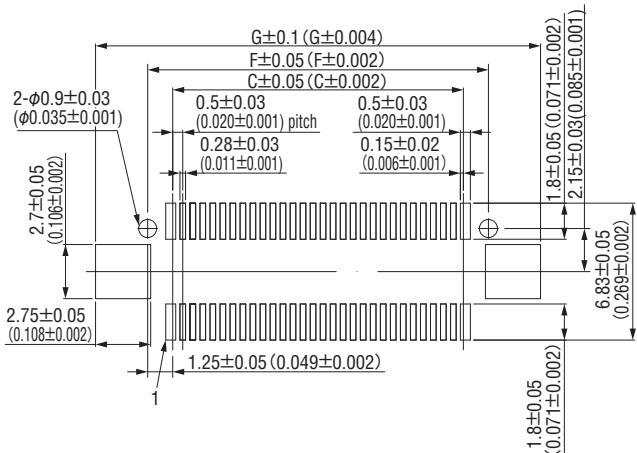
\* 240 pin connectors are supplied in trays, and the minimum purchase quantity is 160. Please place your order in multiples of the minimum quantity.

# DT1□-□□□S-□□-T (Plug, Straight, For 17, 18, 19 and 20mm stacked height)

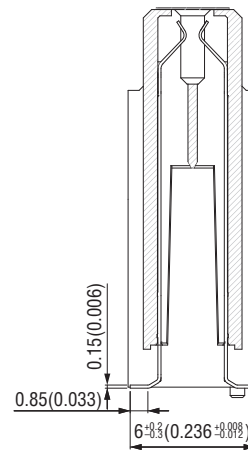
Unit : mm (inch)



## Printed Circuit Board Layout (Component Side View)



## X-X' Cross Section

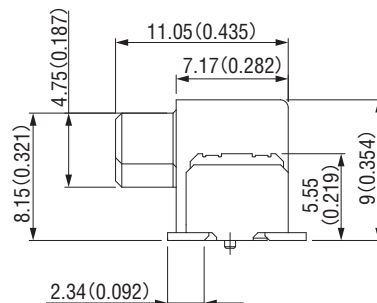
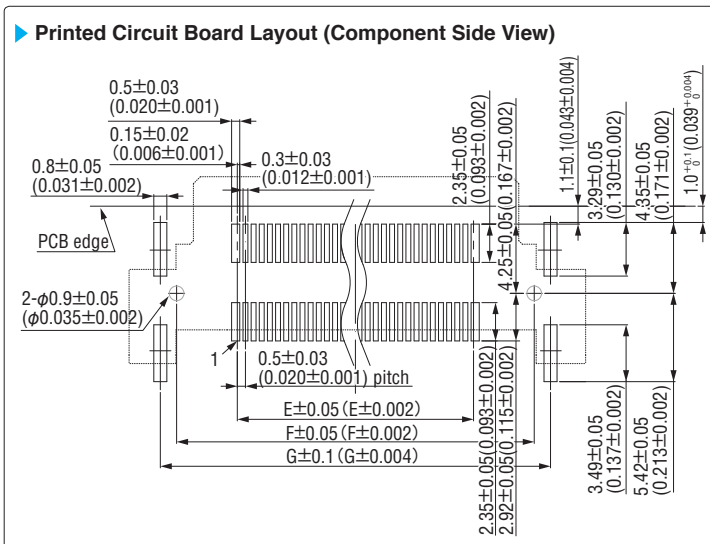
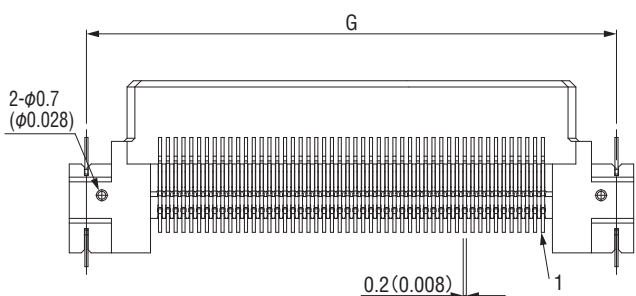
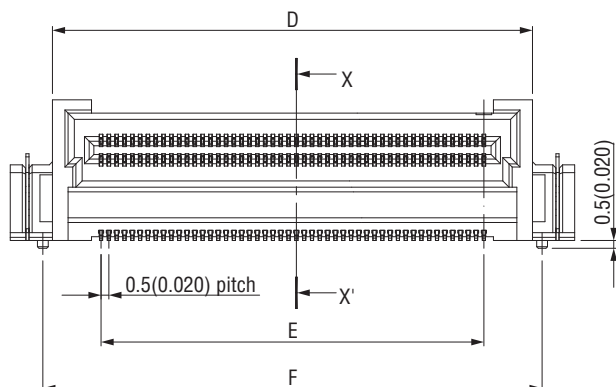
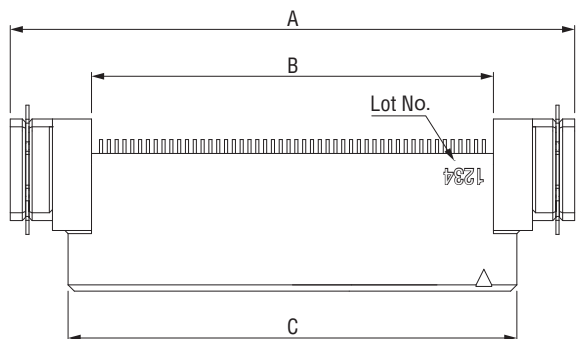
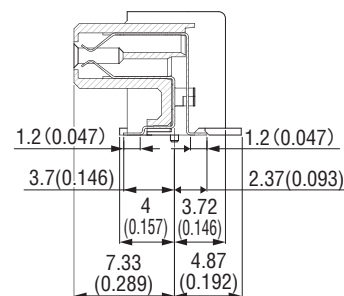


Packaging style  
Embossed tape

Part Number	Stacked height	H	J	K	Number of packing
DT1□-□□□S-17-T	17.0 (0.669)	11.3 (0.445)	15.18 (0.598)	0.87 (0.034)	250
DT1□-□□□S-18-T	18.0 (0.709)	12.3 (0.484)	16.18 (0.637)	1.87 (0.074)	250
DT1□-□□□S-19-T	19.0 (0.748)	13.3 (0.524)	17.18 (0.676)	0.87 (0.034)	200
DT1□-□□□S-20-T	20.0 (0.787)	14.3 (0.563)	18.18 (0.716)	1.87 (0.074)	200

## Product Table / Dimensions

No. of contacts	Part Number	A	B	C	D	E	F	G
30	DT1□-030S-□□-T	13.9 (0.547)	12.62 (0.497)	7.0 (0.276)	12.5 (0.492)	11.22 (0.442)	9.5 (0.374)	14.7 (0.579)
40	DT1□-040S-□□-T	16.4 (0.646)	15.12 (0.595)	9.5 (0.374)	15.0 (0.591)	13.72 (0.540)	12.0 (0.472)	17.2 (0.677)
60	DT1□-060S-□□-T	21.4 (0.843)	20.12 (0.792)	14.5 (0.571)	20.0 (0.787)	18.72 (0.737)	17.0 (0.669)	22.2 (0.874)
80	DT1□-080S-□□-T	26.4 (1.039)	25.12 (0.989)	19.5 (0.768)	25.0 (0.984)	23.72 (0.934)	22.0 (0.866)	27.2 (1.071)
100	DT1□-100S-□□-T	31.4 (1.236)	30.12 (1.186)	24.5 (0.965)	30.0 (1.181)	28.72 (1.131)	27.0 (1.063)	32.2 (1.268)
140	DT1□-140S-□□-T	41.4 (1.630)	40.12 (1.580)	34.5 (1.358)	40.0 (1.575)	38.72 (1.524)	37.0 (1.457)	42.2 (1.661)


**X-X' Cross Section**


Packaging style	
Embossed tape	Tray

**Product Table / Dimensions**

No. of contact	Part Number	A	B	C	D	E	F	G	Number of packaging	
30	DT1□-030L	18.62 (0.733)	8.22 (0.324)	11.22 (0.442)	13.22 (0.520)	7.0 (0.276)	14.45 (0.569)	16.45 (0.648)	300	—
40	DT1□-040L	21.12 (0.831)	10.72 (0.422)	13.72 (0.540)	15.72 (0.619)	9.5 (0.374)	16.95 (0.667)	18.95 (0.746)	300	—
60	DT1□-060L	26.12 (1.028)	15.72 (0.619)	18.72 (0.737)	20.72 (0.816)	14.5 (0.571)	21.95 (0.864)	23.95 (0.943)	300	—
80	DT1□-080L	31.12 (1.225)	20.72 (0.816)	23.72 (0.934)	25.72 (1.013)	19.5 (0.768)	26.95 (1.061)	28.95 (1.140)	300	—
100	DT1□-100L	36.12 (1.422)	25.72 (1.013)	28.72 (1.131)	30.72 (1.209)	24.5 (0.965)	31.95 (1.258)	33.95 (1.337)	300	—
140	DT1□-140L-TR	46.12 (1.816)	35.72 (1.406)	38.72 (1.524)	40.72 (1.603)	34.5 (1.358)	41.95 (1.652)	43.95 (1.730)	—	24

\* 140 pin connectors are supplied in trays, and the minimum purchase quantity is 192. Please place your order in multiples of the minimum quantity.