

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0512811294](#)  
**Status:** **Active**  
**Overview:**  
**Description:** 0.50mm (.020") Pitch FFC/FPC Connector, SMT, Right Angle, Non-ZIF, Dual Contact Style, 1.20mm (.047") Mated Height, 12 Circuits, Lead-free, Gold (Au) Plating

**General**

Product Family	FFC/FPC Connectors
Series	51281
Overview	ffc_fpc_smt
Product Name	N/A

**Physical**

Circuits (Loaded)	12
Color - Resin	Natural
Contact Position	Dual
Durability (mating cycles max)	20
Entry Angle	90° Angle
Mated Height (in)	0.047 In
Mated Height (mm)	1.20 mm
Material - Metal	Phosphor Bronze
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	High Temperature Thermoplastic
Number of Rows	1
Orientation	Right Angle
PC Tail Length (in)	0.020 In
PC Tail Length (mm)	0.50 mm
PCB Locator	No
PCB Retention	Yes
Packaging Type	Embossed Tape on Reel
Pitch - Mating Interface (in)	0.020 In
Pitch - Mating Interface (mm)	0.50 mm
Plating min: Mating (µin)	4
Plating min: Mating (µm)	0.1
Plating min: Termination (µin)	40
Plating min: Termination (µm)	1
Polarized to PCB	Yes
Stackable	No
Surface Mount Compatible (SMC)	N/A
Temperature Range - Operating	-20°C to +85°C
Termination Interface: Style	Surface Mount
Wire/Cable Type	FFC/FPC

**Electrical**

Current - Maximum per Contact	0.5A
Voltage - Maximum	50V

**Material Info**

**Reference - Drawing Numbers**

Packaging Specification	SPK-51281-001
Product Specification	PS-51281-003, RPS-51281-015, RPS-51281-016, RPS-51281-017, RPS-51281-018, RPS-51281-019
Sales Drawing	SD-51281-011, SD-51281-012

**EU RoHS**

**ELV and RoHS Compliant**

**REACH SVHC**

Not Reviewed

**Halogen-Free**

**Status**

**Not Reviewed**

**China RoHS**



**Need more information on product environmental compliance?**

Email [productcompliance@molex.com](mailto:productcompliance@molex.com)  
 For a multiple part number RoHS Certificate of Compliance, [click here](#)

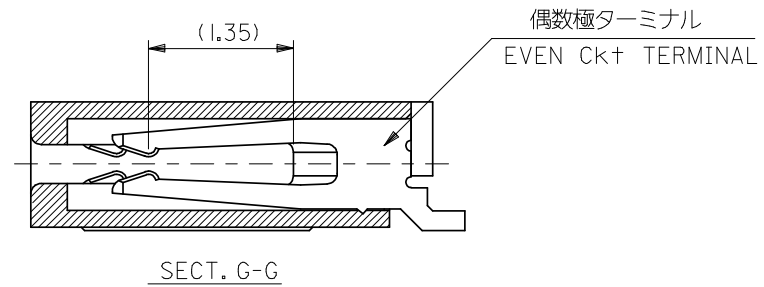
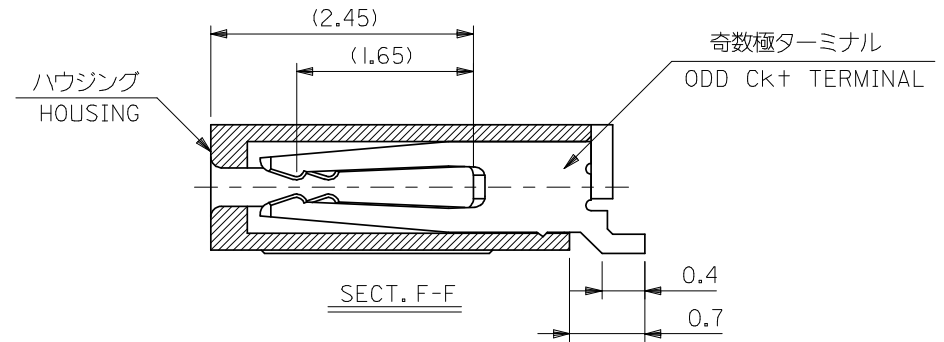
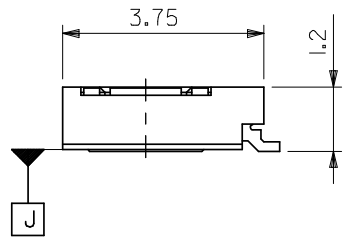
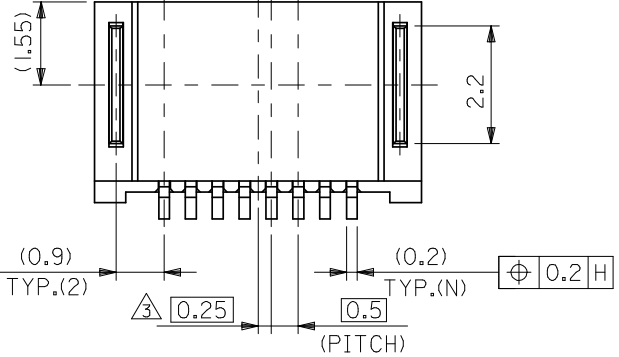
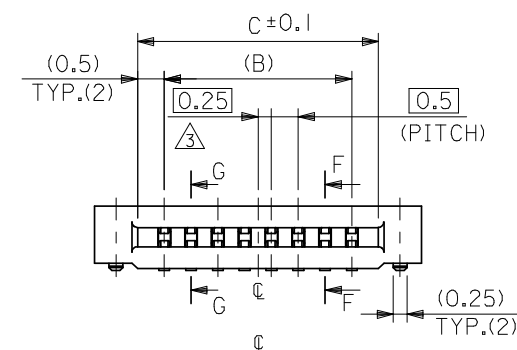
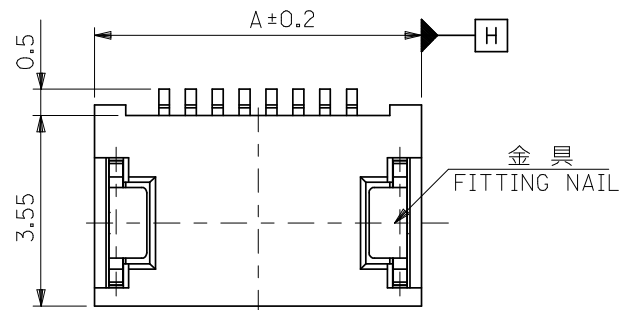
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**Search Parts in this Series**

[51281Series](#)

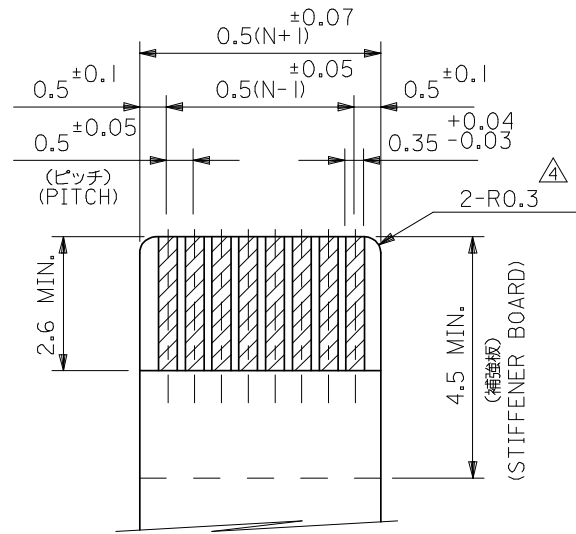
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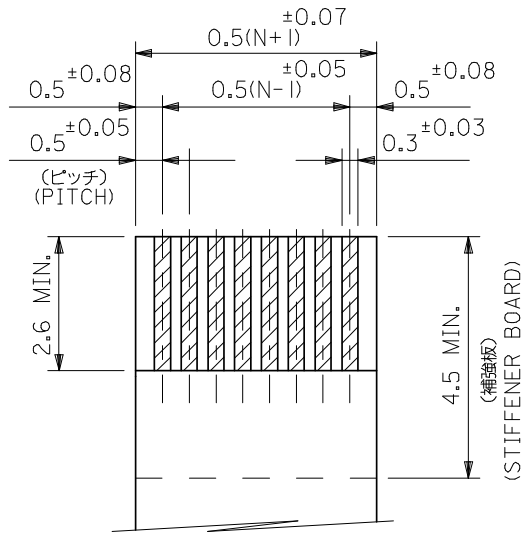


13.5	12.5	15.1	51281-2694	51281-2640	26
12.5	11.5	14.1	51281-2494	51281-2440	24
11.5	10.5	13.1	51281-2294	51281-2240	22
10.5	9.5	12.1	51281-2094	51281-2040	20
9.5	8.5	11.1	51281-1894	51281-1840	18
8.5	7.5	10.1	51281-1694	51281-1640	16
7.5	6.5	9.1	51281-1494	51281-1440	14
6.5	5.5	8.1	51281-1294	51281-1240	12
5.5	4.5	7.1	51281-1094	51281-1040	10
5.0	4.0	6.6	51281-0994	51281-0940	9
4.5	3.5	6.1	51281-0894	51281-0840	8
3.5	2.5	5.1	51281-0694	51281-0640	6
3.0	2.0	4.6	51281-0594	51281-0540	5
C	B	A	EMBOSSED TAPE ORDER No. オーダー番号	MATERIAL NO.	CIRCUIT

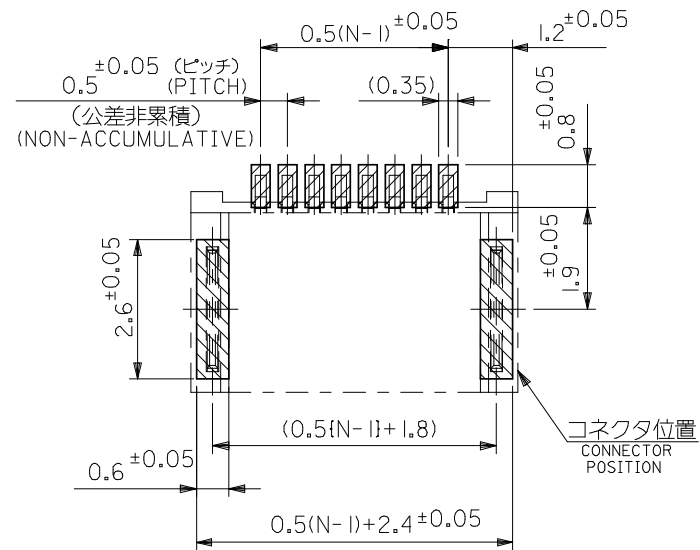
<b>REVISED</b> EC NO: J2008-4308 DRWN: MWABEI 2008/06/27 CHKD: THARUYAMA 2008/06/30 APPR: NUKITA 2008/06/30	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE ---	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	10 UNDER	±0.2	DRAWN BY KENSUZUKI	DATE 2004/10/19	TITLE 0.5 FPC CONN NON-ZIF HSG ASSY (HGT=1.2MM) -LEAD FREE-		
	10 OVER 30 UNDER	±0.25	CHECKED BY NUKITA	DATE 2004/10/19	MOLEX INCORPORATED		
	30 OVER	±0.3	APPROVED BY NUKITA	DATE 2004/10/19	MATERIAL NO. SEE TABLE	DOCUMENT NO. SD-51281-011	SHEET NO. 1 OF 2
	ANGULAR ±3°		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		



適合FPC推奨寸法  
APPLICABLE FPC  
RECOMMENDED DIMENSION  
(仕上がり厚さ: 0.3 ± 0.03)  
(THICKNESS: 0.3 ± 0.03)



適合FFC推奨寸法  
APPLICABLE FFC  
RECOMMENDED DIMENSION  
(仕上がり厚さ: 0.3 ± 0.03)  
(THICKNESS: 0.3 ± 0.03)



参考基板レイアウト図  
RECOMMENDED P.C. BOARD LAYOUT  
(マウント面)  
(MOUNTING SIDE)

注記 NOTES

- 使用材料 MATERIAL  
ハウジング : 液晶ポリマー ガラス充填 UL94V-0  
HOUSING : LIQUID CRYSTAL POLYMER (GLASS FILLED) UL94V-0  
ターミナル : リン青銅 (t=0.2), ニッケル下地 コンタクト部: 金メッキ  
TERMINAL : PHOSPHOR-BRONZE, CONTACT : GOLD  
TAIL : TIN  
OVER NICKEL PLATING  
金具 : リン青銅 (t=0.25), ニッケル下地 純錫メッキ  
FITTING NAIL : PHOSPHOR-BRONZE, PURE-TIN OVER NICKEL PLATING.
- ハンダテール半田付け面のズレ量、及び金具半田付け面のズレ量は、基準面 J に対し、上方向 0.1 MAXIMUM 下方向 0.15 MAXIMUM とする。  
又、相互のバラツキ量は 0.1 MAXIMUM とする。  
MISALIGNMENT OF SOLDER TAILS AND FITTING NAILS FROM J  
UPPER DIRECTION : 0.1 MAXIMUM, LOWER DIRECTION : 0.15 MAXIMUM.  
OFFSET BETWEEN SOLDER TAILS AND FITTING NAILS : 0.1 MAXIMUM.
- 偶数極に適用。  
TO BE APPLIED ONLY WHEN ALL CIRCUIT ARE EVEN.
- RO.3は、FPCの導体部にかからないこと。  
RO.3 MUST NOT BE ENLAPPED TO PATTERN OF FPC.

- FPC/FFCについて:  
打抜き方向は導体側から補強板側を推奨いたします。  
導体部については軟銅箔35μmまたは50μm  
メッキ厚 0.1μm 金メッキ (電気メッキ)  
を推奨いたします。  
RECOMMENDED PUNCHER DIRECTION :  
FROM CONDUCTOR SIDE TO STIFFENER BOARD SIDE.  
RECOMMENDED CONDUCTOR SPEC :  
THICKNESS OF SOFT COPPER FOIL : 35 μm or 50 μm  
GOLD PLATING : 0.1 μm (ELECTRICAL PLATING)
- 本製品は51281-\*\*-20の鉛フリー品である。  
THIS PRODUCT IS LEAD FREE OF 51281-\*\*-20.
- ハンダテールの平坦度は、0.1 MAXIMUM とする。  
SOLDER TAIL COPLANARITY IS 0.1 MAXIMUM.

REVISED EC NO: J2008-4308 DRWN: WABEI 2008/06/27 CHKD: THARUYAMA 2008/06/30 APPR: NUKITA 2008/06/30	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY	SCALE ---	51281-**-40	MODEL NO.
	10 UNDER	±0.2	DRAWN BY KENSUZUKI	DATE 2004/10/19	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	10 OVER 30 UNDER	±0.25	CHECKED BY NUKITA	DATE 2004/10/19	TITLE 0.5 FPC CONN NON-ZIF HSG ASSY (HGT=1.2MM) -LEAD FREE-	
	30 OVER	±0.3	APPROVED BY NUKITA	DATE 2004/10/19	MOLEX INCORPORATED	
ANGULAR ±3°		MATERIAL NO. SEE SHEET 1		DOCUMENT NO. SD-51281-011		SHEET NO. 2 OF 2
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE A3 THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				

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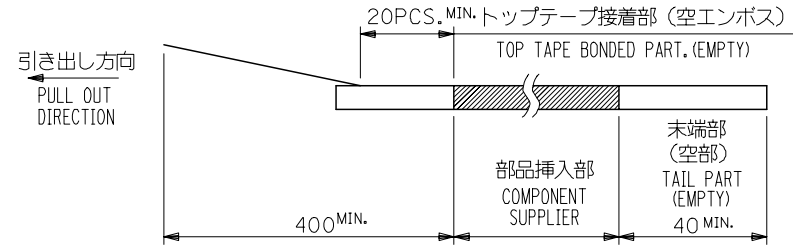
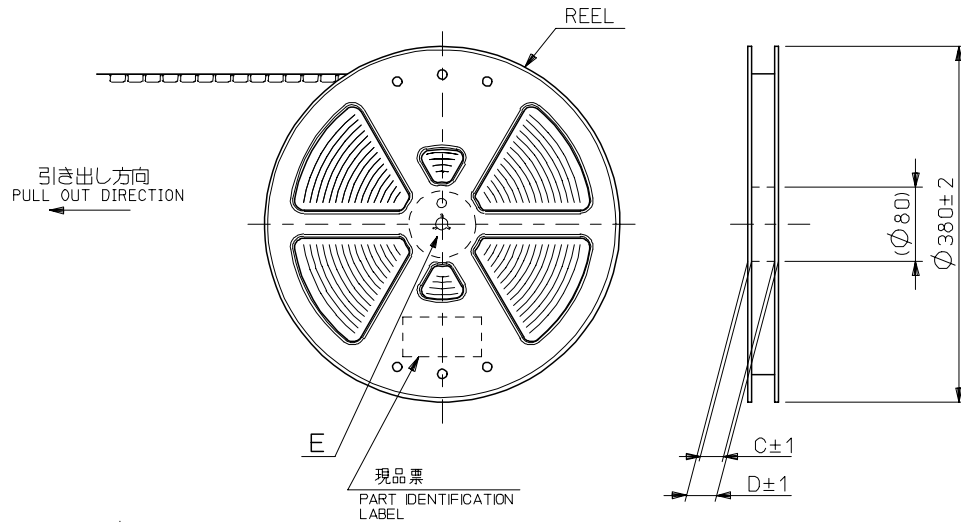
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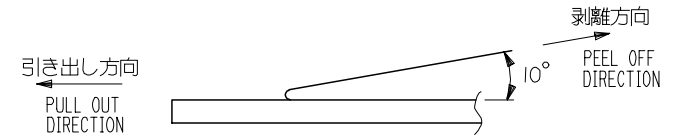
NOTES

- 製品詳細寸法については図面 SD-51281-011 を参照下さい。  
RE DETAILED DIMENSION, SEE SD-51281-011
- 梱包数量：3000個/リール  
NUMBER OF CONNECTORS : 3000PCS/REEL
- リードテープ長さ LEAD TAPE LENGTH

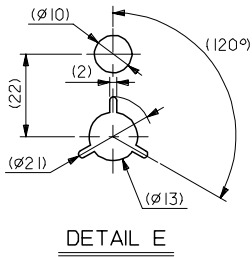


- トップテープの剥離強度：0.1N~1.3N {10gf~130gf} (剥離方向は下図参照)

尚、本規格値は出荷時に適用。(但し、輸送時に剥離が発生しないこと。)  
PEELING OFF FORCE OF TOP TAPE : 0.1N~1.3N {10gf~130gf}  
(PEELING DIRECTION AS SHOWN IN FOLLOWING FIG.)  
THIS REQUIREMENT SHOULD BE APPLIED AT SHIPMENT.  
PEEL OFF SHOULD NOT BE ALLOWED , DURING TRANSPORTATION.



- 材料 (MATERIAL)  
キャリアテープ (CARRIER TAPE) : ポリプロピレン (POLYPROPYLENE)  
トップテープ (TOPTAPE) : PET , PE , PEF  
リール (REEL) : ポリスチレン (PS) <リサイクル材含む>  
POLYSTYREN (PS) <RECYCLE MATERIAL CONTAINED>
- C, D 寸法は SHEET 2 ~ 3 を参照下さい。  
SEE SHEET 2 ~ 3 (DIMENSION C, D).



REVISED EC NO: J2006-0559 DRWN: NABE 2005/08/22 CHKD: TOYODA 2005/08/23 APPR: NUKITA 2005/08/26	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE ---	51281-xx94	MODEL NO.
	10 UNDER	±0.2	DRAWN BY KENSUZUKI	DATE 2004/10/19	TITLE	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	10 OVER 30 UNDER	±0.25	CHECKED BY NUKITA	DATE 2004/10/19	0.5 FPC CONN NON-ZIF (HGT=1.2MM) EMBSTP PKG -LEAD FREE-	MOLEX	SHEET NO. 1 OF 4
	30 OVER	±0.3	APPROVED BY NUKITA	DATE 2004/10/19			
ANGULAR ±3 °		MATERIAL NO. SEE CHART		DOCUMENT NO. SD-51281-012			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

10 9 8 7 6 5 4 3 2 1

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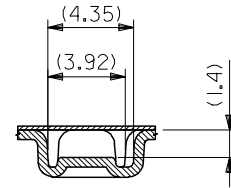
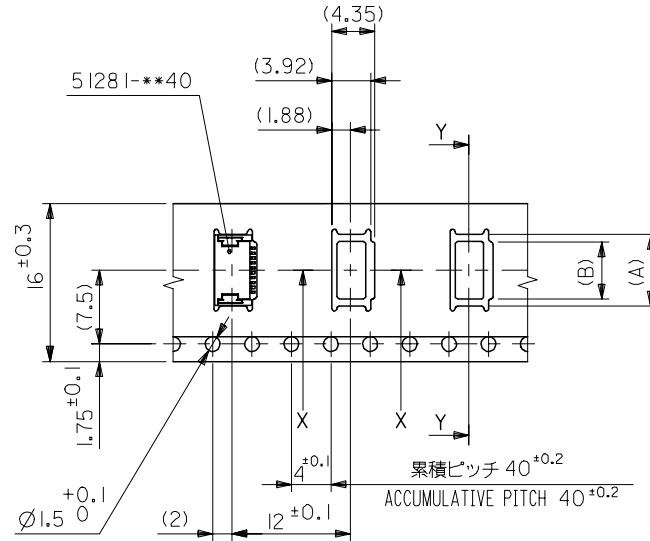
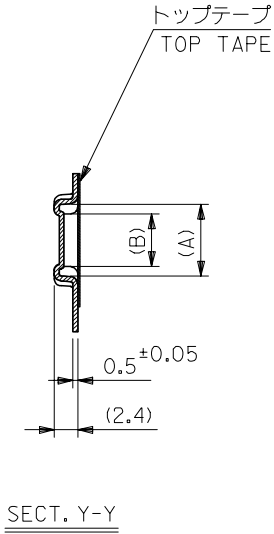
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引き出し方向  
PULL OUT DIRECTION



SECT. X-X

16mm幅キャリアテープ  
16mm WIDTH CARRIER TAPE

16	21.4	17.4	4.3	6.3	51281-0894	8
			3.3	5.3	51281-0694	6
			2.8	4.8	51281-0594	5
キャリアテープ幅 CARRIER TAPE WIDTH	D	C	(B)	(A)	製品番号 MATERIAL No.	極数 Ck+
51281-***94					MODEL NO.	

REVISED EC NO: J2006-0559 DRWN: NABEI 2005/08/22 CHK: K: TOYODA 2005/08/23 APPR: NUKITA 2005/08/26	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY	SCALE ---	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	10 UNDER	± 0.2	DRAWN BY KENSUZUK	DATE 2004/10/19	TITLE 0.5 FPC CONN NON-ZIF (HGT=1.2MM) EMBSTP PKG -LEAD FREE-	
	10 OVER 30 UNDER	± 0.25	CHECKED BY NUKITA	DATE 2004/10/19	MOLEX INCORPORATED	
	30 OVER	± 0.3	APPROVED BY NUKITA	DATE 2004/10/19	MATERIAL NO.	
	ANGULAR	± 3 °	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DOCUMENT NO. SD-51281-012	SHEET NO. 2 OF 4
SIZE A3		SEE CHART				THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

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10 9 8 7 6 5 4 3 2 1

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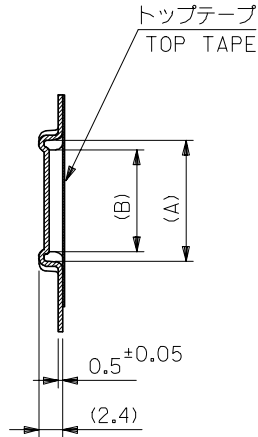
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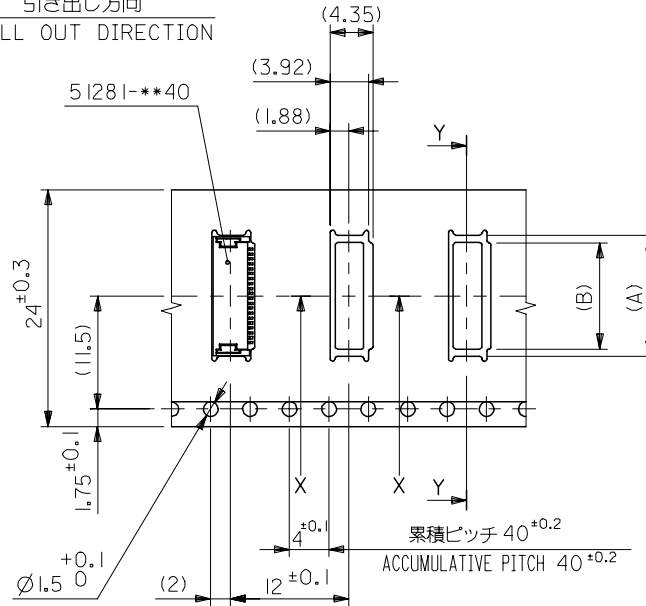
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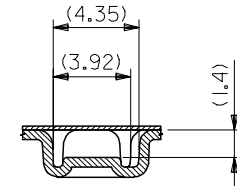
引き出し方向  
PULL OUT DIRECTION



SECT. Y-Y



24mm幅キャリアテープ  
24mm WIDTH CARRIER TAPE



SECT. X-X

24	29.4	25.4	12.3	14.3	51281-2494	24		
			11.3	13.3	51281-2294	22		
			10.3	12.3	51281-2094	20		
			9.3	11.3	51281-1894	18		
			8.3	10.3	51281-1694	16		
			7.3	9.3	51281-1494	14		
			6.3	8.3	51281-1294	12		
			5.3	7.3	51281-1094	10		
			4.8	6.8	51281-0994	9		
キャリアテープ幅 CARRIER TAPE WIDTH			D	C	(B)	(A)	製品番号 MATERIAL No.	極数 Ck+
51281-**-94 MODEL No.								

REVISED EC NO: J2006-0559 DRWN: NABEI 2005/08/22 CHKDK: TOYODA 2005/08/23 APPR: NUKITA 2005/08/26	DESCRIPTION GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE MM ONLY		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION		
		10 UNDER ±0.2 10 OVER 30 UNDER ±0.25 30 OVER ±0.3		---	METRIC			
		ANGULAR ±3 °		DRAWN BY KENSUZUKI	DATE 2004/10/19		TITLE 0.5 FPC CONN NON-ZIF (HGT=1.2MM) EMBSTP PKG -LEAD FREE-	
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		CHECKED BY NUKITA	DATE 2004/10/19		MOLEX INCORPORATED	
				APPROVED BY NUKITA	DATE 2004/10/19		MATERIAL NO. SEE CHART	DOCUMENT NO. SD-51281-012

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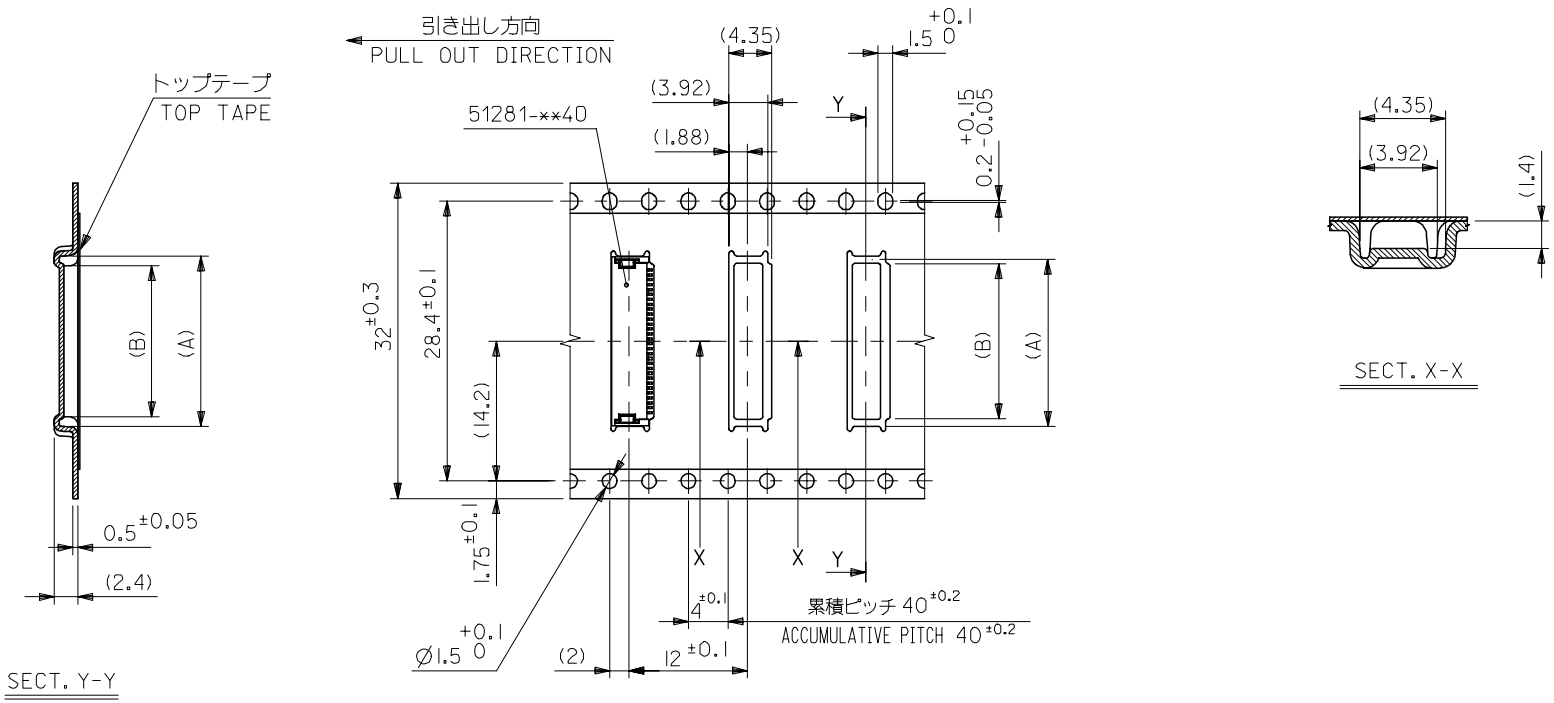
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32mm幅キャリアテープ  
32mm WIDTH CARRIER TAPE

32	37.4	33.4	13.3	15.3	51281-2694	26
キャリアテープ幅 CARRIER TAPE WIDTH	D	C	(B)	(A)	製品番号 MATERIAL No.	極数 CK+

REVISED EC NO: J2006-0559 DRWN: NABEI 2005/08/22 CHKDK: TOYODA 2005/08/23 APPR: NUKITA 2005/08/26	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE ---	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
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	10 OVER 30 UNDER	±0.25	CHECKED BY NUKITA	DATE 2004/10/19			
	30 OVER	±0.3	APPROVED BY NUKITA	DATE 2004/10/19	MOLEX INCORPORATED		
ANGULAR	±3 °	MATERIAL NO.	DOCUMENT NO. SD-51281-012	SHEET NO. 4 OF 4			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SIZE A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				

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