

Switch Language

English

Need Assistance?

- [Contact Us](#)
- [Find a Distributor](#)
- [Order Samples](#)
- [Tech Library](#)

[Printer-friendly page](#)

[Email this page](#)

[Home](#) [PCB Headers](#) [Datasheet](#)

Part Number: 0022053121

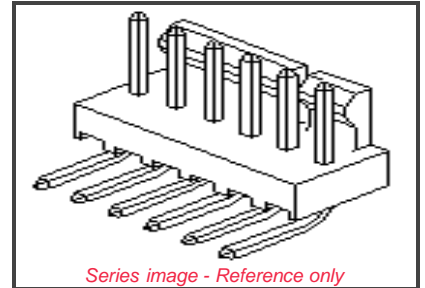
Status: Active

Description: 2.54mm (.100") Pitch KK® Solid Header, Right Angle, with Friction Lock, 12 Circuits, Tin (Sn) Plating

Documents:

Note - Please disable browser pop-up blockers for documents on www.molex.com

- [Drawing \(PDF\)](#)
- [Product Specification PS-10-07 \(PDF\)](#)
- [3D Model](#)
- [Packaging Specification \(PDF\)](#)
- [Related Catalog Page \(PDF\)](#)



Order Products:

- [Check Distributor Inventory](#)
- [Add to My Parts](#)
- [Request Samples](#)

Part Detail: (show all)

- [General](#)
- [Physical](#)
- [Electrical](#)
- [Material Info](#)

General

Product Family	PCB Headers
Series	7478
Application	Wire-to-Board
Product Name	KK®

Physical

Breakaway	No
Circuits (Loaded)	12
Circuits (maximum)	12
Color - Resin	Natural (White)
Durability (mating cycles) min	25 cycles
Flammability	94V-0
Lock to Mating Part	Yes
Material - Metal	Brass
Material - Plating Mating	Tin
Material - Plating Termination	Tin
Material - Resin	Nylon
Number of Rows	1
Orientation	Right Angle
PC Tail Length (in)	0.141 In
PC Tail Length (mm)	3.58 mm
PCB Locator	No
PCB Retention	None
PCB Thickness Recommended (in)	0.062 In
PCB Thickness Recommended (mm)	1.60 mm
Packaging Type	Bag
Pitch - Mating Interface (in)	0.100 In
Pitch - Mating Interface (mm)	2.54 mm
Plating min: Mating (uin)	200
Plating min: Mating (um)	5
Plating min: Termination (uin)	200
Plating min: Termination (um)	5
Polarized to Mating Part	Yes
Polarized to PCB	Yes

EU RoHS
ELV and RoHS Compliant

China RoHS



Need more information on product compliance?

Email productcompliance@molex.com

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

Duration at Max. Process Temperature (seconds)	5
Lead-free Process Capability	Wave Capable (TH only)
Max. Cycles at Max. Process Temperature	1
Process Temperature max. C	235

Search Parts in this Series

[7478](#) Series

Mates With

[2695](#), [6471](#), [7880](#), [4455](#), [7720](#)

Shrouded	Partial
Stackable	Yes
Temperature Range - Operating	0°C to +75°C
Termination Interface: Style	Through Hole

Electrical

CSA	LR19980
Current - Maximum	4.000 Amp
UL	E29179
Voltage - Maximum	250V

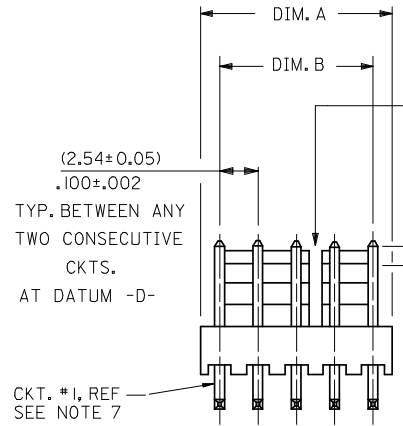
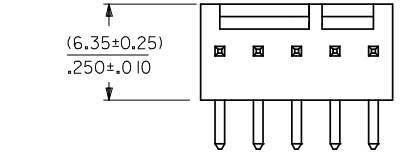
Material Info

Old Part Number	A-7478-12A102
-----------------	---------------

Reference - Drawing Numbers

Product Specification	PS-10-07
Sales Drawing	SDA-7478

	13	12	11	10	9	8	7	6	5	4	3	2	1
J	28	(71.12 / 70.61) 2.800 / 2.780	(68.58 ± 0.25) 2.700 ± .010	4 , 5 24 , 25									
	27	(68.58 / 68.07) 2.700 / 2.680	(66.04 ± 0.25) 2.600 ± .010	4 , 5 24 , 25									
	26	(66.04 / 65.53) 2.600 / 2.580	(63.50 ± 0.25) 2.500 ± .010	4 , 5 20 , 21									
	25	(63.50 / 62.99) 2.500 / 2.480	(60.96 ± 0.25) 2.400 ± .010	4 , 5 20 , 21									
I	24	(60.96 / 60.45) 2.400 / 2.380	(58.42 ± 0.25) 2.300 ± .010	4 , 5 20 , 21									
	23	(58.42 / 57.96) 2.300 / 2.282	(55.88 ± 0.23) 2.200 ± .009	4 , 5 20 , 21									
	22	(55.88 / 55.42) 2.200 / 2.182	(53.34 ± 0.23) 2.100 ± .009	4 , 5 16 , 17									
	21	(53.34 / 52.88) 2.100 / 2.082	(50.80 ± 0.23) 2.000 ± .009	4 , 5 16 , 17									
H	20	(50.80 / 50.34) 2.000 / 1.982	(48.26 ± 0.23) 1.900 ± .009	4 , 5 16 , 17									
	19	(48.26 / 47.80) 1.900 / 1.882	(45.72 ± 0.23) 1.800 ± .009	4 , 5 16 , 17									
G	18	(45.72 / 45.31) 1.800 / 1.784	(43.18 ± 0.20) 1.700 ± .008	4 , 5 12 , 13									
	17	(43.18 / 42.77) 1.700 / 1.684	(40.64 ± 0.20) 1.600 ± .008	4 , 5 12 , 13									
	16	(40.64 / 40.23) 1.600 / 1.584	(38.10 ± 0.20) 1.500 ± .008	4 , 5 12 , 13									
F	15	(38.10 / 37.69) 1.500 / 1.484	(35.56 ± 0.20) 1.400 ± .008	4 , 5 12 , 13									
	14	(35.56 / 35.20) 1.400 / 1.386	(33.02 ± 0.18) 1.300 ± .007	4 , 5 8 , 9									
	13	(33.02 / 32.66) 1.300 / 1.286	(30.48 ± 0.18) 1.200 ± .007	4 , 5 8 , 9									
E	12	(30.48 / 30.12) 1.200 / 1.186	(27.94 ± 0.18) 1.100 ± .007	4 , 5 8 , 9									
	11	(27.94 / 27.58) 1.100 / 1.086	(25.40 ± 0.18) 1.000 ± .007	4 , 5 8 , 9									
	10	(25.40 / 25.04) 1.000 / .986	(22.86 ± 0.15) .900 ± .006	4 , 5									
	9	(22.86 / 22.50) .900 / .886	(20.32 ± 0.15) .800 ± .006	4 , 5									
D	8	(20.32 / 19.96) .800 / .786	(17.78 ± 0.15) .700 ± .006	4 , 5									
	7	(17.78 / 17.42) .700 / .686	(15.24 ± 0.13) .600 ± .005	4 , 5									
	6	(15.24 / 14.88) .600 / .586	(12.70 ± 0.13) .500 ± .005	4 , 5									
C	5	(12.70 / 12.40) .500 / .488	(10.16 ± 0.13) .400 ± .005	NONE									
	4	(10.16 / 9.86) .400 / .388	(7.62 ± 0.13) .300 ± .005	NONE									
	3	(7.62 / 7.32) .300 / .288	(5.08 ± 0.10) .200 ± .004	NONE									
	2	(5.08 / 4.78) .200 / .188	(2.54 ± 0.05) .100 ± .002	NONE									

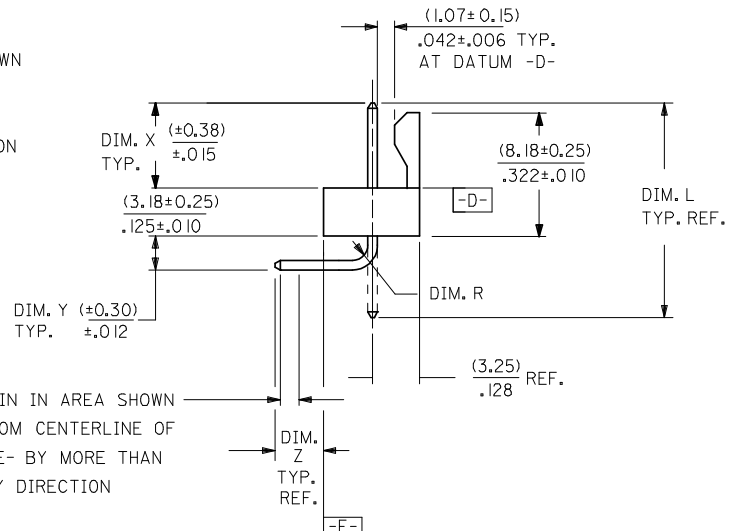


NOTES:

- MATERIAL: NYLON, UL94V-0, COLOR: WHITE
- FINISH:
 - (102) - OVERALL TIN: (0.00508)/.000200 MIN., OVERALL COPPER UNDERPLATE: (0.00254)/.000100 MIN.
 - (154) - OVERALL TIN: (0.00254)/.000100 MIN., OVERALL NICKEL UNDERPLATE: (0.00127)/.000050 MIN.
 - (501) - OVERALL GOLD: (0.00051)/.000020 MIN., OVERALL NICKEL UNDERPLATE: (0.00076)/.000030 MIN.
 - (503) - OVERALL GOLD: (0.00076)/.000030 MIN., OVERALL NICKEL UNDERPLATE: (0.00127)/.000050 MIN.
 - (531) - OVERALL GOLD: (0.00038)/.000015 MIN., OVERALL NICKEL UNDERPLATE: (0.00076)/.000030 MIN.
- PARTS CONFORM TO PRODUCT SPECIFICATION PS-10-07.
- PACKAGING INFORMATION: SEE LEGEND.
- PARTS ARE STACKABLE END TO END ON (2.54)/.100 CENTERS.
- PIN PUSH OUT FORCE: 2 LBS. MIN.
- CIRCUIT ONE DESIGNATION IS USED TO DEFINE VOID LOCATION. CIRCUIT ONE MAY OR MAY NOT LINE UP WITH CIRCUIT ONE ON THE HOUSING.
- THIS PART CONFORMS TO CLASS B REQUIREMENTS OF COSMETIC SPECIFICATION PS-45499-002.

SLOTS LOCATED BETWEEN CIRCUITS (SEE CHART)

CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY FROM CENTERLINE OF PIN AT DATUM -D- BY MORE THAN (0.20)%.008 IN ANY DIRECTION



CENTERLINE OF PIN IN AREA SHOWN NOT TO VARY FROM CENTERLINE OF PIN AT DATUM -E- BY MORE THAN (0.13)%.005 IN ANY DIRECTION

A-7478-N***
NO. OF CKTS.

SECONDARY OPERATIONS	
CODE	PACKAGE
BLANK	BULK PK-7478-001
T	TUBE PER PK-44743-001

VERSION LETTER CHANGES WHEN PIN NO. OR PRESS DIM. CHANGES

PLATING SEE NOTE 2

RECOMMENDED P.C. BOARD HOLE LAYOUT

NO. OF CKTS.	DIM. A	DIM. B	SLOTS LOC.
7	Y4		
6	W1		
5	Y8		
4	Y7		
3	Y9		
2	Y9		
1	Y11		
SHT	REV		


REMOVE ES-42003 EC NO: UCP2009-0359 DRAWING: GAVRILL 2008/08/12 CHKD: HKIPPER 2008/08/14 APPR: FSM/ITH 2008/08/14	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <thead> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> </thead> <tbody> <tr> <td>4 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>3 PLACES</td> <td>± ---</td> <td>± .010</td> </tr> <tr> <td>2 PLACES</td> <td>± 0.25</td> <td>± .015</td> </tr> <tr> <td>1 PLACE</td> <td>± 0.38</td> <td>± ---</td> </tr> </tbody> </table>		mm	INCH	4 PLACES	± ---	± ---	3 PLACES	± ---	± .010	2 PLACES	± 0.25	± .015	1 PLACE	± 0.38	± ---	DIMENSION STYLE MM/IN	SCALE 4:1	DESIGN UNITS INCH	THIRD ANGLE PROJECTION	DRAWN BY GUZIC	DATE 1987/07/30	CHECKED BY PATEL	DATE 1987/07/30	APPROVED BY LENZ	DATE 1987/07/30	TITLE FRICITION LOCK HEADER ASY .100 CL BENT SQ PINS 7478 SERIES DWG
				mm	INCH																							
4 PLACES	± ---	± ---																										
3 PLACES	± ---	± .010																										
2 PLACES	± 0.25	± .015																										
1 PLACE	± 0.38	± ---																										
MATERIAL NO. SEE CHART	DOCUMENT NO. SDA-7478	SHEET NO. 1 OF 7																										
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															

	13	12	11	10	9	8	7	6	5	4	3	2	1				
J	ENG. NO.	PIN NO.	DIM. L	DIM. X	DIM. Z	DIM. Y	DIM. W	DIM. R	ENG. NO.	PIN NO.	DIM. L	DIM. X	DIM. Z	DIM. Y	DIM. W	DIM. T	J
	A-7478-NA102	2766-41(102)	(18.69) .736	(6.60) .260	(3.58) .141	(3.05) .120	90°	(1.17) .046									
	A-7478-NA50I	2766-41(50I)	(18.69) .736	(6.60) .260	(3.58) .141	(3.05) .120	90°	(1.17) .046									
I	A-7478-NA50IT	2766-41(50IT)	(18.69) .736	(6.60) .260	(3.58) .141	(3.05) .120	90°	(1.17) .046									
	A-7478-NA102T	2766-41(102T)	(18.69) .736	(6.60) .260	(3.58) .141	(3.05) .120	90°	(1.17) .046									
H																	
G																	
F																	
E																	
D																	
C																	

B

A

ADD A-7478-NA102T
 EC NO: UCP2006-1815
 DRW:ADERR 2006/02/06
 CHKD:AEI/HAG 2006/02/06
 APPR:FSM/TH 2006/02/09
 Y9

QUALITY SYMBOLS



GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± .005	± .0005
3 PLACES	± .004	± .0004
2 PLACES	± .003	± .0003
1 PLACE	± .002	± .0002


ANGULAR ± .005°

DIMENSION STYLE IN/MM

DRAWN BY	DATE
GUZIK	1987/07/10
CHECKED BY	DATE
PATEL	1987/07/10
APPROVED BY	DATE
LENZ	1987/07/10

SCALE ---
 DESIGN UNITS INCH
 THIRD ANGLE PROJECTION

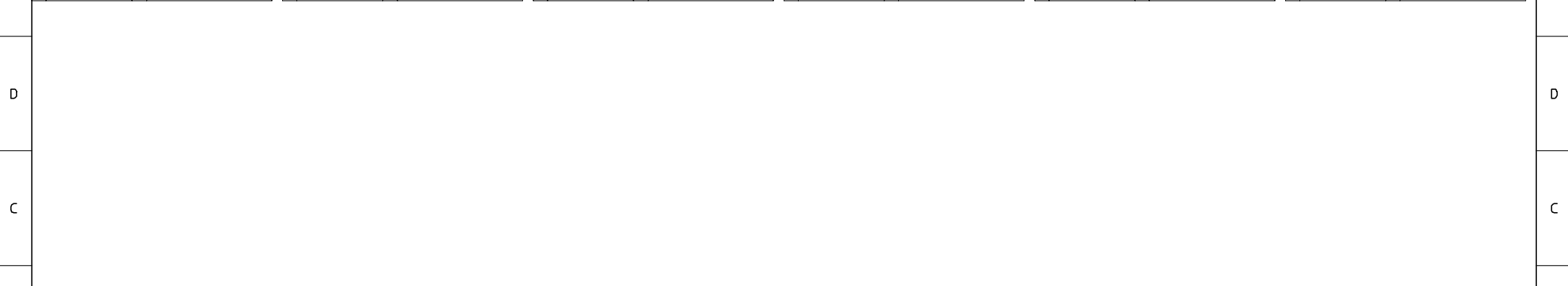
TITLE
 FRICTION LOCK HEADER ASY
 .100 CL BENT SQ PINS
 7478 SERIES DWG

 MOLEX INCORPORATED
 MATERIAL NO. SDA-7478
 DOCUMENT NO. SHEET NO. 2 OF 7

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

SIZE C SEE CHART
 THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

	13	12	11	10	9	8	7	6	5	4	3	2	1	
	A-7478-NA102		A-7478-NA501		A-7478-NA501T		A-7478-NA102T							
J	PART NO.	ENG. NO.	PART NO.	ENG. NO.	PART NO.	ENG. NO.	PART NO.	ENG. NO.	PART NO.	ENG. NO.	PART NO.	ENG. NO.	PART NO.	ENG. NO.
	22-05-3021	* A-7478-2A102	22-12-2024	* A-7478-2A501	50-29-1710	A-7478-2A501T	50-34-8500	A-7478-2A102T						
	22-05-3031	* A-7478-3A102	22-12-2034	* A-7478-3A501	50-29-1711	A-7478-3A501T	50-34-8501	A-7478-3A102T						
	22-05-3041	* A-7478-4A102	22-12-2044	* A-7478-4A501	50-29-1705	A-7478-4A501T	50-34-8502	A-7478-4A102T						
I	22-05-3051	* A-7478-5A102	22-12-2054	* A-7478-5A501	50-29-1712	A-7478-5A501T								
	22-05-3061	* A-7478-6A102	22-12-2064	* A-7478-6A501	50-29-1713	A-7478-6A501T								
	22-05-3071	* A-7478-7A102	22-12-2074	* A-7478-7A501	50-29-1714	A-7478-7A501T								
	22-05-3081	* A-7478-8A102	22-12-2084	* A-7478-8A501	50-29-1715	A-7478-8A501T								
	22-05-3091	* A-7478-9A102	22-12-2094	* A-7478-9A501	50-29-1716	A-7478-9A501T								
H	22-05-3101	* A-7478-10A102	22-12-2104	* A-7478-10A501	50-29-1717	A-7478-10A501T								
	22-05-3111	* A-7478-11A102	22-12-2114	* A-7478-11A501	50-29-1718	A-7478-11A501T								
	22-05-3121	* A-7478-12A102	22-12-2124	* A-7478-12A501	50-29-1719	A-7478-12A501T								
	22-05-3131	* A-7478-13A102	22-12-2134	* A-7478-13A501	50-29-1720	A-7478-13A501T								
	22-05-3141	* A-7478-14A102	22-12-2144	* A-7478-14A501	50-29-1721	A-7478-14A501T								
	22-05-3151	* A-7478-15A102	22-12-2154	* A-7478-15A501	50-29-1722	A-7478-15A501T								
G	22-05-3161	* A-7478-16A102	22-12-2164	* A-7478-16A501	50-29-1723	A-7478-16A501T								
	22-05-3171	* A-7478-17A102	22-12-2174	* A-7478-17A501	50-29-1724	A-7478-17A501T								
	22-05-3181	* A-7478-18A102	22-12-2184	* A-7478-18A501	50-29-1725	A-7478-18A501T								
	22-05-3191	* A-7478-19A102	22-12-2194	* A-7478-19A501	50-29-1726	A-7478-19A501T								
	22-05-3201	* A-7478-20A102	22-12-2204	* A-7478-20A501	50-29-1727	A-7478-20A501T								
	22-05-3211	* A-7478-21A102	22-12-2214	* A-7478-21A501	50-29-1728	A-7478-21A501T								
F	22-05-3221	* A-7478-22A102	22-12-2224	* A-7478-22A501	50-29-1729	A-7478-22A501T								
	22-05-3231	* A-7478-23A102	22-12-2234	* A-7478-23A501	50-29-1730	A-7478-23A501T								
	22-05-3241	* A-7478-24A102	22-12-2244	* A-7478-24A501	50-29-1731	A-7478-24A501T								
	22-05-3251	* A-7478-25A102	22-12-2254	* A-7478-25A501	50-29-1732	A-7478-25A501T								
	22-05-3261	* A-7478-26A102	22-12-2264	* A-7478-26A501	50-29-1733	A-7478-26A501T								
E	22-05-3271	* A-7478-27A102	22-12-2274	* A-7478-27A501	50-29-1734	A-7478-27A501T								
	22-05-3281	* A-7478-28A102	22-12-2284	* A-7478-28A501	50-29-1735	A-7478-28A501T								



ADD P/N'S EC NO: UCP2006-1815 DRAWN:ADERR CHKD:AEI/HAG APPR:FSM/TH Y9	DESCRIPTION 2006/02/06 2006/02/06 2006/02/09	QUALITY SYMBOLS = 0.05 = 0.1	GENERAL TOLERANCES (UNLESS SPECIFIED) <table border="1"> <tr> <th></th> <th>mm</th> <th>INCH</th> </tr> <tr> <td>4 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>3 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>2 PLACES</td> <td>± ---</td> <td>± ---</td> </tr> <tr> <td>1 PLACE</td> <td>± ---</td> <td>± ---</td> </tr> </table>			mm	INCH	4 PLACES	± ---	± ---	3 PLACES	± ---	± ---	2 PLACES	± ---	± ---	1 PLACE	± ---	± ---	DIMENSION STYLE IN/MM		SCALE ---	DESIGN UNITS INCH	THIRD ANGLE PROJECTION	
			mm	INCH																					
		4 PLACES	± ---	± ---																					
		3 PLACES	± ---	± ---																					
2 PLACES	± ---	± ---																							
1 PLACE	± ---	± ---																							
DRAWN BY GUZIK			DATE 1987/07/10		TITLE FRICTION LOCK HEADER ASY .100 CL BENT SQ PINS 7478 SERIES DWG.																				
CHECKED BY PATEL			DATE 1987/07/10		MOLEX INCORPORATED																				
APPROVED BY LENZ			DATE 1987/07/10		MATERIAL NO. SEE CHART		DOCUMENT NO. SDA-7478		SHEET NO. 3 OF 7																