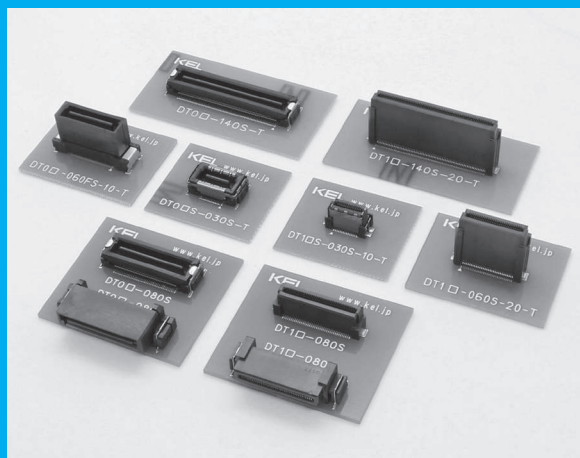


# DT SERIES

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



### FEATURES

- ▶ High-speed serial transmission in the SATA standard level is supported, satisfying all the transmission characteristics required by the SATA Rev 3.0. (Differential impedance: 100Ω±15%)
- ▶ Floating amount ±0.5mm 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.
- ▶ The stacked mating type has a stacking height of 8mm(0.315") to 20mm(0.787").
- ▶ There are products with shell suitable for ESD / EMC protection.
- ▶ Variations in the number of contacts are from 30 pins to 240 pins.  
\* Available pin count varies with the product type.
- ▶ 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	<b>[Type]</b> Receptacle <b>DT00</b> : Without positioning posts <b>DT00S</b> : Without positioning posts(With shell) <b>DT01</b> : With positioning posts <b>DT01S</b> : With positioning posts(With Shell)
	<b>[Number of contacts]</b> (S type) <b>030</b> : 30pin <b>040</b> : 40pin <b>060</b> : 60pin <b>080</b> : 80pin <b>100</b> : 100pin <b>120</b> : 120pin <b>140</b> : 140pin <b>160</b> : 160pin <b>240</b> : 240pin
②	(L type) <b>030</b> : 30pin <b>040</b> : 40pin <b>060</b> : 60pin <b>080</b> : 80pin <b>100</b> : 100pin <b>140</b> : 140pin (DT0□S) <b>030</b> : 30pin <b>040</b> : 40pin <b>100</b> : 100pin
③	<b>[Contact tail style]</b> <b>S</b> : Straight <b>L</b> : Right angle (not available for DT0□S)
④	<b>[Packaging style]</b> <b>Omit</b> : Embossed tape (tape&reel) <b>TR</b> : Tray (S type : 240 pin, L type : 140 pin)
⑤	<b>[Anti-dust tape]</b> <b>T</b> : With anti-dust tape (S type) <b>Omit</b> : 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	<b>[Type]</b> Plug <b>DT10</b> : Without positioning posts <b>DT10S</b> : Without positioning posts(With shell) <b>DT11</b> : With positioning posts <b>DT11S</b> : With positioning posts(With shell)
	<b>[Number of contacts]</b> (S type) <b>030</b> : 30pin <b>040</b> : 40pin <b>060</b> : 60pin <b>080</b> : 80pin <b>100</b> : 100pin <b>120</b> : 120pin <b>140</b> : 140pin <b>160</b> : 160pin <b>240</b> : 240pin
②	(L type) <b>030</b> : 30pin <b>040</b> : 40pin <b>060</b> : 60pin <b>080</b> : 80pin <b>100</b> : 100pin <b>140</b> : 140pin (DT1□S) <b>030</b> : 30pin <b>040</b> : 40pin <b>100</b> : 100pin
③	<b>[Contact tail style]</b> <b>S</b> : Straight <b>L</b> : Right angle (not available for DT1□S)
	<b>[Stacked height]</b> (DT0□-□□□S-□□-□T Mated situation) <b>8</b> : 8mm <b>10</b> : 10mm <b>11</b> : 11mm <b>15</b> : 15mm <b>16</b> : 16mm <b>17</b> : 17mm <b>18</b> : 18mm <b>19</b> : 19mm <b>20</b> : 20mm
④	(DT0□-□□□FS-10-T Mated situation) <b>8</b> : 18mm <b>10</b> : 20mm <b>11</b> : 21mm <b>15</b> : 25mm <b>16</b> : 26mm <b>17</b> : 27mm <b>18</b> : 28mm <b>19</b> : 29mm <b>20</b> : 30mm (DT0□S/DT1□S Mated situation) <b>10</b> : 10mm
⑤	<b>[Packaging style]</b> <b>Omit</b> : Embossed tape (Tape&Reel) <b>TR</b> : Tray (S type : 240 pin, L type : 140 pin)
⑥	<b>[Anti-dust tape]</b> <b>T</b> : With anti-dust tape (S type) <b>Omit</b> : Without anti-dust tape (L type)

\*As the stack height that can support depends on number of contacts, please refer for the details to our sales representative.

\*Please refer to the content of the catalogue of "the DT-FS series" for the details of DT0□-□□□FS-10-T.

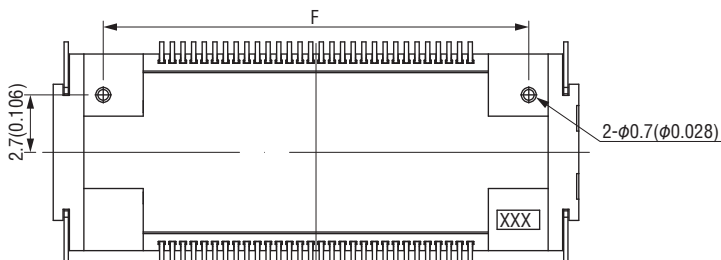
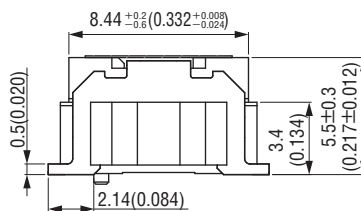
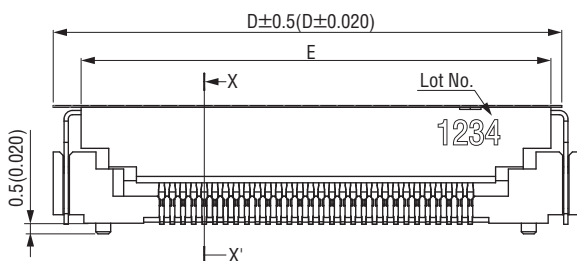
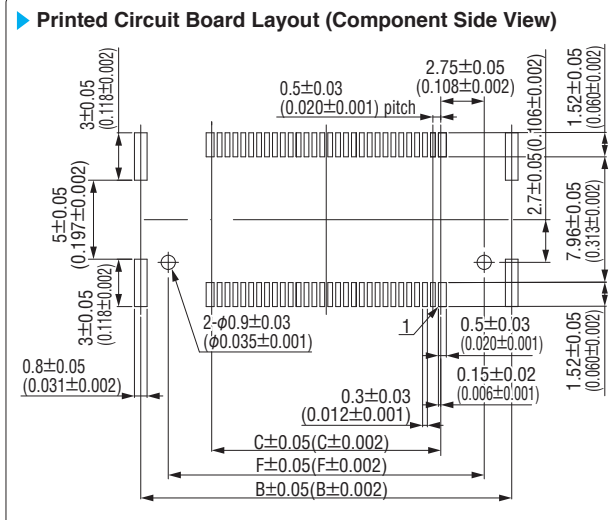
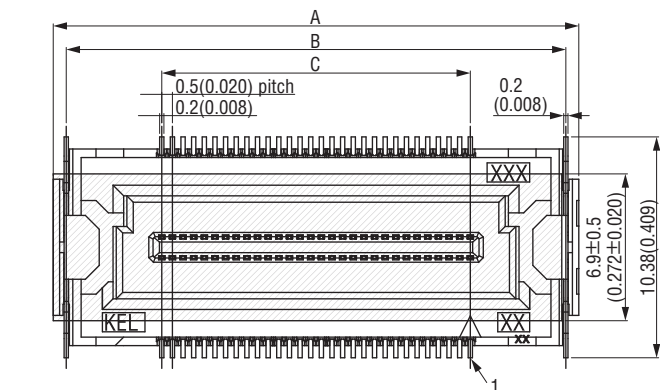
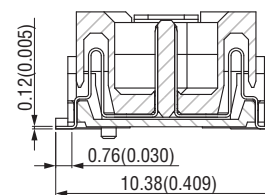
### SPECIFICATIONS

Material and plating		Electrical Characteristics	
Insulator material	Glass-filled LCP(UL94V-0), Black	Current rating	0.4A per contact (In the case of simultaneously energizing: 140 pin or less.)
Contact / Shell material	Copper alloy	Contact resistance	80mΩ max.
Contact / Shell 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
Material of anti-dust tape	Polyimide		

\*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.




**X-X' Cross Section**


Packaging style	
Embossed tape	Tray

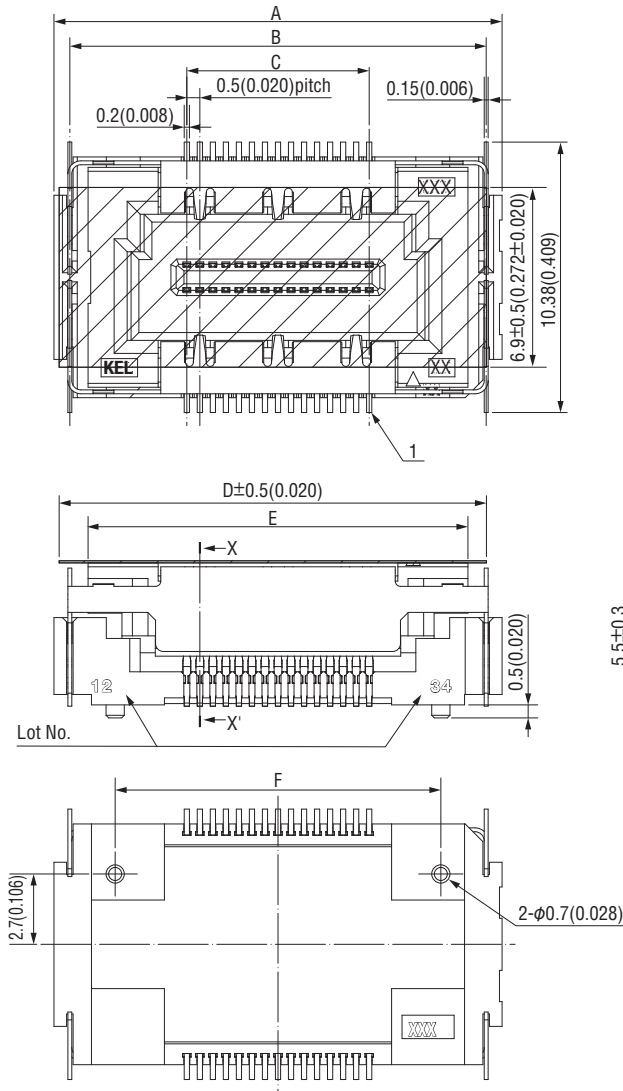
**Product Table / Dimensions**

No. of contacts	Part Number	A	B	C	D	E	F	No. of packaging	
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	—
120	DT0□-120S-T	39.7 (1.563)	38.48 (1.515)	29.5 (1.161)	38.9 (1.531)	37.08 (1.460)	35.0 (1.378)	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	—
160	DT0□-160S-T	49.7 (1.957)	48.48 (1.909)	39.5 (1.555)	48.9 (1.925)	47.08 (1.854)	45.0 (1.772)	800	—
240	DT0□-240S-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)	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

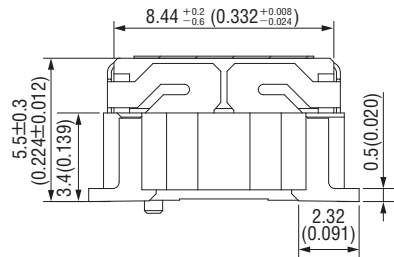
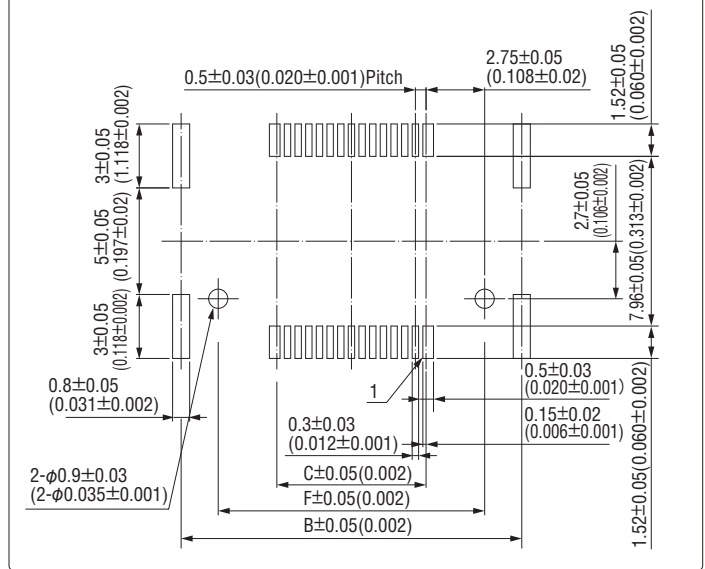
\* 240 pin connectors are supplied in trays, and the minimum purchase quantity is 200.  
Please place your order in multiples of the minimum quantity.

# DT0□S-□□□S-T (Receptacle straight with shell)

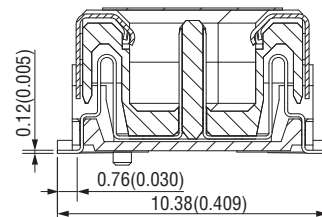
Unit : mm(inch)



## Printed Circuit Board Layout (Component Side View)



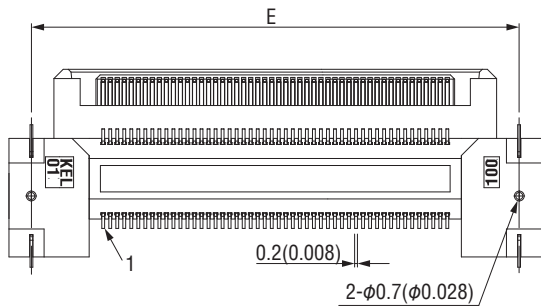
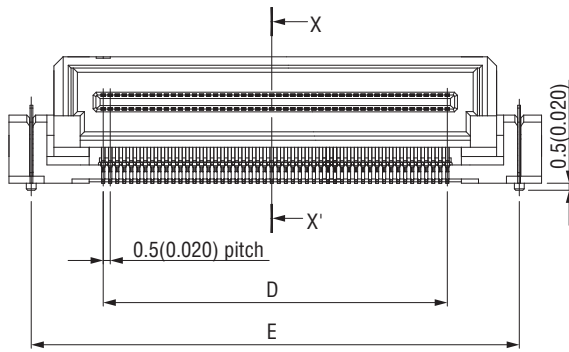
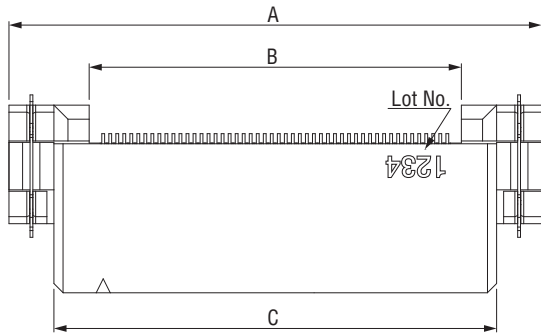
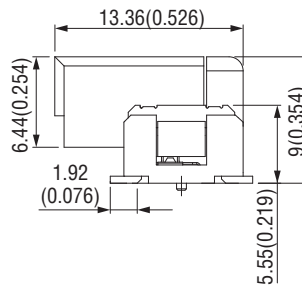
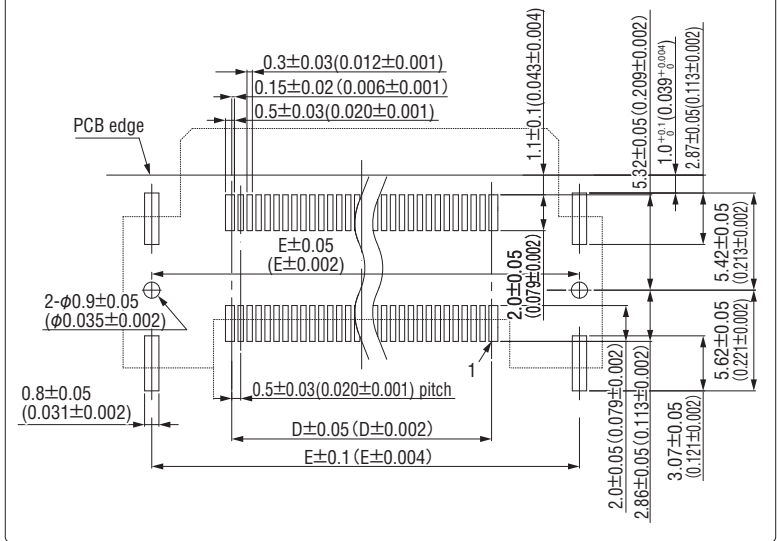
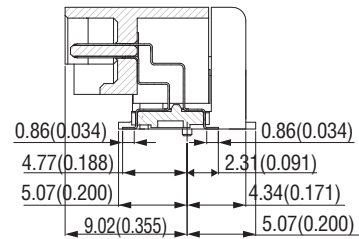
### X-X' Cross Section



Packaging style  
Embossed tape

### Product Table / Dimensions

No. of contacts	Part Number	A	B	C	D	E	F	No. of packaging
30	DT0□S-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□S-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
100	DT0□S-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


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

**X-X' Cross Section**


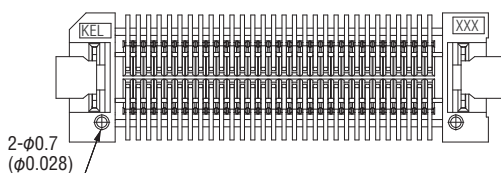
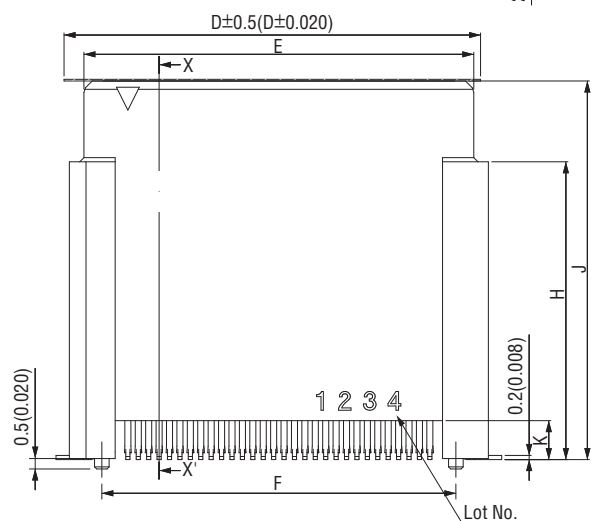
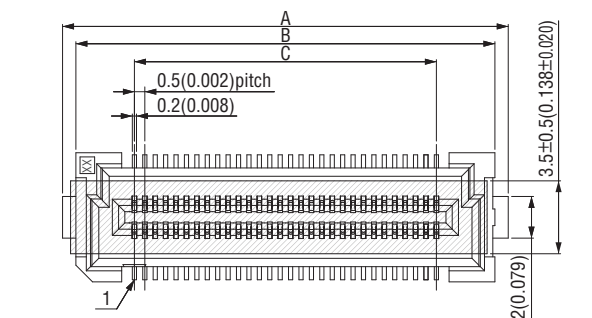
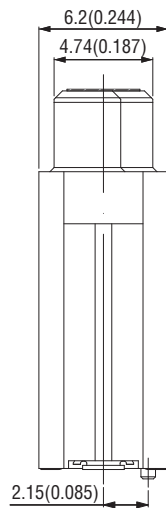
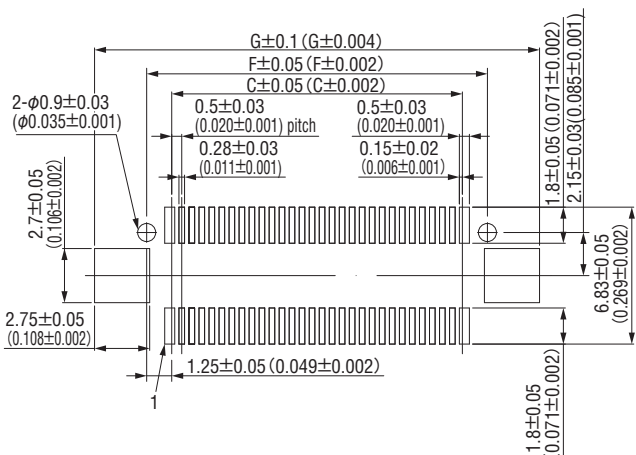
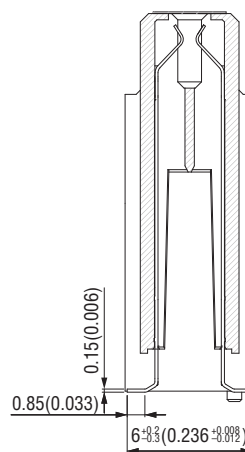
Packaging style	
Embossed tape	Tray

**Product Table / Dimensions**

No. of contacts	Part Number	A	B	C	D	E	No. of packaging	
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

Part Number	H	J	K	No. of packing
DT1□-□□□S-17-T	11.3 (0.445)	15.18 (0.598)	0.87 (0.034)	250
DT1□-□□□S-18-T	12.3 (0.484)	16.18 (0.637)	1.87 (0.074)	250
DT1□-□□□S-19-T	13.3 (0.524)	17.18 (0.676)	0.87 (0.034)	200
DT1□-□□□S-20-T	14.3 (0.563)	18.18 (0.716)	1.87 (0.074)	200

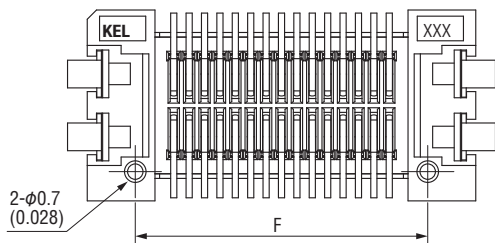
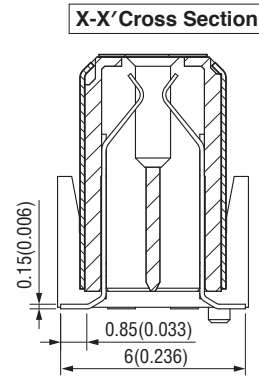
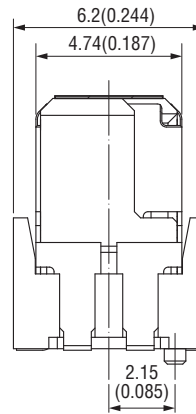
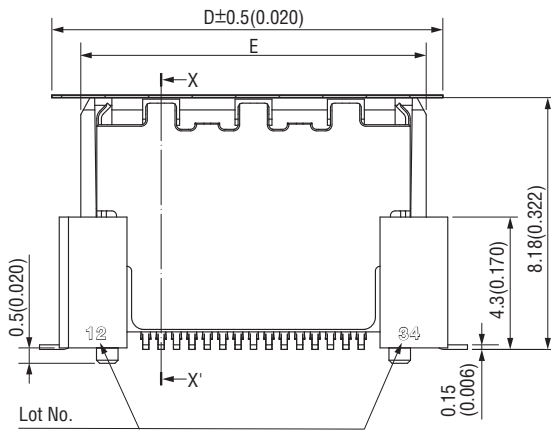
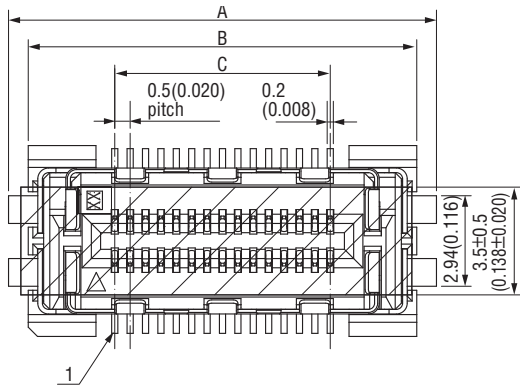
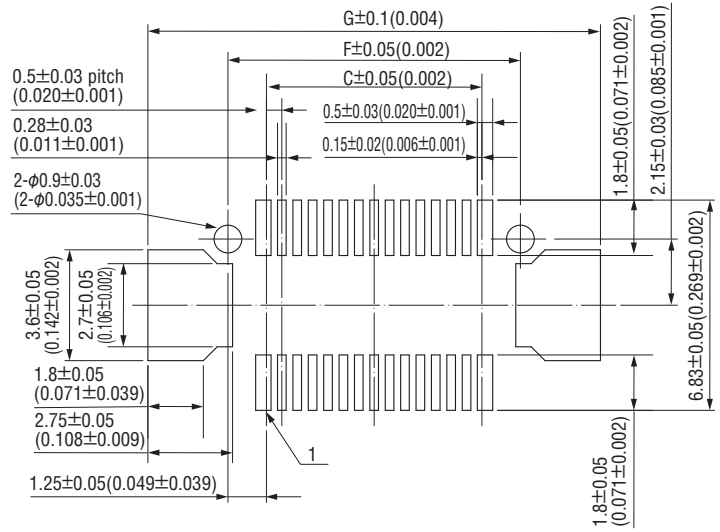
**Product Table / Dimensions**

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)

# DT1□S-□□□S-10-T (Plug straight with shell , Stacked height 10mm)

Unit : mm(inch)

## Printed Circuit Board Layout (Component Side View)

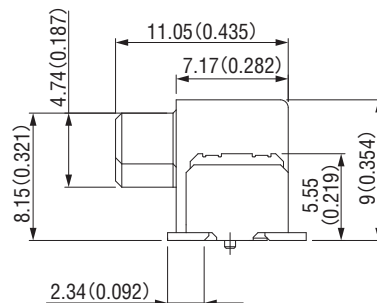
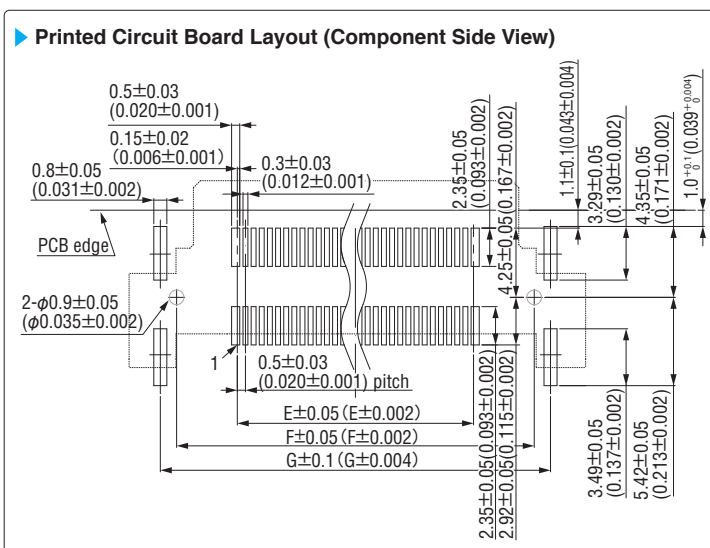
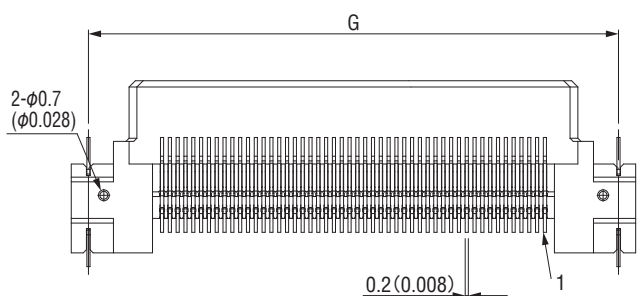
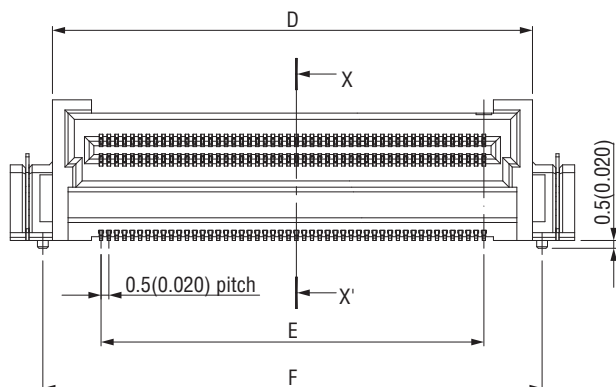
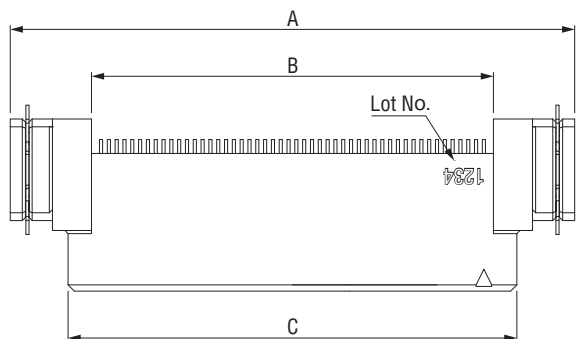
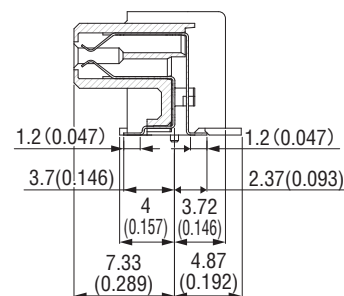


Packaging style  
Embossed tape

## Product Table / Dimensions

No. of contacts	Part Number	A	B	C	D	E	F	G	No. of packaging
30	DT1□S-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 (0.597)	500
40	DT1□S-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
100	DT1□S-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




**X-X' Cross Section**

**Product Table / Dimensions**

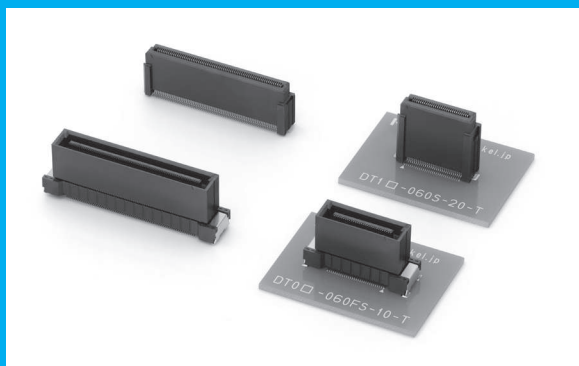
No. of contact	Part Number	A	B	C	D	E	F	G	Packaging style	
									Embossed tape	Tray
30	DT1□-030L	18.62 (0.733)	8.22 (0.324)	11.22 (0.442)	13.22 (0.520)	7.0 (0.276)	14.45 (0.569)	16.45 (0.648)	300	—
40	DT1□-040L	21.12 (0.831)	10.72 (0.422)	13.72 (0.540)	15.72 (0.619)	9.5 (0.374)	16.95 (0.667)	18.95 (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.

# DT-FS SERIES

RoHS  
Compliant

## 0.5mm PITCH FLOATING CONNECTOR FOR HIGH-SPEED TRANSMISSION / HIGH STACK TYPE (RECEPTACLE HEIGHT 10 mm TYPE)



### FEATURES

- ▶ Transmission characteristics that support high-speed serial transmission of 8 Gbps.
- ▶ Large floating amount of  $\pm 1.0$  mm in the XY directions secured.
- ▶ Highly reliable design with an effective mating length of 1.5 mm.
- ▶ Stack heights are available from 18 mm to 30 mm.
- ▶ The number of contacts supported depends on the stack height.
- ▶ Seven types of contacts are available, from 30 pin to 140 pin.
- ▶ Offer space-saving on the PCB compared to the DT standard type.
- ▶ Arc-shaped contacts prevent foreign matters which may cause mating error.

### ORDER CODE

**DT0** - **FS-10-T**

①      ②      ③      ④      ⑤

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

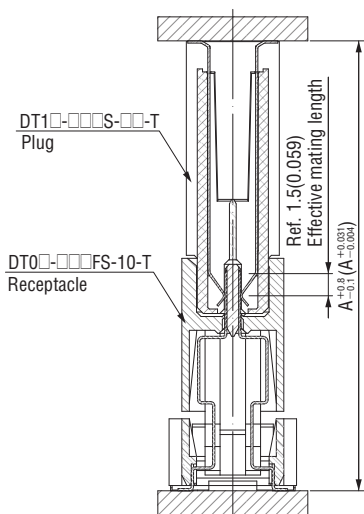
- ① **[Type]** Receptacle **DT00**: Without positioning posts **DT01**: With positioning posts
- ② **[Number of contacts]** **030**: 30 pin **040**: 40 pin **060**: 60 pin **080**: 80 pin **100**: 100 pin **120**: 120 pin **140**: 140 pin
- ③ **[Contact tail style]** **FS**: Flexible straight
- ④ **[Stacked height]** **10**: Height 10 mm type
- ⑤ **[Anti-dust tape]** **T**: With anti-dust tape

### SPECIFICATIONS

Material and plating		Electrical Characteristics	
Insulator material	Glass-filled LCP (UV94V-0), Black	Current rating	0.5 A 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	Cooper alloy	Insulation resistance	100MΩ min. at 250V DC
Retention clip plating	Gold over Nickel (Tail part)	Operating temperature	-40°C to +105°C
Anti-dust tape material	Polyimide		

### Mating Drawing

Unit : mm(inch)



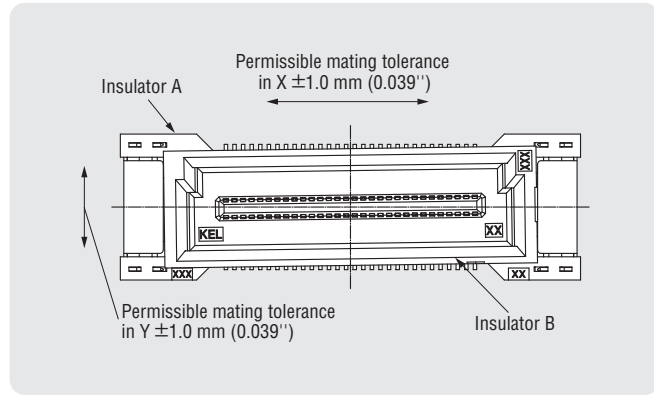
### Product Table / Dimensions

Part Number	A
DT100-000 S-8-T	18(0.709)
DT100-000 S-10-T	20(0.787)
DT100-000 S-11-T	21(0.827)
DT100-000 S-15-T	25(0.984)
DT100-000 S-16-T	26(1.024)
DT100-000 S-17-T	27(1.063)
DT100-000 S-18-T	28(1.102)
DT100-000 S-19-T	29(1.142)
DT100-000 S-20-T	30(1.181)

### 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-FS series is a 0.5 mm (0.020") fine pitch connector with  $\pm 1.0$  mm (0.039") floating structure and ensures sufficient compensation for position errors.



### Mating Matrix

Order Code		Receptacle			
		DT0□-□□□S-□□-T (Straight / Standard type)	DT0□-□□□FS-10-T (Straight / Height 10mm type)	DT0□S-□□□S-T (Straight / With shell type)	DT0□-□□□L-□□ (Right angle / Standard type)
Plug	DT1□-□□□S-□□-□□- (Straight / Standard type)	Stacked mating (Stacked height 8 to 20mm) *1	Stacked mating (Stacked height 18 to 30mm) *1	*2	*2
	DT1□S-□□□S-10-T (Straight / With shell type)	*2	*2	Stacked mating (Stacked height 10mm)	—
	DT1□-□□□L-□□ (Right angle / Standard type)	Vertical mating	Vertical mating	—	Horizontal mating

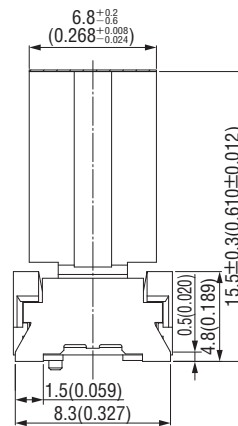
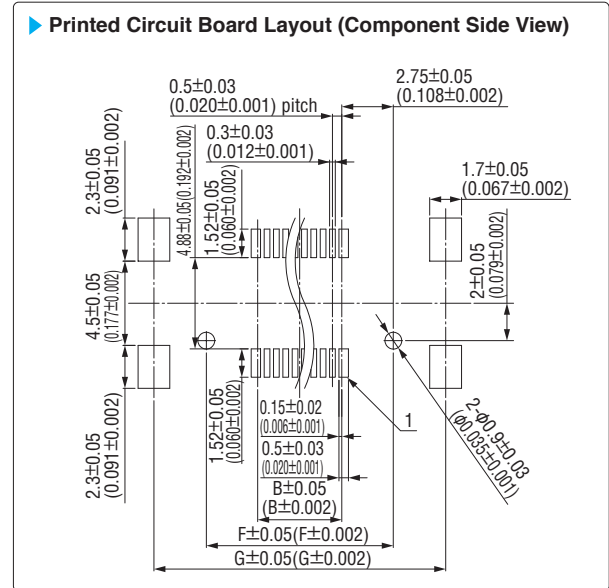
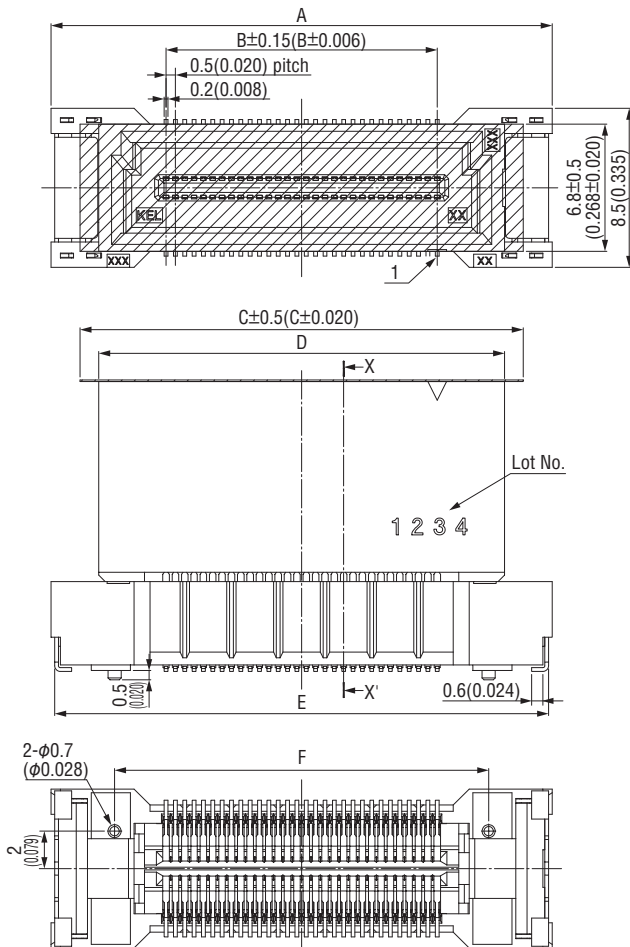
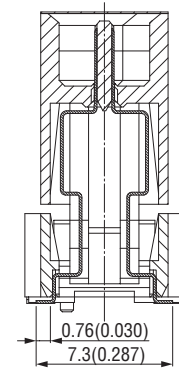
\*1 Please note that the corresponding stack height changes depending on the number of contacts.

\*2 Please contact KEL local representatives when thin combination is required.

### Product table for stack type

Stacked height	Part number		Floating amount	Number of contacts										
	Receptacle	Plug		30	40	60	80	100	120	140	160	240		
8mm	DT0□-□□□S-T	DT1□-□□□S-8-T	±0.5mm	○	—	—	—	○	—	○	—	—	—	
10mm		DT1□-□□□S-10-T		○	○	○	○	○	—	○	○	○		
11mm		DT1□-□□□S-11-T		—	—	—	—	—	*	○	*	—		
15mm		DT1□-□□□S-15-T		○	○	○	○	○	○	○	○	—	—	
16mm		DT1□-□□□S-16-T		○	—	○	—	—	○	—	*	—		
17mm		DT1□-□□□S-17-T		○	○	○	○	○	—	○	—	—		
18mm		DT0□-□□□S-T		DT1□-□□□S-18-T	±0.5mm	○	○	○	○	○	—	○	—	—
18mm	DT0□-□□□FS-10-T	DT1□-□□□S-8-T	±1.0mm	○	—	—	—	○	—	○	—	—		
19mm	DT0□-□□□S-T	DT1□-□□□S-19-T	±0.5mm	○	○	○	○	○	*	○	—	—		
20mm	DT0□-□□□S-T	DT1□-□□□S-20-T	±0.5mm	○	○	○	○	○	*	○	—	—		
20mm	DT0□-□□□FS-10-T	DT1□-□□□S-10-T	±1.0mm	○	○	○	○	○	*	○	—	—		
21mm	DT0□-□□□FS-10-T	DT1□-□□□S-11-T	±1.0mm	—	—	—	—	—	*	○	—	—		
25mm	DT0□-□□□FS-10-T	DT1□-□□□S-15-T	±1.0mm	○	○	○	○	○	○	○	—	—		
26mm		DT1□-□□□S-16-T		○	—	○	—	—	○	—	—	—		
27mm		DT1□-□□□S-17-T		○	○	○	○	○	—	○	—	—		
28mm		DT1□-□□□S-18-T		○	○	○	○	○	—	○	—	—		
29mm		DT1□-□□□S-19-T		○	○	○	○	○	—	○	—	—		
30mm		DT1□-□□□S-20-T		○	○	○	○	○	*	○	—	—		

\* Please contact KEL local representatives when this combination is required.


**X-X' Cross Section**

 Packaging style  
 Embossed tape

**Product Table / Dimensions**

No. of contacts	Part Number	A	B	C	D	E	F	G	No. of packaging
30	DT0□-030FS-10-T	19.3 (0.760)	7.0 (0.276)	16.2 (0.638)	14.2 (0.559)	18.9 (0.744)	12.5 (0.492)	18.1 (0.713)	250
40	DT0□-040FS-10-T	21.8 (0.858)	9.5 (0.374)	18.7 (0.736)	16.7 (0.657)	21.4 (0.843)	15.0 (0.591)	20.6 (0.811)	250
60	DT0□-060FS-10-T	26.8 (1.055)	14.5 (0.571)	23.7 (0.933)	21.7 (0.854)	26.4 (1.039)	20.0 (0.787)	25.6 (1.008)	250
80	DT0□-080FS-10-T	31.8 (1.252)	19.5 (0.768)	28.7 (1.130)	26.7 (1.051)	31.4 (1.236)	25.0 (0.984)	30.6 (1.205)	250
100	DT0□-100FS-10-T	36.8 (1.449)	24.5 (0.965)	33.7 (1.327)	31.7 (1.248)	36.4 (1.433)	30.0 (1.181)	35.6 (1.402)	250
120	DT0□-120FS-10-T	41.8 (1.646)	29.5 (1.161)	38.7 (1.524)	36.7 (1.445)	41.4 (1.630)	35.0 (1.378)	40.6 (1.598)	250
140	DT0□-140FS-10-T	46.8 (1.843)	34.5 (1.358)	43.7 (1.720)	41.7 (1.642)	46.4 (1.827)	40.0 (1.575)	45.6 (1.795)	250