

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

**Part Number:** [0438100354](#)  
**Status:** **Active**  
**Description:** 4.20mm (.165") Pitch Mini-Fit BMI™ Surface Mount Compatible Header, Dual Row, Right Angle, 6 Circuits, 6.35mm (.250") PCB Thickness, with Snap-In Metal Pins, PA Polyamide Nylon 4/6, UL 94V-0, with Tin (Sn) Over Nickel (Ni) Plating

**Documents:**

[3D Model](#) [Product Specification PS-43810-001 \(PDF\)](#)  
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)

**Agency Certification**

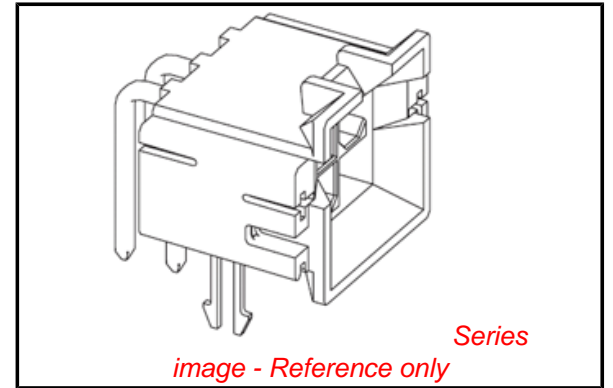
CSA LR19980  
 UL E29179

**General**

Product Family PCB Headers  
 Series [43810](#)  
 Application Board-to-Board, Wire-to-Board  
 Comments Current = 13A max. per circuit when header is mated to a receptacle loaded with [45750](#) Mini-Fit Plus HCS™ Crimp Terminal Crimped to to 16 AWG wire. . See Molex product specification PS-45750-001 for additional current de-rating information.  
 Product Name Mini-Fit SMC™

**Physical**

Breakaway No  
 Circuits (Loaded) 6  
 Circuits (maximum) 6  
 Color - Resin Black  
 Durability (mating cycles max) 30  
 Flammability 94V-0  
 Glow-Wire Compliant No  
 Guide to Mating Part Yes  
 Lock to Mating Part Yes  
 Material - Metal Brass  
 Material - Plating Mating Tin  
 Material - Plating Termination Tin  
 Material - Resin High Temperature Thermoplastic  
 Number of Rows 2  
 Orientation Right Angle  
 PC Tail Length (in) 0.200 In  
 PC Tail Length (mm) 5.08 mm  
 PCB Locator Yes  
 PCB Retention Yes  
 PCB Thickness Recommended (in) 0.125 In  
 PCB Thickness Recommended (mm) 3.20 mm  
 Packaging Type Tray  
 Pitch - Mating Interface (in) 0.165 In  
 Pitch - Mating Interface (mm) 4.20 mm  
 Plating min: Mating (µin) 100  
 Plating min: Mating (µm) 2.54  
 Plating min: Termination (µin) 100  
 Plating min: Termination (µm) 2.54  
 Polarized to Mating Part Yes  
 Polarized to PCB Yes



**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](#)

Please visit the [Contact Us](#) section for any non-product compliance questions.

**Search Parts in this Series**

[43810Series](#)

**Mates With**

[15-06-0061](#) Mini-Fit BMI™ Panel Mount Receptacle, [39-01-2065](#) Mini-Fit Jr.™ Receptacle, [15-24-7061](#) Mini-Fit BMI™ Receptacle Header

Shrouded	Fully
Stackable	No
Surface Mount Compatible (SMC)	Yes
Temperature Range - Operating	-40°C to +105°C
Termination Interface: Style	Through Hole

#### **Electrical**

Current - Maximum per Contact	13A
Voltage - Maximum	600V

#### **Solder Process Data**

Lead-free Process Capability	SMC & Wave Capable (TH only)
Process Temperature max. C	235

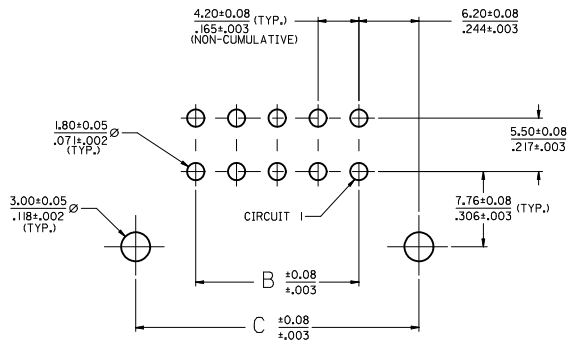
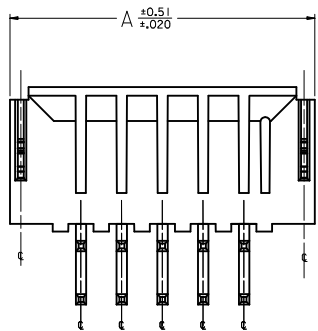
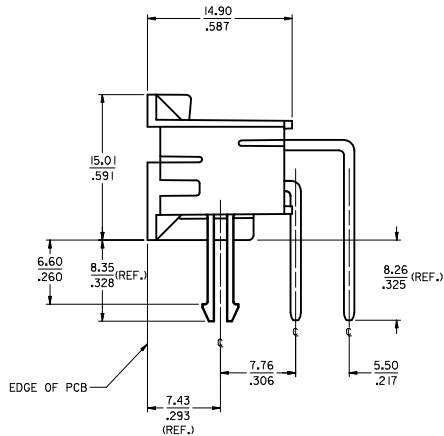
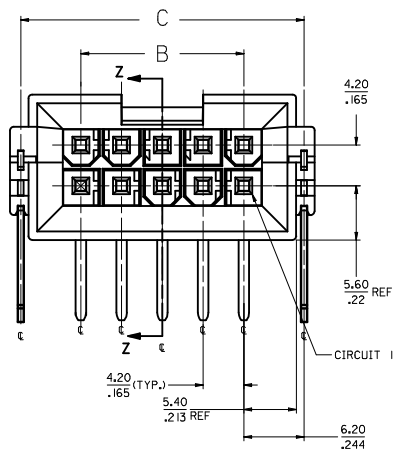
#### **Material Info**

#### **Reference - Drawing Numbers**

Packaging Specification	PK-43810-001
Product Specification	PS-43810-001
Sales Drawing	SD-43810-071
Test Summary	TS-43810-001

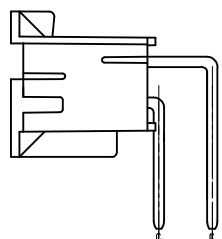
This document was generated on 05/14/2010

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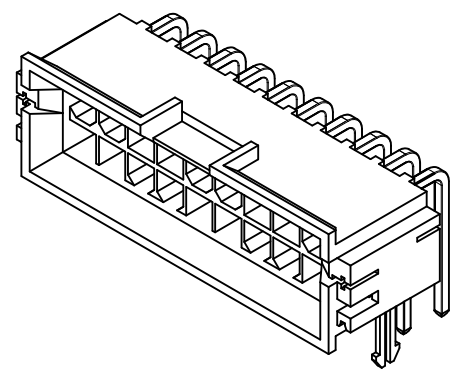


PCB LAYOUT: COMPONENT SIDE  
RECOMMENDED PCB THICKNESS: 6.35±0.18 / .250±.007

- NOTES
- 1) MATERIALS  
HOUSING: NYLON 4/6 UL 94V-0 GLASS FILLED, COLOR: BLACK  
TERMINAL: BRASS  
BOARD RETENTION CLIP: BRASS
  - 2) FINISHES:  
TERMINAL:  
1.=(0.00254)/.000100 MIN. BRIGHT TIN OVER  
(0.00127)/.000050 MIN. NICKEL  
2.=(0.00076)/.000030 MIN. GOLD OVER  
(0.00127)/.000050 MIN. NICKEL  
3.=(0.00076)/.000030 MIN. SELECT GOLD AND  
(0.00254)/.000100 MIN. SELECT MATTE TIN  
OVER (0.00127)/.000050 MIN. NICKEL OVERALL  
MOUNTING CLIP:  
(0.00254)/.000100 MIN. MATTE TIN OVER  
(0.00127)/.000050 MIN. NICKEL
  - 3) PRODUCT SPECIFICATION: PS-43810-001
  - 4) PACKAGING SPECIFICATION: PK-43810-001
  - 5) PARTS MATES WITH MOLEX RECEPTACLE #5557 AND #42474 AND #42385 HEADER
  - 6) PART ALLOWS FOR (1.27)/.050 MAX MIS-ALIGNMENT WITH MATING HOUSINGS IN ANY DIRECTION
  - 7) CONNECTOR ASSEMBLIES ARE NOT TO BE MATED AND UNMATED WHILE CIRCUITS ARE LIVE
  - 8) PARTS ARE NOT DESIGNED FOR CURRENT SHARING
  - 9) DISCOLORATION IN THE BANDOLIER CARRIER AREA OF THE PIN IS INHERENT TO THE PLATING PROCESS AND IS DUE TO THE MASKING EFFECT OF THE CARRIER. THIS DISCOLORATION IS IN A NON-FUNCTIONAL AREA OF THE PIN AND WILL NOT AFFECT THE PERFORMANCE OF THE HEADER ASSEMBLY.
  - 10) PART CONFORMS TO CLASS 'B' REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002



HEADER ASSEMBLY WITH NO CLIP OPTION



20 CKT SHOWN

2	D
1	D
SHT. REV.	

ADDED PN SHT 2 EC NO. UCF2010-0715 DRAWN: JAGUILAR 2010/05/26 CHKD: BELL 2010/05/27 APPR: FSWITH 2010/06/04	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
	▽=0 ▽=0 ▽=0	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .014 1 PLACE ± 0.35 ± --- ANGULAR ±1/2°	MM/IN	4:1	METRIC	DRAWN BY DATE MANLAPZ 01-06-97 CHECKED BY DATE BANDURA 03-26-97 APPROVED BY DATE EDGLEY 03-26-97	TITLE MINI-FIT JR BMI SMC RIGHT ANGLE HEADER ASM FOR 6.35/250 THK. PCB
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	MATERIAL NO. SEE CHART	DOCUMENT NO. SD-43810-071	MOLEX INCORPORATED	SHEET NO. 1 OF 2		
	SIZE D	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
	MATERIAL NO.	CIRCUIT SIZE	CLIP OPTION	DIM. 'A'	DIM. 'B'	DIM. 'C'	FINISH	MATERIAL NO.	CIRCUIT SIZE	CLIP OPTION	DIM. 'A'	DIM. 'B'	DIM. 'C'	FINISH	MATERIAL NO.	CIRCUIT SIZE	CLIP OPTION	DIM. 'A'	DIM. 'B'	DIM. 'C'	FINISH
M	43810-0353	4	YES	18.81 -740	4.20 -165	16.60 -653	1	43810-0375	4	NO	18.81 -740	4.20 -165	16.60 -653	1	43810-0375	4	NO	18.81 -740	4.20 -165	16.60 -653	1
	43810-0354	6	YES	23.01 -906	8.40 -331	20.80 -819	1	43810-0376	6	NO	23.01 -906	8.40 -331	20.80 -819	1	43810-0376	6	NO	23.01 -906	8.40 -331	20.80 -819	1
N	43810-0355	8	YES	27.21 -1071	12.60 -496	25.00 -984	1	43810-0377	8	NO	27.21 -1071	12.60 -496	25.00 -984	1	43810-0377	8	NO	27.21 -1071	12.60 -496	25.00 -984	1
L	43810-0356	10	YES	31.41 -1237	16.80 -661	29.20 -1150	1	43810-0378	10	NO	31.41 -1237	16.80 -661	29.20 -1150	1	43810-0378	10	NO	31.41 -1237	16.80 -661	29.20 -1150	1
N	43810-0357	12	YES	35.61 -1402	21.00 -828	33.40 -1315	1	43810-0379	12	NO	35.61 -1402	21.00 -828	33.40 -1315	1	43810-0379	12	NO	35.61 -1402	21.00 -828	33.40 -1315	1
	43810-0358	14	YES	39.81 -1567	25.20 -992	37.60 -1480	1	43810-0380	14	NO	39.81 -1567	25.20 -992	37.60 -1480	1	43810-0380	14	NO	39.81 -1567	25.20 -992	37.60 -1480	1
N	43810-0359	16	YES	44.01 -1733	29.40 -1157	41.80 -1646	1	43810-0381	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	1	43810-0381	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	1
K	43810-0360	18	YES	48.21 -1898	33.60 -1323	46.00 -1811	1	43810-0382	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	1	43810-0382	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	1
N	43810-0361	20	YES	52.41 -2063	37.80 -1488	50.20 -1976	1	43810-0383	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	1	43810-0383	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	1
J	43810-0362	22	YES	56.61 -2229	42.00 -1654	54.40 -2142	1	43810-0384	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	1	43810-0384	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	1
	43810-0363	24	YES	60.81 -2394	46.20 -1819	58.60 -2307	1	43810-0385	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	1	43810-0385	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	1
	43810-0364	4	YES	18.81 -740	4.20 -165	16.60 -653	2	43810-0386	4	NO	18.81 -740	4.20 -165	16.60 -653	2	43810-0386	4	NO	18.81 -740	4.20 -165	16.60 -653	2
	43810-0365	6	YES	23.01 -906	8.40 -331	20.80 -819	2	43810-0387	6	NO	23.01 -906	8.40 -331	20.80 -819	2	43810-0387	6	NO	23.01 -906	8.40 -331	20.80 -819	2
N	43810-0366	8	YES	27.21 -1071	12.60 -496	25.00 -984	2	43810-0388	8	NO	27.21 -1071	12.60 -496	25.00 -984	2	43810-0388	8	NO	27.21 -1071	12.60 -496	25.00 -984	2
	43810-0367	10	YES	31.41 -1237	16.80 -661	29.20 -1150	2	43810-0389	10	NO	31.41 -1237	16.80 -661	29.20 -1150	2	43810-0389	10	NO	31.41 -1237	16.80 -661	29.20 -1150	2
N	43810-0368	12	YES	35.61 -1402	21.00 -828	33.40 -1315	2	43810-0390	12	NO	35.61 -1402	21.00 -828	33.40 -1315	2	43810-0390	12	NO	35.61 -1402	21.00 -828	33.40 -1315	2
H	43810-0369	14	YES	39.81 -1567	25.20 -992	37.60 -1480	2	43810-0391	14	NO	39.81 -1567	25.20 -992	37.60 -1480	2	43810-0391	14	NO	39.81 -1567	25.20 -992	37.60 -1480	2
N	43810-0370	16	YES	44.01 -1733	29.40 -1157	41.80 -1646	2	43810-0392	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	2	43810-0392	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	2
	43810-0371	18	YES	48.21 -1898	33.60 -1323	46.00 -1811	2	43810-0393	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	2	43810-0393	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	2
N	43810-0372	20	YES	52.41 -2063	37.80 -1488	50.20 -1976	2	43810-0394	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	2	43810-0394	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	2
N	43810-0373	22	YES	56.61 -2229	42.00 -1654	54.40 -2142	2	43810-0395	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	2	43810-0395	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	2
	43810-0374	24	YES	60.81 -2394	46.20 -1819	58.60 -2307	2	43810-0396	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	2	43810-0396	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	2
F	43810-0666	4	YES	18.81 -740	4.20 -165	16.60 -653	3	43810-0677	4	NO	18.81 -740	4.20 -165	16.60 -653	3	43810-0677	4	NO	18.81 -740	4.20 -165	16.60 -653	3
	43810-0667	6	YES	23.01 -906	8.40 -331	20.80 -819	3	43810-0678	6	NO	23.01 -906	8.40 -331	20.80 -819	3	43810-0678	6	NO	23.01 -906	8.40 -331	20.80 -819	3
N	43810-0668	8	YES	27.21 -1071	12.60 -496	25.00 -984	3	43810-0679	8	NO	27.21 -1071	12.60 -496	25.00 -984	3	43810-0679	8	NO	27.21 -1071	12.60 -496	25.00 -984	3
E	43810-0669	10	YES	31.41 -1237	16.80 -661	29.20 -1150	3	43810-0680	10	NO	31.41 -1237	16.80 -661	29.20 -1150	3	43810-0680	10	NO	31.41 -1237	16.80 -661	29.20 -1150	3
N	43810-0670	12	YES	35.61 -1402	21.00 -828	33.40 -1315	3	43810-0681	12	NO	35.61 -1402	21.00 -828	33.40 -1315	3	43810-0681	12	NO	35.61 -1402	21.00 -828	33.40 -1315	3
	43810-0671	14	YES	39.81 -1567	25.20 -992	37.60 -1480	3	43810-0682	14	NO	39.81 -1567	25.20 -992	37.60 -1480	3	43810-0682	14	NO	39.81 -1567	25.20 -992	37.60 -1480	3
N	43810-0672	16	YES	44.01 -1733	29.40 -1157	41.80 -1646	3	43810-0683	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	3	43810-0683	16	NO	44.01 -1733	29.40 -1157	41.80 -1646	3
D	43810-0673	18	YES	48.21 -1898	33.60 -1323	46.00 -1811	3	43810-0684	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	3	43810-0684	18	NO	48.21 -1898	33.60 -1323	46.00 -1811	3
N	43810-0674	20	YES	52.41 -2063	37.80 -1488	50.20 -1976	3	43810-0685	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	3	43810-0685	20	NO	52.41 -2063	37.80 -1488	50.20 -1976	3
N	43810-0675	22	YES	56.61 -2229	42.00 -1654	54.40 -2142	3	43810-0686	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	3	43810-0686	22	NO	56.61 -2229	42.00 -1654	54.40 -2142	3
C	43810-0676	24	YES	60.81 -2394	46.20 -1819	58.60 -2307	3	43810-0687	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	3	43810-0687	24	NO	60.81 -2394	46.20 -1819	58.60 -2307	3

N - NOT TOOLED

N - NOT TOOLED

<b>ADDED PN TO CHART</b> EC NO. UCF2010-0715 DRAWN: JAGUILAR 2010/05/26 CHYK: BELL 2010/05/27 APPROV: FSM TH 2010/06/04 REV DESCRIPTION	<b>QUALITY SYMBOLS</b> ▽=0 ▽=0 ▽=0		<b>GENERAL TOLERANCES (UNLESS SPECIFIED)</b> <table border="1"> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> <tr> <td>4 PLACES</td> <td>± .010</td> <td>± .0004</td> </tr> <tr> <td>3 PLACES</td> <td>± .015</td> <td>± .0006</td> </tr> <tr> <td>2 PLACES</td> <td>± 0.25</td> <td>± .010</td> </tr> <tr> <td>1 PLACE</td> <td>± 0.35</td> <td>± .014</td> </tr> </table>			mm	INCH	4 PLACES	± .010	± .0004	3 PLACES	± .015	± .0006	2 PLACES	± 0.25	± .010	1 PLACE	± 0.35	± .014	<b>DIMENSION STYLE</b> MM/IN		<b>SCALE</b> -		<b>DESIGN UNITS</b> METRIC		THIRD ANGLE PROJECTION	
		mm	INCH																								
	4 PLACES	± .010	± .0004																								
	3 PLACES	± .015	± .0006																								
2 PLACES	± 0.25	± .010																									
1 PLACE	± 0.35	± .014																									
DRAWN BY: JIWANG DATE: 00-07-20 CHECKED BY: BANDURA DATE: 00-07-20			APPROVED BY: FSM TH DATE: 02/07/2010			MATERIAL NO. SD-43810-071 DOCUMENT NO. SD-43810-071			SHEET NO. 2 OF 2																		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			SEE CHART			MOLEX INCORPORATED			THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																		