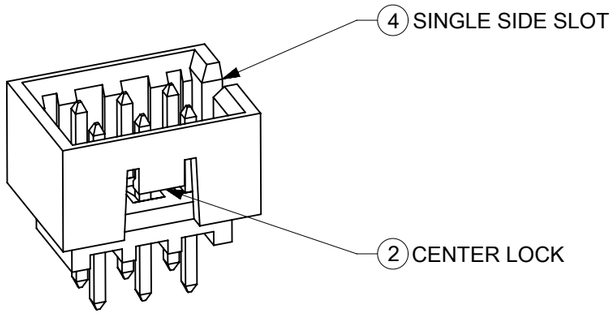
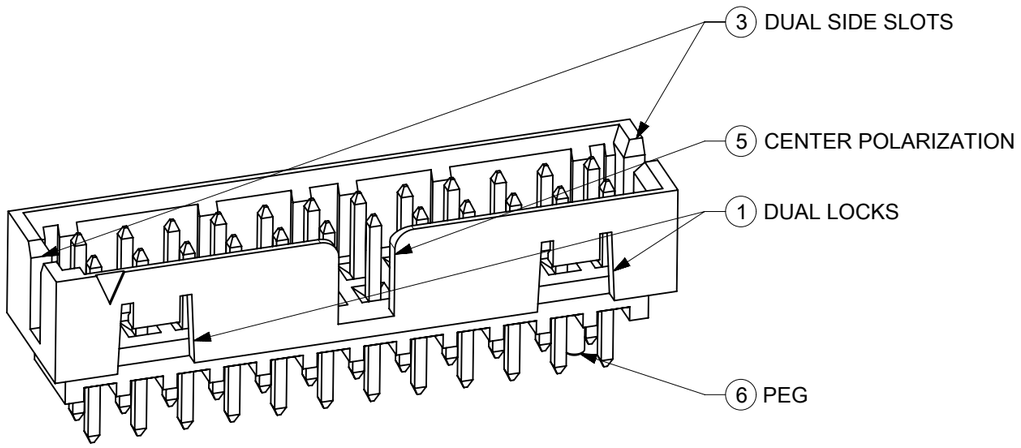
# FEATURES SELECTION GUIDE




| CIRCUIT SIZE | FEATURES | | | | | | SHEET NO |
|---|---|---|---|---|---|---|---|
| | FRICTION LOCKS | | SIDE SLOTS | | (5) CENTER POLARIZATION | (6) PEG | |
| | (1) DUAL | (2) CENTER | (3) DUAL | (4) SINGLE | | | |
| 4 | N.A | N.A | YES | N.A | N.A | N.A | 2 - 3 |
| | N.A | YES | YES | N.A | N.A | N.A | |
| | N.A | YES | N.A | YES | N.A | N.A | |
| 6 | N.A | N.A | YES | N.A | N.A | N.A | 4 - 5 |
| | N.A | N.A | YES | N.A | N.A | YES | |
| | N.A | YES | YES | N.A | N.A | N.A | |
| | N.A | YES | YES | N.A | N.A | YES | |
| | N.A | YES | N.A | YES | N.A | N.A | |
| | N.A | YES | N.A | YES | N.A | YES | |
| | N.A | N.A | YES | N.A | YES | N.A | |
| 8 TO 12 | N.A | N.A | YES | N.A | YES | N.A | 6 - 8 |
| | N.A | N.A | YES | N.A | YES | YES | |
| | N.A | YES | YES | N.A | N.A | N.A | |
| | N.A | YES | YES | N.A | N.A | YES | |
| | N.A | YES | N.A | YES | N.A | N.A | |
| | N.A | YES | N.A | YES | N.A | YES | |
| 14 TO 50 | YES | N.A | YES | N.A | YES | N.A | 9 - 13 |
| | YES | N.A | YES | N.A | YES | YES | |

## PACKAGING SPECIFICATION TABLE

| | |
|---|---|
| TAPE AND REEL PACKAGING | PK-87831-300 |
| TUBE STANDARD PACKAGING | PK-87831-001 |
| TUBE NON-STANDARD PACKAGING FOR:<br>87831-0419 87831-0645<br>87831-5141 87831-5119<br>87831-0443 87831-1011<br>87831-5241 87831-1420<br>87831-5242<br>87831-0643 | PK-87831-002 |

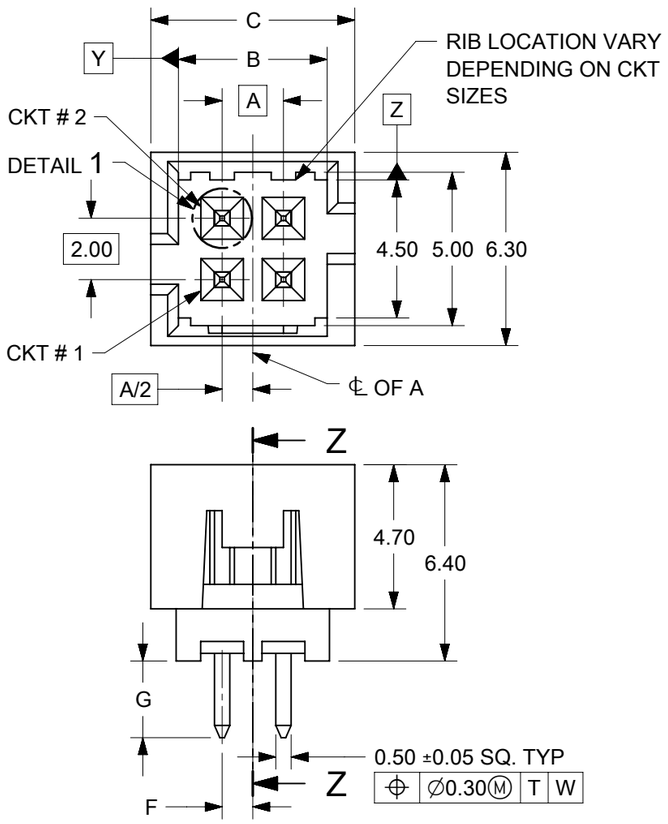
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

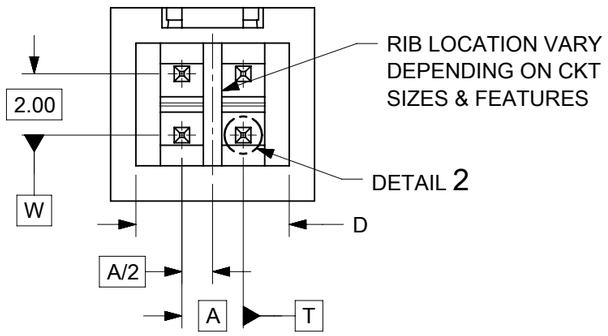
| | | | |
|---|---|---|---|
| DIMENSION UNITS: mm | SCALE: NTS | CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581. | molex |
| GENERAL TOLERANCES (UNLESS SPECIFIED) | | | MILLIGRID 2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER |
| MM / INCH | | EC NO: 761863 | PRODUCT CUSTOMER DRAWING |
| 4 PLACES ± / ± | | DRWN: SUAIFR 2023/08/14 | DOCUMENT NUMBER: SD-87831-0001 |
| 3 PLACES ± / ± | | CHK'D: GGA 2023/09/11 | DOC TYPE: PSD |
| 2 PLACES ± 0.2 / ± | | APPR: GGA 2023/09/11 | DOC PART: 001 |
| 1 PLACE ± / ± | | INITIAL REVISION: | REVISION: A24 |
| 0 PLACES ± / ± | | DRWN: GMENARLY 2015/04/15 | |
| ANGULAR TOL ± 3.0 ° | | APPR: KHLIM 2015/06/29 | |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831 |
| | | MATERIAL NUMBER: SEE TABLE | CUSTOMER: GENERAL MARKET |
| | | | SHEET NUMBER: 1 OF 14 |

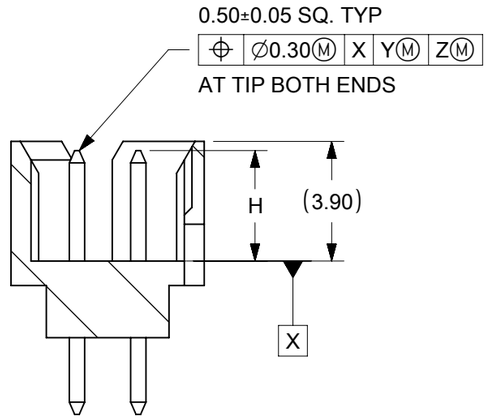
| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

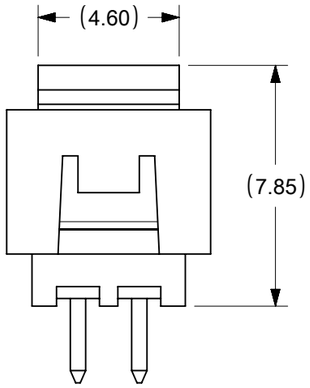
# 4 CIRCUITS



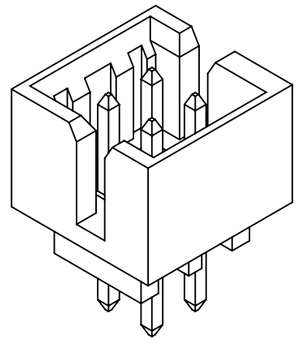



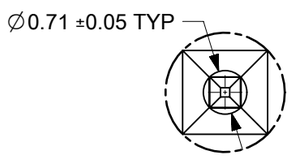

SECTION Z-Z



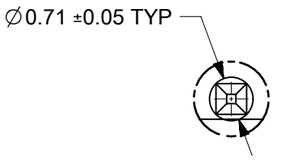

VIEW FOR HEADER WITH CAP



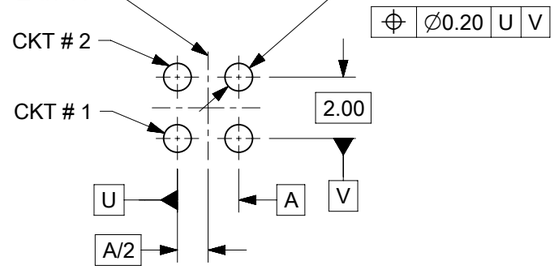
VIEW FOR HEADER WITH ONLY DUAL SLOTS




DETAIL 1




DETAIL 2




RECOMMENDED PCB LAYOUT

NOTES:
1. MATERIALS:
   HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK
   PIN: 0.50mm SQ. PHOSPHOR BRONZE
2. FINISHES: REFER TO PLATING OPTIONS
3. PRODUCT SPECIFICATION: PS-87831-027
4. PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
5. MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES
   AND CRIMP TERMINAL: 50394 SERIES
   B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES
   C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE:
   79107 (GOLD PLATED), 78787 (TIN PLATED)

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 2 OF 14 |

FORMAT: Mel-lega-master-lb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 4 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 4 | 87831-0419 | N.A | N.A | 1 | N.A | N.A | YES | N.A | N.A | N.A | 2.00 | 4.85 | 6.65 | 5.00 | N.A | N.A | 2.50 | 3.60±0.20 |
| | 87831-0420 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-0421 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0436 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-0441 | 87831-0456 | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | 1.00 | 2.50 | |
| | 87831-0442 | N.A | 87831-5565 | 3 | | | | | | | | | | | | | | |
| | 87831-5141 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 3.50 | |
| | 87831-5142 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-6141 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 2.80 | |
| | 87831-6142 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0443 | N.A | N.A | 2 | N.A | YES | N.A | YES | N.A | N.A | | | | | | | 2.50 | $3.60^{+0.15}_{-0.10}$ |
| | 87831-0444 | N.A | N.A | 3 | | | | | | | | | | | | | | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.

2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.

3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTETIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.

4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

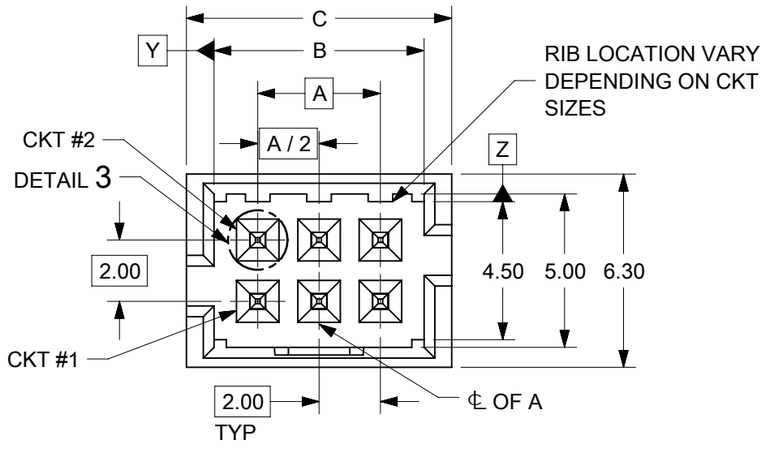
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|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

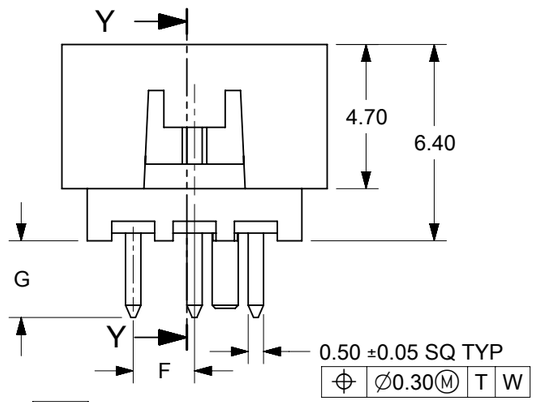
| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 3 OF 14 |

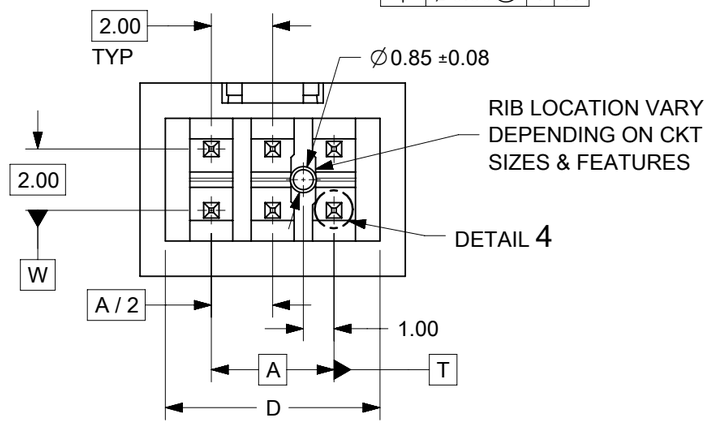
| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
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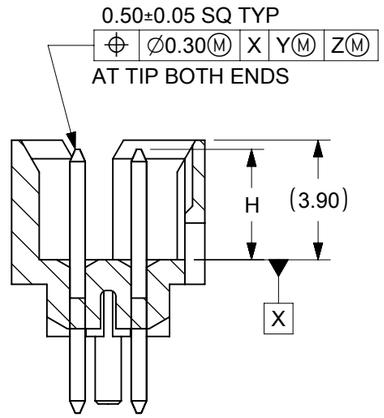
FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 6 CIRCUITS

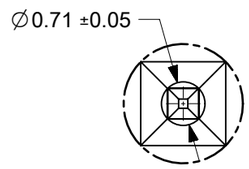


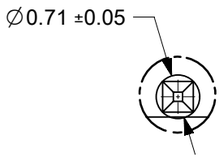



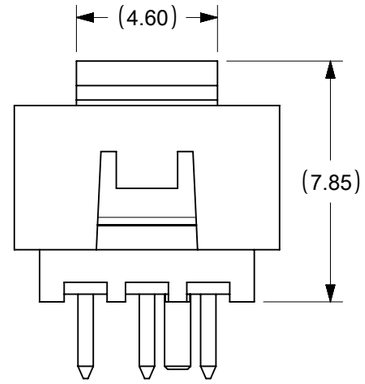

SECTION Y-Y



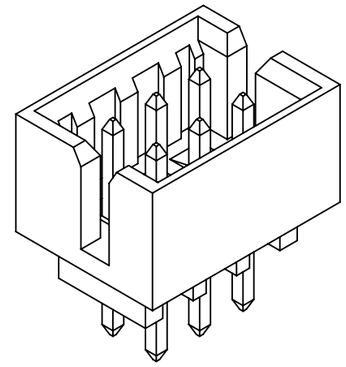

DETAIL 3



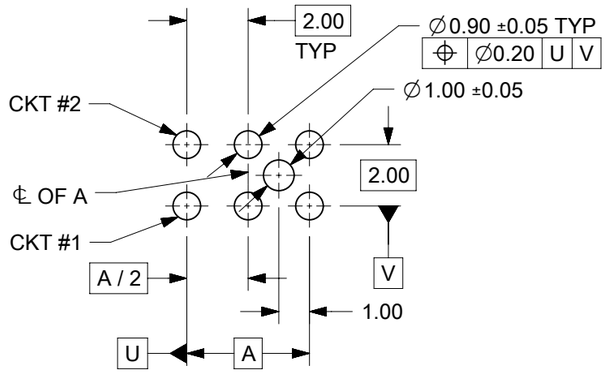

DETAIL 4




VIEW FOR
HEADER WITH CAP



VIEW FOR HEADER WITH
ONLY DUAL SLOTS




RECOMMENDED PCB LAYOUT

NOTES:
1. MATERIALS:
   HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK
   PIN: 0.50mm SQ PHOSPHOR BRONZE
2. FINISHES: REFER TO PLATING OPTIONS
3. PRODUCT SPECIFICATION: PS-87831-027
4. PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
5. MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES
   AND CRIMP TERMINAL: 50394 SERIES
   B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES
   C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE:
   79107 (GOLD PLATED), 78787 (TIN PLATED)

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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 4 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Met-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 6 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 6 | 87831-0619 | N.A | N.A | 1 | N.A | N.A | YES | N.A | N.A | N.A | 4.00 | 6.85 | 8.65 | 7.00 | N.A | N.A | 2.50 | 3.60±0.20 |
| | 87831-0620 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-0621 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0636 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-0628 | N.A | N.A | 2 | N.A | N.A | YES | N.A | N.A | YES | | | | | | N.A | 2.50 | |
| | 87831-0629 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0641 | N.A | 87831-0647 | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | 2.00 | 2.50 | |
| | 87831-0642 | N.A | 87831-5552 | 3 | | | | | | | | | | | | | | |
| | 87831-5241 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 3.50 | |
| | 87831-5242 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-6241 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 2.80 | |
| | 87831-6242 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0643 | N.A | N.A | 2 | N.A | YES | N.A | YES | N.A | N.A | | | | | | | 2.50 | |
| | 87831-0644 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0645 | N.A | N.A | 2 | N.A | YES | N.A | YES | N.A | YES | | | | | | | 2.50 | 3.60 +0.15 -0.10 |
| | 87831-0646 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0632 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | YES | | | | | | | 2.50 | |
| | 87831-5119 | N.A | N.A | 1 | N.A | N.A | YES | N.A | YES | N.A | | | | | | N.A | 2.50 | 3.60±0.20 |
| | 87831-5121 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5136 | N.A | N.A | 4 | | | | | | | | | | | | | | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

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| | |
|---|---|
| DIMENSION UNITS | mm |
| SCALE | NTS |
| GENERAL TOLERANCES (UNLESS SPECIFIED) | MM / INCH |
| 4 PLACES | ± / ± |
| 3 PLACES | ± / ± |
| 2 PLACES | ± 0.2 / ± |
| 1 PLACE | ± / ± |
| 0 PLACES | ± / ± |
| ANGULAR TOL | ± 3.0 ° |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | |

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

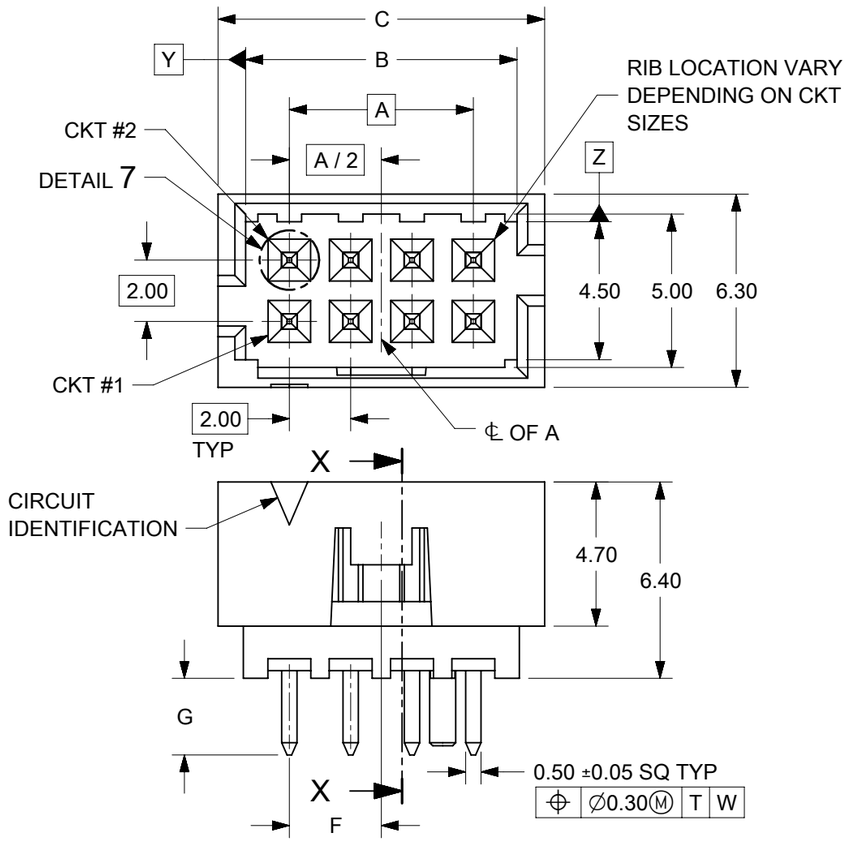
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|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

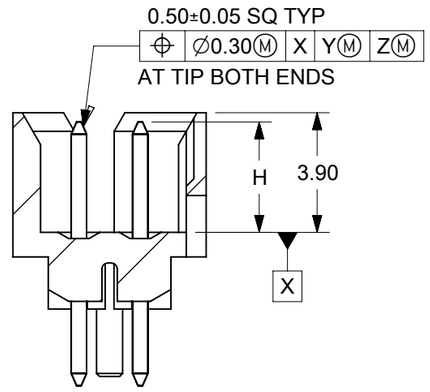
| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 5 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
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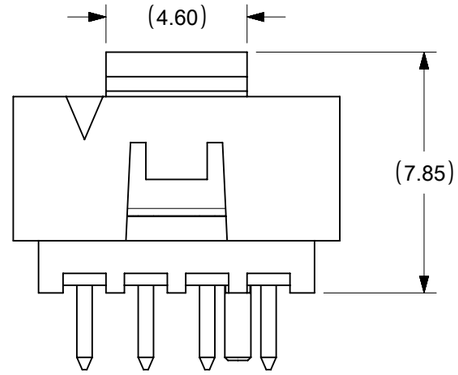
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REVISION: E1
DATE: 2021/05/01

# 8 TO 12 CIRCUITS

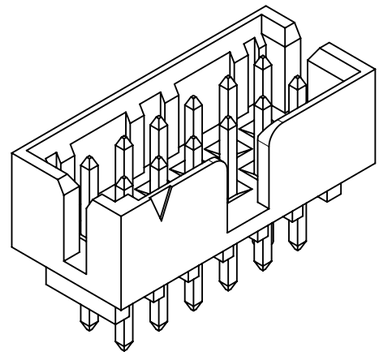


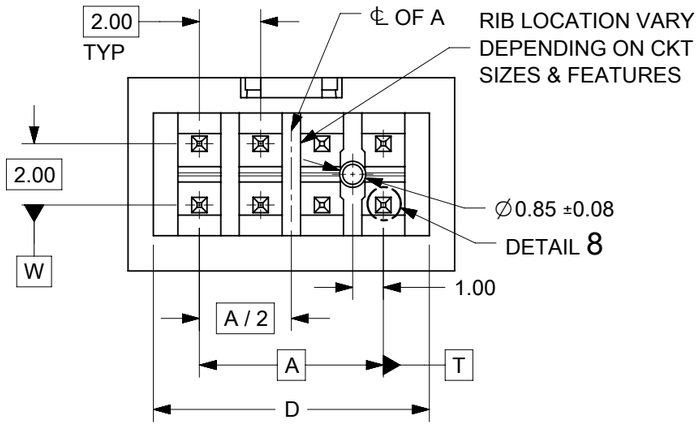

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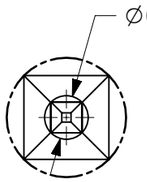



VIEW FOR HEADER WITH CAP

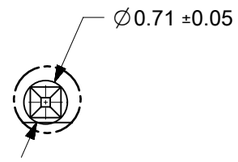


VIEW FOR HEADER WITH CENTER
POLARIZATION AND DUAL SIDE SLOTS

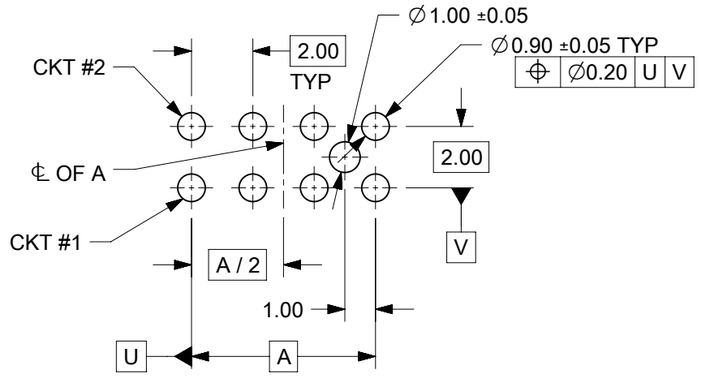



DETAIL 7




DETAIL 8




RECOMMENDED PCB LAYOUT

NOTES:
1. MATERIALS:
   HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK
   PIN: 0.50mm SQ PHOSPHOR BRONZE
2. FINISHES: REFER TO PLATING OPTIONS
3. PRODUCT SPECIFICATION: PS-87831-027
4. PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
5. MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES
   AND CRIMP TERMINAL: 50394 SERIES
   B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES
   C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE:
   79107 (GOLD PLATED), 78787 (TIN PLATED)

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
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molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| THIRD ANGLE PROJECTION | DRAWING | SERIES | MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|---|---|---|
| | A3-SIZE | 87831 | SEE TABLE | GENERAL MARKET | 6 OF 14 |

FORMAT: Mel-lega-master-lb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 8 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 8 | 87831-0819 | N.A | N.A | 1 | N.A | N.A | YES | N.A | YES | N.A | 6.00 | 8.85 | 10.65 | 9.00 | N.A | N.A | 2.50 | 3.60±0.20 |
| | 87831-0820 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-0821 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0836 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-0828 | N.A | N.A | 2 | N.A | N.A | YES | N.A | YES | YES | | | | | | N.A | 2.50 | |
| | 87831-0829 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0841 | N.A | 87831-5551 | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | 3.00 | 2.50 | |
| | 87831-0842 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5841 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | YES | | | | | | | | |
| | 87831-5441 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 3.50 | |
| | 87831-5442 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5541 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 2.80 | |
| | 87831-5542 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5741 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 4.70 | |
| | 87831-0832 | N.A | N.A | 2 | N.A | YES | YES | N.A | N.A | YES | | | | | | | 2.50 | $3.60^{+0.15}_{-0.10}$ |
| | 87831-0843 | N.A | N.A | 2 | N.A | YES | N.A | YES | N.A | N.A | | | | | | | 2.50 | |
| | 87831-0844 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-0845 | N.A | N.A | 2 | N.A | YES | N.A | YES | N.A | YES | | | | | | | 2.50 | |
| | 87831-0846 | N.A | N.A | 3 | | | | | | | | | | | | | | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

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| | |
|---|---|
| DIMENSION UNITS | mm |
| SCALE | NTS |
| GENERAL TOLERANCES (UNLESS SPECIFIED) | MM / INCH |
| 4 PLACES | ± / ± |
| 3 PLACES | ± / ± |
| 2 PLACES | ± 0.2 / ± |
| 1 PLACE | ± / ± |
| 0 PLACES | ± / ± |
| ANGULAR TOL | ± 3.0 ° |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | |

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 7 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 10 TO 12 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | ASSY P/N WITHOUT CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 10 | 87831-1019 | N.A | N.A | | 1 | N.A | N.A | YES | N.A | YES | N.A | 8.00 | 10.85 | 12.65 | 11.00 | N.A | N.A | 2.50 | 3.60±0.20 |
| | 87831-1020 | N.A | 87831-1070 | | 2 | | | | | | | | | | | | | | |
| | 87831-1021 | N.A | 87831-5562 | | 3 | | | | | | | | | | | | | | |
| | 87831-1036 | N.A | N.A | | 4 | | | | | | | | | | | | | | |
| | 87831-1010 | N.A | 87831-5561 | | 2 | N.A | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |
| | 87831-1011 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| | 87831-1028 | N.A | N.A | | 2 | N.A | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-1029 | N.A | 87831-5557 | | 3 | | | | | | | | | | | | | | |
| | 87831-1035 | N.A | N.A | | 3 | N.A | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| | 87831-1041 | N.A | N.A | | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | 4.00 | 2.50 | |
| | 87831-1042 | N.A | 87831-5553 | | 3 | | | | | | | | | | | | | | |
| | 87831-1032 | N.A | N.A | | 2 | N.A | YES | YES | N.A | N.A | YES | | | | | | | 2.50 | 3.60 +0.15 -0.10 |
| | 87831-1043 | N.A | N.A | | 2 | N.A | YES | N.A | YES | N.A | N.A | | | | | | | 2.50 | |
| | 87831-1044 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| | 87831-1045 | N.A | N.A | | 2 | N.A | YES | N.A | YES | N.A | YES | | | | | | | 2.50 | |
| | 87831-1046 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| 12 | 87831-1219 | N.A | N.A | | 1 | N.A | N.A | YES | N.A | YES | N.A | 10.00 | 12.85 | 14.65 | 13.00 | N.A | N.A | 2.50 | 3.60±0.20 |
| | 87831-1220 | N.A | 87831-5556 | | 2 | | | | | | | | | | | | | | |
| | 87831-1221 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| | 87831-1236 | N.A | N.A | | 4 | | | | | | | | | | | | | | |
| | 87831-1228 | N.A | N.A | | 2 | N.A | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-1229 | N.A | 87831-5558 | | 3 | | | | | | | | | | | | | | |
| | 87831-1258 | N.A | 87831-5567 | | 2 | | | | | | | | | | | | | 3.50 | |
| | 87831-1241 | N.A | N.A | | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | 5.00 | 2.50 | |
| | 87831-1242 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| | 87831-1255 | 87831-1256 | N.A | | 2 | N.A | YES | YES | N.A | N.A | N.A | | | | | | | 3.50 | |
| | 87831-1232 | N.A | N.A | | 2 | N.A | YES | YES | N.A | N.A | YES | | | | | | | 2.50 | 3.60 +0.15 -0.10 |
| | 87831-1243 | N.A | N.A | | 2 | N.A | YES | N.A | YES | N.A | N.A | | | | | | | 2.50 | |
| | 87831-1244 | N.A | N.A | | 3 | | | | | | | | | | | | | | |
| | 87831-1245 | N.A | N.A | | 2 | N.A | YES | N.A | YES | N.A | YES | | | | | | | 2.50 | |
| | 87831-1246 | N.A | N.A | | 3 | | | | | | | | | | | | | | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

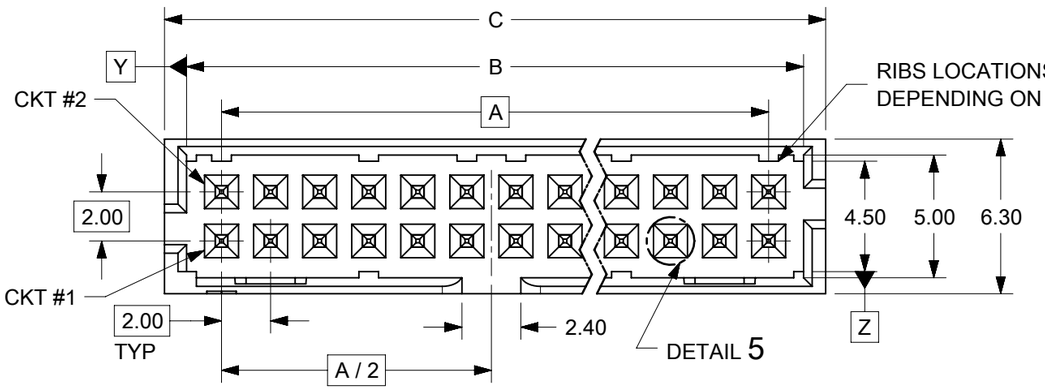
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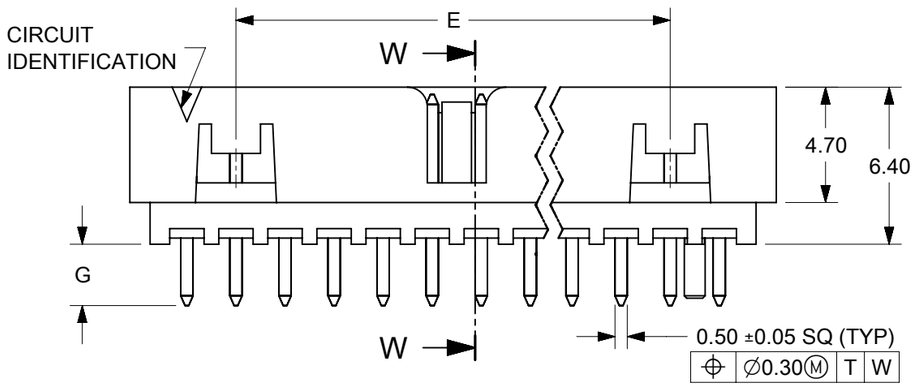
| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 8 OF 14 |

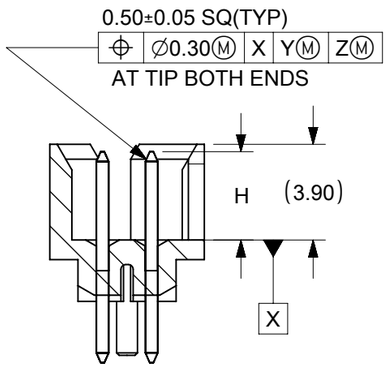
| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Met-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

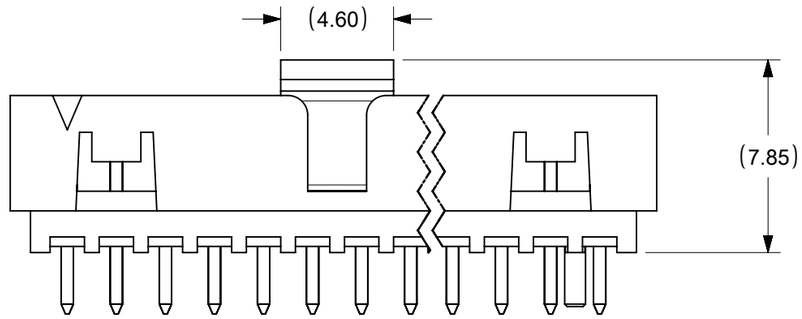
# 14 TO 50 CIRCUITS



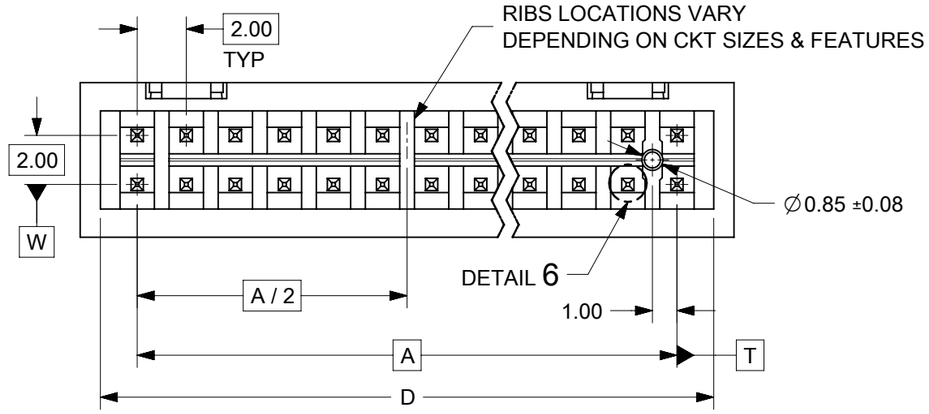



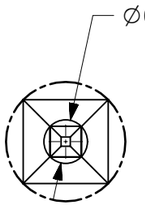



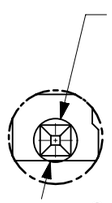

SECTION W-W

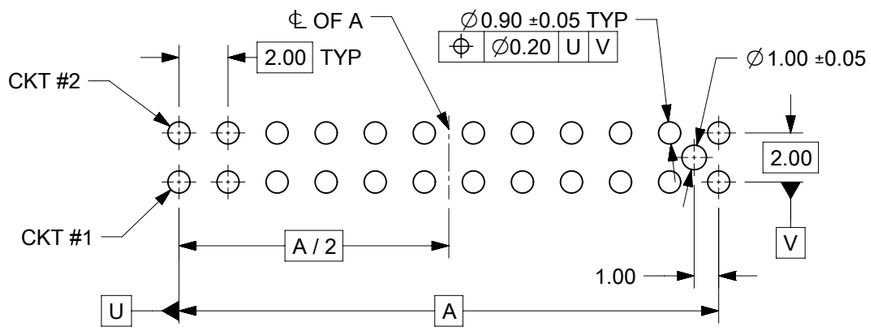



VIEW FOR HEADER WITH CAP




RECOMMENDED PCB LAYOUT

NOTES:
1. MATERIALS:
   HOUSING: 30% GF, NYLON, UL94V-0, COLOR: BLACK
   PIN: 0.50mm SQ PHOSPHOR BRONZE
2. FINISHES: REFER TO PLATING OPTIONS
3. PRODUCT SPECIFICATION: PS-87831-027
4. PACKAGING SPECIFICATION: SEE PACKAGING SPECS TABLE ON SHEET 1
5. MATES WITH: A. MOLEX CRIMP RECEPTACLE HOUSING: 51110 SERIES
   AND CRIMP TERMINAL: 50394 SERIES
   B. MOLEX 2mm MILLIGRID DUAL ROW IDT: 87568 SERIES
   C. MOLEX 2mm MILLIGRID DUAL ROW RECEPTACLE:
   79107 (GOLD PLATED), 78787 (TIN PLATED)

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

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INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| THIRD ANGLE PROJECTION | DRAWING | SERIES | MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|---|---|---|
| | A3-SIZE | 87831 | SEE TABLE | GENERAL MARKET | 9 OF 14 |

FORMAT: Mel-lega-master-lb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 14 TO 20 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | ASSY P/N WITHOUT CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 14 | 87831-1419 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 12.00 | 14.85 | 16.65 | 15.00 | 8.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-1420 | 87831-1430 | 87831-5554 | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-1421 | N.A | 87831-5560 | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-1436 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-1428 | N.A | 87831-5564 | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-1429 | N.A | 87831-5563 | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-1435 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| | 87831-1410 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |
| | 87831-1411 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 16 | 87831-1619 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 14.00 | 16.85 | 18.65 | 17.00 | 10.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-1620 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-1621 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-1636 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-1628 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-1629 | N.A | 87831-5559 | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-1635 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| 18 | 87831-1819 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 16.00 | 18.85 | 20.65 | 19.00 | 12.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-1820 | N.A | 87831-5566 | 87831-1830 | 2 | | | | | | | | | | | | | | |
| | 87831-1821 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-1836 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-1828 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-1829 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 20 | 87831-2019 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 18.00 | 20.85 | 22.65 | 21.00 | 14.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-2020 | N.A | N.A | 87831-2050 | 2 | | | | | | | | | | | | | | |
| | 87831-2021 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2036 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-2028 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-2029 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2035 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| | 87831-2010 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |
| | 87831-2011 | N.A | 87831-2041 | 87831-2051 | 3 | | | | | | | | | | | | | | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

DIMENSION UNITS: mm | SCALE: NTS

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 10 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 22 TO 30 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | ASSY P/N WITHOUT CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 22 | 87831-2219 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 20.00 | 22.85 | 24.65 | 23.00 | 16.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-2220 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-2221 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2236 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-2228 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-2229 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 24 | 87831-2419 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 22.00 | 24.85 | 26.65 | 25.00 | 18.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-2420 | N.A | N.A | 87831-7420 | 2 | | | | | | | | | | | | | | |
| | 87831-2421 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2436 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-2428 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-2429 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2435 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | 3.50 | |
| | 87831-2445 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | 2.80 | |
| | 87831-2410 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |
| 26 | 87831-2619 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 24.00 | 26.85 | 28.65 | 27.00 | 20.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-2620 | 87831-2630 | 87831-5555 | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-2621 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2636 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-2628 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-2629 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2610 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |
| 28 | 87831-2819 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 26.00 | 28.85 | 30.65 | 29.00 | 22.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-2820 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-2821 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-2836 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-2828 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-2829 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 30 | 87831-3019 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 28.00 | 30.85 | 32.65 | 31.00 | 24.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-3020 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-3021 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3036 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-3028 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-3029 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3035 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| | 87831-3037 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 1.60 | |
| | 87831-3010 | 87831-3030 | 87831-3050 | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 11 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 32 TO 40 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 32 | 87831-3219 | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 30.00 | 32.85 | 34.65 | 33.00 | 26.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-3220 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-3221 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3236 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-3228 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-3229 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 34 | 87831-3419 | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 32.00 | 34.85 | 36.65 | 35.00 | 28.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-3420 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-3421 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3436 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-3428 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-3429 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3435 | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| 36 | 87831-3619 | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 34.00 | 36.85 | 38.65 | 37.00 | 30.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-3620 | N.A | 87831-5564 | 2 | | | | | | | | | | | | | | |
| | 87831-3621 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3636 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-3628 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-3629 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 38 | 87831-3819 | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 36.00 | 38.85 | 40.65 | 39.00 | 32.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-3820 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-3821 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-3836 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-3828 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-3829 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 40 | 87831-4019 | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 38.00 | 40.85 | 42.65 | 41.00 | 34.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-4020 | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-4021 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4036 | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-4028 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-4029 | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4010 | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | N.A | | | | | | | 3.50 | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 12 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Met-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01

# 42 TO 50 CIRCUITS

| CKT SIZE | ASSY P/N WITHOUT CAP IN TUBE | ASSY P/N WITH CAP IN TUBE | ASSY P/N WITH CAP IN T&R | ASSY P/N WITHOUT CAP IN T&R | PLATING OPTIONS | FRICTION LOCKS | | SIDE SLOTS | | CENTER POLARIZATION | PEG | DIMENSION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DUAL | CENTER | DUAL | SINGLE | | | A | B | C | D | E | F | G | H |
| 42 | 87831-4219 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 40.00 | 42.85 | 44.65 | 43.00 | 36.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-4220 | N.A | N.A | 87831-4230 | 2 | | | | | | | | | | | | | | |
| | 87831-4221 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4236 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-4228 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-4229 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 44 | 87831-4419 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 42.00 | 44.85 | 46.65 | 45.00 | 38.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-4420 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-4421 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4436 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-4428 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-4429 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4435 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |
| 46 | 87831-4619 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 44.00 | 46.85 | 48.65 | 47.00 | 40.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-4620 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-4621 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4636 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-4628 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-4629 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 48 | 87831-4819 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 46.00 | 48.85 | 50.65 | 49.00 | 42.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-4820 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-4821 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-4836 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-4828 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-4829 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| 50 | 87831-5019 | N.A | N.A | N.A | 1 | YES | N.A | YES | N.A | YES | N.A | 48.00 | 50.85 | 52.65 | 51.00 | 44.00 | N.A | 2.50 | 3.60±0.20 |
| | 87831-5020 | N.A | N.A | N.A | 2 | | | | | | | | | | | | | | |
| | 87831-5021 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5036 | N.A | N.A | N.A | 4 | | | | | | | | | | | | | | |
| | 87831-5028 | N.A | N.A | N.A | 2 | YES | N.A | YES | N.A | YES | YES | | | | | | | 2.50 | |
| | 87831-5029 | N.A | N.A | N.A | 3 | | | | | | | | | | | | | | |
| | 87831-5035 | N.A | N.A | N.A | 3 | YES | N.A | YES | N.A | YES | YES | | | | | | | 3.50 | |

PLATING OPTIONS:

1 - 0.05-0.13µm/2-5µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
2 - 0.38µm/15µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
3 - 0.76µm/30µin GOLD IN CONTACT AREA AND
1.88µm/75µin MIN. MATTE TIN IN SOLDER TAIL AREA OVER
1.27µm/50µin MIN. NICKEL OVERALL.
4 - 2.50µm/100µin MIN. MATTE TIN OVER 1.25µm/50µin MIN. NICKEL OVERALL.

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX ELECTRONIC TECHNOLOGIES, LLC AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: GMENARLY 2015/04/15
APPR: KHLIM 2015/06/29

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

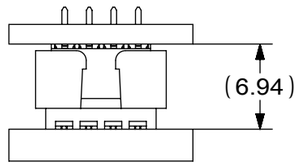
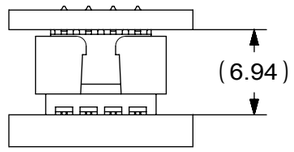
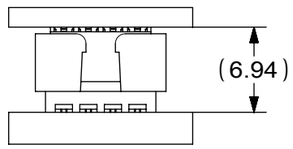
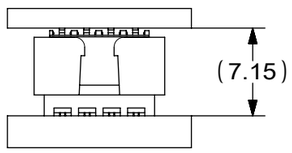
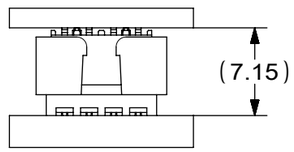
| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| SEE TABLE | GENERAL MARKET | 13 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Met-lega-master-lb-prod-A3
REVISION: E1
DATE: 2021/05/01

## BOARD TO BOARD (BTB) DISTANCE

| HEADER | MATES WITH (RECEPTACLE) | BTB DIST. | PICTORIAL VIEW |
|---|---|---|---|
| 87831 | 79107 | 6.94 |   |
| | 78787 | 6.94 |   |
| | 79108 | 6.94 |   |
| | 79109 | 7.15 |   |
| | 78788 | 7.15 |   |

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| DIMENSION UNITS | SCALE |
|---|---|
| mm | NTS |

GENERAL TOLERANCES (UNLESS SPECIFIED)

| | MM | INCH |
|---|---|---|
| 4 PLACES | ± | ± |
| 3 PLACES | ± | ± |
| 2 PLACES | ± 0.2 | ± |
| 1 PLACE | ± | ± |
| 0 PLACES | ± | ± |
| ANGULAR TOL | ± 3.0 ° | |

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

CURRENT REV DESC: REMOVED OBSOLETED PART NUMBERS AS PER PCN#512581.

EC NO: 761863
DRWN: SUAIFR 2023/08/14
CHK'D: GGA 2023/09/11
APPR: GGA 2023/09/11

INITIAL REVISION:
DRWN: DRWN BY XXXX/XX/XX
APPR: APPR BY XXXX/XX/XX

THIRD ANGLE PROJECTION | DRAWING: A3-SIZE | SERIES: 87831

molex

MILLIGRID
2MM PITCH, THROUGH HOLE VERTICAL SHROUDED HEADER

PRODUCT CUSTOMER DRAWING

| DOCUMENT NUMBER | DOC TYPE | DOC PART | REVISION |
|---|---|---|---|
| SD-87831-0001 | PSD | 001 | A24 |

| MATERIAL NUMBER | CUSTOMER | SHEET NUMBER |
|---|---|---|
| | GENERAL MARKET | 14 OF 14 |

| DOCUMENT STATUS | P1 | RELEASE DATE | 2023/09/11 04:36:51 |
|---|---|---|---|

FORMAT: Mel-lega-master-tb-prod-A3
REVISION: E1
DATE: 2021/05/01