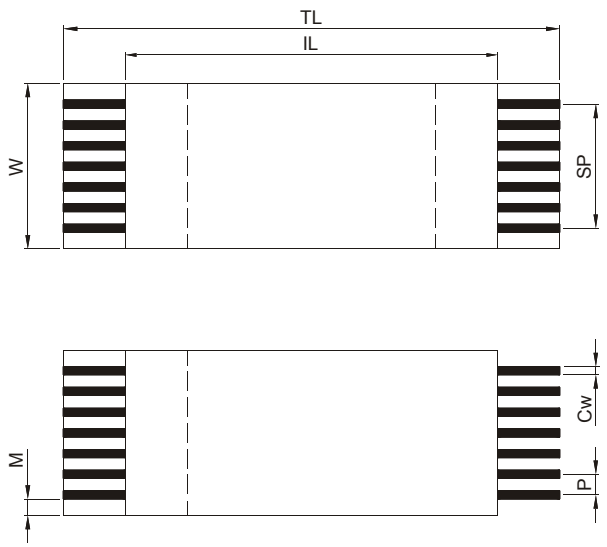
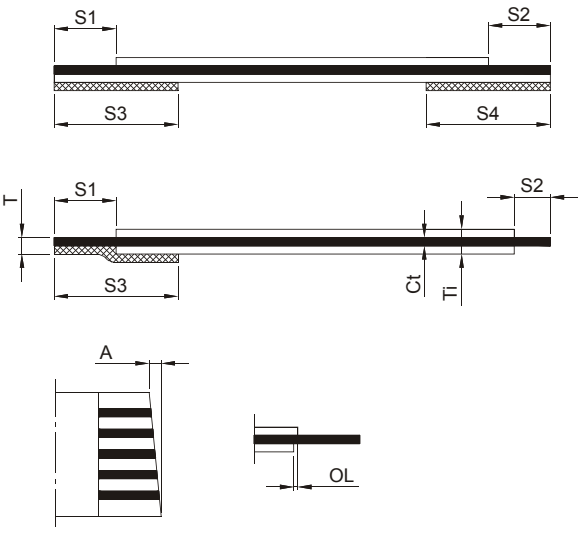
shape, construction and dimensions





symbol	P		W	SP	M	IL	TL	S1	S2	S3	S4	OL	A	Ct	Cw	Ti	T
item	pitch		width	span	margin	insulation length	total length	contact opening	contact opening	supporting tape length	supporting tape length	overlap	angle of cutting	conductor thickness	conductor width	thickness of insulator	thickness of connector
range	0.3-2.54		P(n+1)	P(n-1)	0.3-2.54	20 min	IL+S1+S2	2.0-6.0	2.0-6.0	2-30	2-30			0.028-0.1	0.2-1.575	0.1-0.3	0.27-0.32
tolerance	P0.30	±0.03	±0.03	±0.03	±0.15	±2 at 30-100 ±5 at 101-300 ±8 at 301-600 ±10 at ≥ 601		±1.0	±1.0	±1.5	±1.5	exposed: 0.5 hidden: 1.0	0.5 max	see page C12 for conductor		±0.02	±0.04
	P0.50	±0.05	±0.05	±0.05	±0.15												
	P0.80	±0.08	±0.08	±0.08	±0.15												
	P1.00		±0.10	±0.10	±0.15												
	P1.25	±0.10	±0.10	±0.10	±0.15												
	P2.54		±0.20	±0.20	±0.20												

1 - pitch

pitch (mm)	code
2.54	A
1.25	B
1.00	C
0.80	D
0.50	E
0.30	F

2 - no. of conductors

Please fill in your needed pole amount.

technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

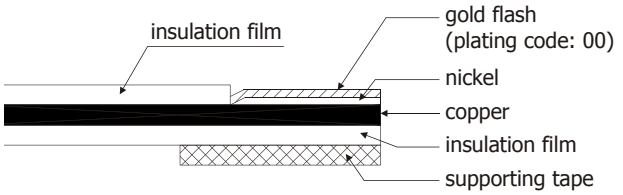
FFC	C	12	04	T1	060	0	0	-A	50	-X
1 series no.	2 pitch	3 no. of conductors	4 conductor size	5 terminal type	6 overall length (mm)	7 strip length	8 support tape length	9 UL style	0 plating	additional option

3 - conductor size - tin plating

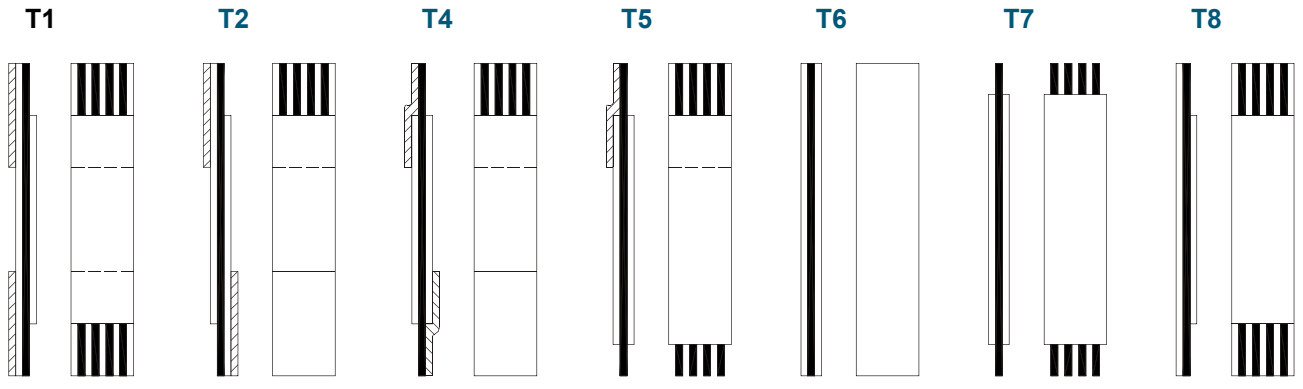
code	pitch	conductor dimension	material	cross-sectional area	AWG	resistance	current rating	tolerance	
		Ct x Cw		(mm²)	(Approx.)	(Ohm/meter)	(Amp.)	Ct	Cw
01	2.54	0.10 x 1.27		0.1270	26	0.17	2.5	±0.01	+0.02 -0.04
02	1.25/1.27	0.10 x 0.80	lead free tin plated copper	0.0800	28	0.27	2.0	±0.01	+0.01 -0.03
03	1.25/1.27	0.05 x 0.80		0.0400	31	0.53	1.0		
10	1.25/1.27	0.035x 0.80		0.0280	32-33	0.83	0.5		
04	1.00	0.10 x 0.65		0.0650	29	0.35	2.0		
14	1.00	0.10 x 0.60		0.0600	29	0.38	2.0		
05	1.00	0.05 x 0.65		0.0325	32	0.63	1.0		
11	1.00	0.05 x 0.60		0.0300	32	0.68	1.0		
06	1.00	0.035x 0.65		0.0228	33-34	0.96	0.5		
15	1.00	0.035x 0.60		0.0210	34	1.04	0.5		
16	1.00	0.028x 0.65		0.0182	34-35	1.12	0.5		
17	1.00	0.028x 0.60		0.0168	35	1.21	0.5		
07	0.80	0.10 x 0.50		0.0500	30	0.42	1.0		
18	0.80	0.05 x 0.50		0.0250	33	0.88	0.5		
19	0.80	0.035x 0.50		0.0175	34-35	1.15	0.5		
13	0.50	0.10 x 0.32		0.0320	32	0.62	1.0		
08	0.50	0.05x 0.30		0.0160	35	1.37	0.5		
09	0.50	0.035x 0.30		0.0112	36-37	2.11	0.5		
20	0.30	0.05 x 0.20		0.0100	37	2.22	0.3		

3 - conductor size - gold plating

code	pitch	conductor dimension	only available for
		Ct x Cw	
03	1.25	0.05 x 0.80	ZIF, FFC types T1, T2
02	1.25	0.10 x 0.80	
06	1.00	0.035x 0.65	
05	1.00	0.05 x 0.65	
09	0.50	0.035x 0.32	
21	0.50	0.028x 0.32	



4 - terminal type



technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

FFC	C	12	04	T1	060	0	0	-A	50	-X
1	2	3	4	5	6	7	8	9	0	
series no.	pitch	no. of conductors	conductor size	terminal type	overall length (mm)	strip length	support tape length	UL style	plating	additional option

5 - overall length

Please fill in your needed overall length in mm.
overall length = TL in drawing page C12

6 - strip length

strip length: 0 = standard

conductor pitch	standard strip length
0.3 / 0.5 / 0.8	4.0 mm
1.0 / 1.25 / 2.54	5.0 mm

7 - support tape length

support tape length: 0 = standard

conductor pitch	standard strip length
0.3 / 0.5 / 0.8	8.0 mm
1.0 / 1.25 / 2.54	10.0 mm

8 - UL style

code	UL no.	voltage rating	useable temperature	application
A	UL2896	30V	80°C	
B	UL20696	30V	80°C	
C	UL20624	60V	80°C	
D	UL20798	60V	80°C	
F	Ul20861	60V	105°C	
G	UL2690	300V	105°C	over 1.25 pitch FFC

9 - plating

code	plating
00	lead and whisker free gold
50	lead free tin

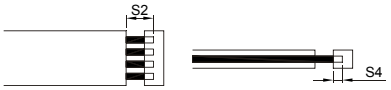
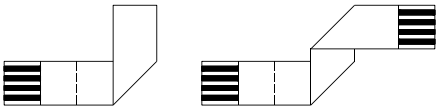
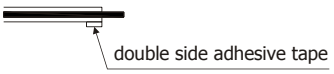
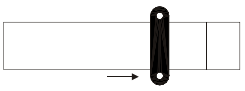
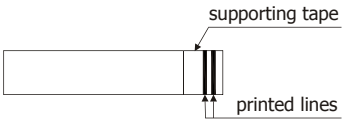
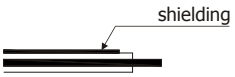
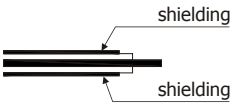
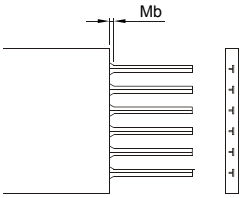
Technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

FFC	C	12	04	T1	060	0	0	-A	50	-X
series no.	1 pitch	2 no. of conductors	3 conductor size	4 terminal type	5 overall length (mm)	6 strip length	7 support tape length	8 UL style	9 plating	0 additional option

0 - additional options if needed

code	comments	drawing
-B black FFC	Black color FFC can be produced with using black colored insulation films.	
-S semi-stripped	Semi-stripped FFC can prevent the bent of the terminals during transportation.	
-F folded	Customized folding available.	
-A adhesive tape	Double side adhesive tape for fixed soldering.	
-Z strain relief	Strain relief for safe usage.	
-L printed lines	Added lines for best insertion control.	
-E1 shielding	Single side shielding.	
-E2 shielding	Double side shielding.	
-E3 shielding	Shield with earth drain.	
-V V-shaped terminals	only available in pitch: 1.00, 1.25, 2.54 conductor codes: 01, 02, 03, 04, 05, 06, 10 plating: 50 ul-style: UL 2896 (code A)	 suggested PCB hole pitch / size: 2.54 / Ø1.00; 1.25 / Ø0.70; 1.00 / Ø0.60

Order code: Leave this position free, if no additional option is needed.

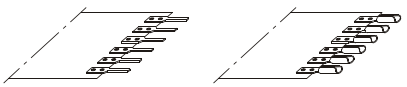
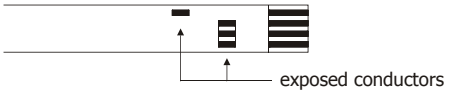
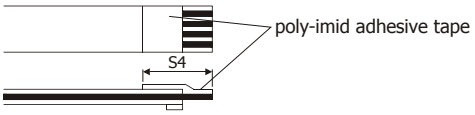
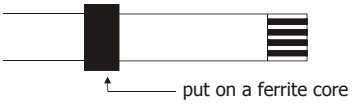
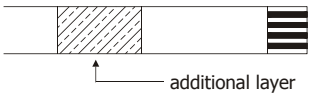
technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

FFC	C	12	04	T1	060	0	0	-A	50	-X
1	2	3	4	5	6	7	8	9	0	
series no.	pitch	no. of conductors	conductor size	terminal type	overall length (mm)	strip length	support tape length	UL style	plating	additional option

0 - additional options if needed

code	comments	drawing
-U U-cutting		
-T terminal crimping	Male and female crimping available	
-R laser scrape out		
-K inkjet printing	Customized printing available.	
-H hot bar soldering	The terminals of FFC are covered by a high temperature poly-imid tape for best soldering directly on PCB.	
-C EMI	Ferrit core on FFC.	
-X protector tape	Additional layer to prevent abrasion and strengthen insulation.	

Order code: Leave this position free, if no additional option is needed.

technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

FFC	C	12	04	T1	060	0	0	-A	50	-X
series no.	1 pitch	2 no. of conductors	3 conductor size	4 terminal type	5 overall length (mm)	6 strip length	7 support tape length	8 UL style	9 plating	0 additional option

electrical characteristics

no.	test item	characteristics
1	insulation resistance between conductors	more than 100 meg Ohm (DC 500V, at 20°C)
2	dielectric strength between conductors	30V rating: AC 500V/10mA, 1 minute 60V rating: AC 1,000V/10mA, 1 Minute
3	capacitance between conductors	less than 90pF/m (1.0mm pitch) less than 75pF/m (1.25mm pitch) less than 45pF/m (2.54mm pitch) at 1KHz
4	characteristic impedance	80 Ohm (1.25mm pitch) 120 Ohm (2.54mm pitch)

physical/mechanical characteristics

no.	test item	result	condition
1	aging	left unattended for 96 hours at 85°C	
2	flammability	pass UL VW-1	
3	temperature cycling	-40°C -> 25°C -> 85°C -> 25°C -> 12hrs. 5 cycles	
4	humidity	left unattended for 96 hours at 40°C 95% RH	
5	flexibility	normal type / more than 100,000 cycles	s-flex test (15R x 10Cm x 60 CPM)
6	abrasion	exposure of conductor must not be found during 10,000 cycles of test	Ø 0.5mm, 5cm, 600g, 60 cycles/minute
7	bending	more than 50 cycles	±90°, 20g / pin, 0.4R

characteristics of connection

no.	item	condition	characteristics
1	contact resistance (below 100mA)	initial	no more than 30 milli Ohm
		after test	no more than 50 milli Ohm
2	insulation resistance between conductors (DC 500V)	initial	more than 100 meg Ohm
		after test	more than 50 meg Ohm
3	dielectric strength between conductors	AC 500V / 1 minute	withstand the voltage
4	stability	after 20 times of insert and pull out	must pass item no. 1 and no. 2
5	salt water spray	MIL-STD-202E, 101D left unattended for 48 hours	
6	temperature cycling	MIL-STD-202E, 102A 5 cycles	
7	moisture resistance	MIL-STD-202E, 106D	

technical data

insulation	:	polyester (PET)
- adhesive layer	:	flame retardant PVC or polyester
- color	:	white
supporting tape	:	polyester (PET)
- adhesive layer	:	polyester
- color	:	sky blue or clear or blue

order code

FFC	C	12	04	T1	060	0	0	-A	50	-X
series no.	1 pitch	2 no. of conductors	3 conductor size	4 terminal type	5 overall length (mm)	6 strip length	7 support tape length	8 UL style	9 plating	0 additional option