

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: [0416810028](#)
Status: **Active**
Description: 3.96mm (.156") Pitch KK® Header, Breakaway, Vertical, Polarizing Wall, 6 Circuits, 0.76µm (30µ") Gold (Au) Selective Plating

Documents:

[3D Model](#) [Product Specification PS-08-50 \(PDF\)](#)
[Drawing \(PDF\)](#) [RoHS Certificate of Compliance \(PDF\)](#)
[Packaging Specification \(PDF\)](#)

Agency Certification

CSA LR19980
 UL E29179

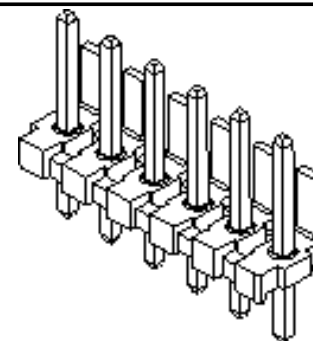
General

Product Family PCB Headers
 Series [41681](#)
 Application Wire-to-Board
 Product Name KK®

Physical

Breakaway Yes
 Circuits (Loaded) 6
 Circuits (maximum) 6
 Color - Resin Black
 Durability (mating cycles max) 50
 Flammability 94V-0
 Glow-Wire Compliant No
 Lock to Mating Part None
 Material - Metal Brass
 Material - Plating Mating Gold
 Material - Plating Termination Tin
 Material - Resin Polyester
 Number of Rows 1
 Orientation Vertical
 PC Tail Length (in) 0.172 In
 PC Tail Length (mm) 4.37 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) 0.156 In
 Pitch - Mating Interface (mm) 3.96 mm
 Plating min: Mating (µin) 30
 Plating min: Mating (µm) 0.75
 Plating min: Termination (µin) 100
 Plating min: Termination (µm) 2.5
 Polarized to Mating Part No
 Polarized to PCB No
 Shrouded No
 Stackable No
 Temperature Range - Operating 0°C to +75°C
 Termination Interface: Style Through Hole

Electrical



*.Series
image - Reference only*

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
 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

[41681Series](#)

Mates With

[3069](#) , [2139](#) , [2145](#) , [6442](#) , [7674](#) , [7675](#) ,
[41695](#) , L ink:41815

Current - Maximum per Contact
Voltage - Maximum

7A
250V

Solder Process Data

Lead-free Process Capability

Wave Capable (TH only)

Material Info

Old Part Number

A-41681-B06A228

Reference - Drawing Numbers

Product Specification

PS-08-50

Sales Drawing

SD-41681-001

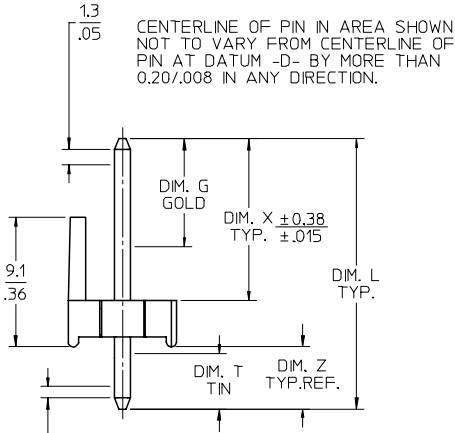
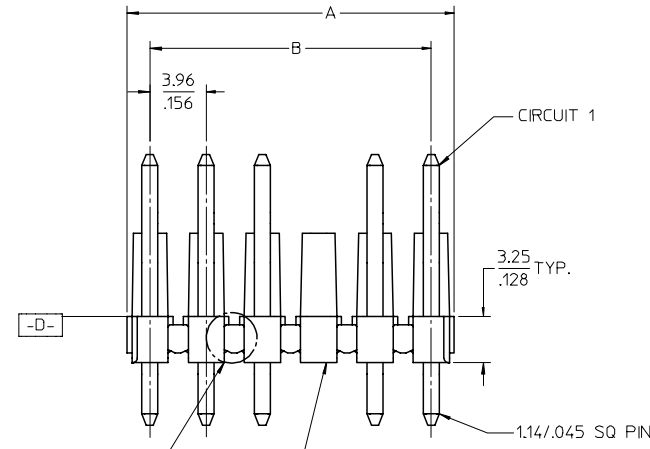
This document was generated on 04/19/2010

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13 12 11 10 9 8 7 6 5 4 3 2 1



PCB LAYOUT: COMPONENT SIDE
RECOMMENDED PCB THICKNESS:
1.57 ± 0.18 / .062 ± .007



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 -D- BY MORE THAN 0.13 / .005 IN ANY DIRECTION.

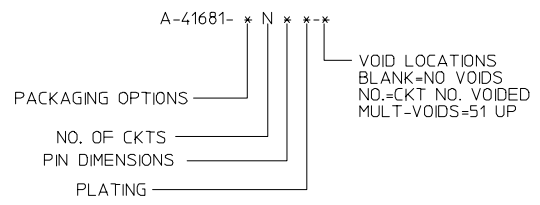
SEE DETAIL "Z"
OPTIONAL VOIDED CKT. SEE CHART FOR LOCATIONS.

NOTES:
1. MATERIAL: HEADER: GLASS FILLED POLYESTER, 94V-0, MOLDED BLACK PINS- BRASS

2. FINISH:
- (102) = OVERALL TIN: (0.00508) / .000200 MIN. OVERALL COPPER UNDERCOAT: (0.00254) / .000100 MIN.
 - (208) = SELECT GOLD: (0.00038) / .000015 MIN. OVER SELECT TIN: (0.00254) / .000100 MIN. OVER NICKEL OVERALL: (0.000127) / .000050 MIN.
 - (228) = SELECT GOLD: (0.00076) / .000030 MIN. SELECT TIN: (0.00254) / .000100 MIN. OVER NICKEL OVERALL: (0.00127) / .000050 MIN.
 - (501) = OVERALL GOLD: (0.00051) / .000020 MIN. OVER NICKEL OVERALL: (0.00076) / .000030 MIN.
 - (503) = OVERALL GOLD: (0.00076) / .000030 MIN. OVER NICKEL OVERALL: (0.00127) / .000050 MIN.

* THE PRIMARY SHIPPING CARTON WILL BE LABELD "COMPLIANT TO RoHS DIRECTIVE 2002/95/EC AND ELV ANNEX II OF DIRECTIVE 2000/53/EC". CARTONS WITHOUT MAY CONTAIN PRODUCT WITH TIN/LEAD PLATINGS.

3. PRODUCT SPECIFICATION: PS-08-50.
4. PACKAGING: SEE CHART
5. SOLDERABILITY: PER SMES-152.
6. PIN PUSH-OUT FORCE: PRIOR TO SOLDERING, A 3 LB. MINIMUM FORCE IN EITHER DIRECTION SHALL BE REQUIRED TO PUSH THE PIN OUT OF THE HEADER.
7. PARTS ARE STACKABLE END TO END ON 3.96 / .156 CENTERS. (SPACING TABS MUST BE REMOVED ON CIRCUIT SIZES 1-23 BEFORE PARTS ARE STACKABLE.)



| CIRCUIT | A | B |
|---------|----------------------------|----------------|
| 2 | 6.78/7.87 .267/.310 | 3.96 .156 |
| 3 | 10.74/11.84 .423/.466 | 7.92 .312 |
| 4 | 14.71/15.80 .579/.622 | 11.89 .468 |
| 5 | 18.67/19.76 .735/.778 | 15.85 .624 |
| 6 | 22.63/23.72 .891/.934 | 19.81 .780 |
| 7 | 26.59/27.69 1.047/1.090 | 23.77 .936 |
| 8 | 30.56/31.65 1.203/1.246 | 27.74 1.092 |
| 9 | 34.52/35.61 1.359/1.402 | 31.70 1.248 |
| 10 | 38.48/39.57 1.515/1.558 | 35.66 1.404 |
| 11 | 42.44/43.54 1.671/1.714 | 39.62 1.560 |
| 12 | 46.41/47.50 1.827/1.870 | 43.59 1.716 |
| 13 | 50.37/51.46 1.983/2.026 | 47.55 1.872 |
| 14 | 54.33/55.42 2.139/2.182 | 51.51 2.028 |
| 15 | 58.29/59.39 2.295/2.338 | 55.47 2.184 |
| 16 | 62.26/63.35 2.451/2.494 | 59.44 2.340 |
| 17 | 66.22/67.31 2.607/2.650 | 63.40 2.496 |
| 18 | 70.18/71.27 2.763/2.806 | 67.36 2.652 |
| 19 | 74.14/75.23 2.919/2.962 | 71.32 2.808 |
| 20 | 78.11/79.20 3.075/3.118 | 75.29 2.964 |
| 21 | 82.07/83.16 3.231/3.274 | 79.25 3.120 |
| 22 | 86.03/87.12 3.387/3.430 | 83.21 3.276 |
| 23 | 89.94/91.08 3.541/3.586 | 87.17 3.432 |
| 24 | 93.85/95.00 3.695/3.740 | 91.14 3.588 |

| | |
|------|------|
| 2-* | S2 |
| 1 | S2 |
| SHT. | REV. |

| | | | | | | |
|---|------------------------|--|---|-------------------------|--------------|------------------------|
| REVISED / REDRAWN EC NO: UCP2006-2983 DRAWN/PRI/DDR 2006/08/02 CHKD:ADERR 2006/08/03 APPR:FSM/TH 2006/08/04 S2 | QUALITY SYMBOLS | GENERAL TOLERANCES (UNLESS SPECIFIED) | DIMENSION STYLE | SCALE | DESIGN UNITS | THIRD ANGLE PROJECTION |
| | ▽=0 | mm INCH | MM/IN | 4:1 | INCH | ⊙ |
| | ▽=0 | 4 PLACES ± --- ± --- | DRAWN BY DATE | TITLE | | |
| | | 3 PLACES ± --- ± .006 | CHECKED BY DATE | KK .156 HEADER ASSEMBLY | | |
| | 2 PLACES ± 0.15 ± .010 | APPROVED BY DATE | POLARIZING STRAIGHT | | | |
| | 1 PLACE ± 0.25 ± --- | MATERIAL NO. | 2-24 CKTS. | | | |
| | ANGULAR ±1/2° | DOCUMENT NO. | MOLEX INCORPORATED | | | |
| | | SEE CHART | SD-41681-001 | | | |
| | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | SHEET NO. 1 OF * | | | |
| | | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | |

12 11 10 9 8 7 6 5 4 3 2 1

| ENG. NO: A-41681-ANA102-* | | | | ENG. NO: A-41681-ANA501-* | | | | ENG. NO: A-41681-ANC102-* | | | |
|---------------------------|------------|---------------------|-------|---------------------------|------------|---------------------|-------|---------------------------|------------|---------------------|-------|
| PIN NUMBER | | 2161-1(102) | | PIN NUMBER | | 2161-1(501) | | PIN NUMBER | | 2161-56(102) | |
| PLATING | | 102 | | PLATING | | 501 | | PLATING | | 102 | |
| DIM. L | | (19.05)/.750 | | DIM. L | | (19.05)/.750 | | DIM. L | | (17.86)/.703 | |
| DIM. X | | (11.43)/.450 | | DIM. X | | (11.43)/.450 | | DIM. X | | (11.43)/.450 | |
| DIM. G (GOLD) | | N/A | | DIM. G (GOLD) | | OVERALL | | DIM. G (GOLD) | | N/A | |
| DIM. Z | | (4.37)/.172 | | DIM. Z | | (4.37)/.172 | | DIM. Z | | (3.18)/.125 | |
| DIM. T (TIN) | | OVERALL | | DIM. T (TIN) | | N/A | | DIM. T (TIN) | | OVERALL | |
| PACKAGING | | PK-41681-001 (BULK) | | PACKAGING | | PK-41681-001 (BULK) | | PACKAGING | | PK-41681-001 (BULK) | |
| CKTS | EDP NO. | ENG. NO. | VOIDS | CKTS | EDP NO. | ENG. NO. | VOIDS | CKTS | EDP NO. | ENG. NO. | VOIDS |
| 02 | 26-48-1023 | A-41681-A2A102 | | 02 | 26-48-2023 | A-41681-A2A501 | | 02 | 26-48-7025 | A-41681-A2C102 | |
| 03 | 26-48-1033 | A-41681-A3A102 | | 03 | 26-48-2033 | A-41681-A3A501 | | 03 | 26-48-7035 | A-41681-A3C102 | |
| 04 | 26-48-1043 | A-41681-A4A102 | | 04 | 26-48-2043 | A-41681-A4A501 | | 04 | 26-48-7045 | A-41681-A4C102 | |
| 05 | 26-48-1053 | A-41681-A5A102 | | 05 | 26-48-2053 | A-41681-A5A501 | | 05 | 26-48-7055 | A-41681-A5C102 | |
| 06 | 26-48-1063 | A-41681-A6A102 | | 06 | 26-48-2063 | A-41681-A6A501 | | 06 | 26-48-7065 | A-41681-A6C102 | |
| 07 | 26-48-1073 | A-41681-A7A102 | | 07 | 26-48-2073 | A-41681-A7A501 | | 07 | 26-48-7075 | A-41681-A7C102 | |
| 08 | 26-48-1083 | A-41681-A8A102 | | 08 | 26-48-2083 | A-41681-A8A501 | | 08 | 26-48-7085 | A-41681-A8C102 | |
| 09 | 26-48-1093 | A-41681-A9A102 | | 09 | 26-48-2093 | A-41681-A9A501 | | 09 | 26-48-7095 | A-41681-A9C102 | |
| 10 | 26-48-1103 | A-41681-A10A102 | | 10 | 26-48-2103 | A-41681-A10A501 | | 10 | 26-48-7105 | A-41681-A10C102 | |
| 11 | 26-48-1113 | A-41681-A11A102 | | 11 | 26-48-2113 | A-41681-A11A501 | | 11 | 26-48-7115 | A-41681-A11C102 | |
| 12 | 26-48-1123 | A-41681-A12A102 | | 12 | 26-48-2123 | A-41681-A12A501 | | 12 | 26-48-7125 | A-41681-A12C102 | |
| 13 | 26-48-1133 | A-41681-A13A102 | | 13 | 26-48-2133 | A-41681-A13A501 | | 13 | 26-48-7135 | A-41681-A13C102 | |
| 14 | 26-48-1143 | A-41681-A14A102 | | 14 | 26-48-2143 | A-41681-A14A501 | | 14 | 26-48-7145 | A-41681-A14C102 | |
| 15 | 26-48-1153 | A-41681-A15A102 | | 15 | 26-48-2153 | A-41681-A15A501 | | 15 | 26-48-7155 | A-41681-A15C102 | |
| 16 | 26-48-1163 | A-41681-A16A102 | | 16 | 26-48-2163 | A-41681-A16A501 | | 16 | 26-48-7165 | A-41681-A16C102 | |
| 17 | 26-48-1173 | A-41681-A17A102 | | 17 | 26-48-2173 | A-41681-A17A501 | | 17 | 26-48-7175 | A-41681-A17C102 | |
| 18 | 26-48-1183 | A-41681-A18A102 | | 18 | 26-48-2183 | A-41681-A18A501 | | 18 | 26-48-7185 | A-41681-A18C102 | |
| 19 | 26-48-1193 | A-41681-A19A102 | | 19 | 26-48-2193 | A-41681-A19A501 | | 19 | 26-48-7195 | A-41681-A19C102 | |
| 20 | 26-48-1203 | A-41681-A20A102 | | 20 | 26-48-2203 | A-41681-A20A501 | | 20 | 26-48-7205 | A-41681-A20C102 | |
| 21 | 26-48-1213 | A-41681-A21A102 | | 21 | 26-48-2213 | A-41681-A21A501 | | 21 | 26-48-7215 | A-41681-A21C102 | |
| 22 | 26-48-1223 | A-41681-A22A102 | | 22 | 26-48-2223 | A-41681-A22A501 | | 22 | 26-48-7225 | A-41681-A22C102 | |
| 23 | 26-48-1233 | A-41681-A23A102 | | 23 | 26-48-2233 | A-41681-A23A501 | | 23 | 26-48-7235 | A-41681-A23C102 | |
| 24 | 26-48-1243 | A-41681-A24A102 | | 24 | 26-48-2243 | A-41681-A24A501 | | 24 | 26-48-7245 | A-41681-A24C102 | |
| 13 | 26-49-6137 | A-41681-A13A102-12 | 12 | | | | | | | | |
| 17 | 26-49-6177 | A-41681-A17A102-2 | 2 | | | | | | | | |
| 20 | 26-49-6207 | A-41681-A20A102-17 | 17 | | | | | | | | |

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|-------------------------|------|------------------------------|--------------------|--|------------------|
| S2 | REV: | <u>ECR/ECN INFORMATION</u> | <u>TITLE:</u> | KK .156 HEADER ASSEMBLY POLARIZING STRAIGHT 2-24 CKTS | <u>SHEET No.</u> |
| | | EC No: UCP2006-2983 | | | - 2 - |
| | | DATE: 2006-06-13 | | | |
| <u>DOCUMENT NUMBER:</u> | | <u>CREATED / REVISED BY:</u> | <u>CHECKED BY:</u> | <u>APPROVED BY:</u> | |
| SD-41681-001 | | PRIDDER | ADERR | FSMITH | |

| ENG. NO: A-41681-ANC503* | | | | ENG. NO: A-41681-BNA208* | | | | ENG. NO: A-41681-BNA228* | | | |
|--------------------------|------------|---------------------|-------|--------------------------|------------|---------------------|-------|--------------------------|------------|---------------------|-------|
| PIN NUMBER | | 2161-56(503) | | PIN NUMBER | | 43294-0236 | | PIN NUMBER | | 43294-0237 | |
| PLATING | | 503 | | PLATING | | 208 | | PLATING | | 228 | |
| DIM. L | | (17.86)/.703 | | DIM. L | | (19.05)/.750 | | DIM. L | | (19.05)/.750 | |
| DIM. X | | (11.43)/.450 | | DIM. X | | (11.43)/.450 | | DIM. X | | (11.43)/.450 | |
| DIM. G (GOLD) | | OVERALL | | DIM. G (GOLD) | | (6.86)/.270 | | DIM. G (GOLD) | | (6.86)/.270 | |
| DIM. Z | | (3.18)/.125 | | DIM. Z | | (4.37)/.172 | | DIM. Z | | (4.37)/.172 | |
| DIM. T (TIN) | | N/A | | DIM. T (TIN) | | (4.06)/.160 | | DIM. T (TIN) | | (4.06)/.160 | |
| PACKAGING | | PK-41681-001 (BULK) | | PACKAGING | | PK-41681-001 (BULK) | | PACKAGING | | PK-41681-001 (BULK) | |
| CKTS | EDP NO. | ENG. NO. | VOIDS | CKTS | EDP NO. | ENG. NO. | VOIDS | CKTS | EDP NO. | ENG. NO. | VOIDS |
| 02 | 26-48-7028 | A-41681-A2C503 | | 02 | 41681-0001 | A-41681-B02A208 | | 02 | 41681-0024 | A-41681-B02A228 | |
| 03 | 26-48-7038 | A-41681-A3C503 | | 03 | 41681-0002 | A-41681-B03A208 | | 03 | 41681-0025 | A-41681-B03A228 | |
| 04 | 26-48-7048 | A-41681-A4C503 | | 04 | 41681-0003 | A-41681-B04A208 | | 04 | 41681-0026 | A-41681-B04A228 | |
| 05 | 26-48-7058 | A-41681-A5C503 | | 05 | 41681-0004 | A-41681-B05A208 | | 05 | 41681-0027 | A-41681-B05A228 | |
| 06 | 26-48-7068 | A-41681-A6C503 | | 06 | 41681-0005 | A-41681-B06A208 | | 06 | 41681-0028 | A-41681-B06A228 | |
| 07 | 26-48-7078 | A-41681-A7C503 | | 07 | 41681-0006 | A-41681-B07A208 | | 07 | 41681-0029 | A-41681-B07A228 | |
| 08 | 26-48-7088 | A-41681-A8C503 | | 08 | 41681-0007 | A-41681-B08A208 | | 08 | 41681-0030 | A-41681-B08A228 | |
| 09 | 26-48-7098 | A-41681-A9C503 | | 09 | 41681-0008 | A-41681-B09A208 | | 09 | 41681-0031 | A-41681-B09A228 | |
| 10 | 26-48-7108 | A-41681-A10C503 | | 10 | 41681-0009 | A-41681-B10A208 | | 10 | 41681-0032 | A-41681-B10A228 | |
| 11 | 26-48-7118 | A-41681-A11C503 | | 11 | 41681-0010 | A-41681-B11A208 | | 11 | 41681-0033 | A-41681-B11A228 | |
| 12 | 26-48-7128 | A-41681-A12C503 | | 12 | 41681-0011 | A-41681-B12A208 | | 12 | 41681-0034 | A-41681-B12A228 | |
| 13 | 26-48-7138 | A-41681-A13C503 | | 13 | 41681-0012 | A-41681-B13A208 | | 13 | 41681-0035 | A-41681-B13A228 | |
| 14 | 26-48-7148 | A-41681-A14C503 | | 14 | 41681-0013 | A-41681-B14A208 | | 14 | 41681-0036 | A-41681-B14A228 | |
| 15 | 26-48-7158 | A-41681-A15C503 | | 15 | 41681-0014 | A-41681-B15A208 | | 15 | 41681-0037 | A-41681-B15A228 | |
| 16 | 26-48-7168 | A-41681-A16C503 | | 16 | 41681-0015 | A-41681-B16A208 | | 16 | 41681-0038 | A-41681-B16A228 | |
| 17 | 26-48-7178 | A-41681-A17C503 | | 17 | 41681-0016 | A-41681-B17A208 | | 17 | 41681-0039 | A-41681-B17A228 | |
| 18 | 26-48-7188 | A-41681-A18C503 | | 18 | 41681-0017 | A-41681-B18A208 | | 18 | 41681-0040 | A-41681-B18A228 | |
| 19 | 26-48-7198 | A-41681-A19C503 | | 19 | 41681-0018 | A-41681-B19A208 | | 19 | 41681-0041 | A-41681-B19A228 | |
| 20 | 26-48-7208 | A-41681-A20C503 | | 20 | 41681-0019 | A-41681-B20A208 | | 20 | 41681-0042 | A-41681-B20A228 | |
| 21 | 26-48-7218 | A-41681-A21C503 | | 21 | 41681-0020 | A-41681-B21A208 | | 21 | 41681-0043 | A-41681-B21A228 | |
| 22 | 26-48-7228 | A-41681-A22C503 | | 22 | 41681-0021 | A-41681-B22A208 | | 22 | 41681-0044 | A-41681-B22A228 | |
| 23 | 26-48-7238 | A-41681-A23C503 | | 23 | 41681-0022 | A-41681-B23A208 | | 23 | 41681-0045 | A-41681-B23A228 | |
| 24 | 26-48-7248 | A-41681-A24C503 | | 24 | 41681-0023 | A-41681-B24A208 | | 24 | 41681-0046 | A-41681-B24A228 | |
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| S2 | REV: <u>ECR/ECN INFORMATION</u> | TITLE: KK .156 HEADER ASSEMBLY POLARIZING STRAIGHT 2-24 CKTS | SHEET No. - 3 - |
| | EC No: UCP2006-2983 | | |
| | DATE: 2006-06-13 | | |
| <u>DOCUMENT NUMBER:</u> SD-41681-001 | <u>CREATED / REVISED BY:</u> PRIDDER | <u>CHECKED BY:</u> ADERR | <u>APPROVED BY:</u> FSMITH |

