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Part Number: [0877861002](#)
Status: **Active**
Overview:
Description: 1.00mm (.039") Pitch iCool™ Low Profile VRM, Vertical, Surface Mount, with Latches, with Beveled Metal Pins, Signal 20, Power 72, 0.76µm(30µ")Gold (Au) Plating, Leadfree

Agency Certification

| | |
|-----|---------|
| CSA | LR19980 |
| UL | E29179 |

General

| | |
|----------------|--------------------------|
| Product Family | Edge Card Connectors |
| Series | 87786 |
| Comments | Latches in Natural Color |
| Component Type | Edgecard to PCB |
| Overview | icool |
| Product Name | iCool™, VRM |

Physical

| | |
|--------------------------------|-----------------------------------------------|
| Circuits (Loaded) | 92 |
| Circuits (maximum) | 92 |
| Circuits Detail | 20 Signal, 72 Power |
| Color - Resin | Black, Natural |
| Durability (mating cycles max) | 25 |
| Entry Angle | Vertical (Top Entry) |
| Flammability | 94V-0 |
| Keying to Mating Part | Yes |
| Material - Metal | High Performance Alloy (HPA), Phosphor Bronze |
| Material - Plating Mating | Gold |
| Material - Plating Termination | Tin |
| Material - Resin | High Temperature Thermoplastic |
| PCB Locator | Yes |
| PCB Retention | Yes |
| Packaging Type | Tray |
| Pitch - Mating Interface (in) | 0.039 In |
| Pitch - Mating Interface (mm) | 1.00 mm |
| Plating min: Mating (µin) | 30.4 |
| Plating min: Mating (µm) | 0.76 |
| Plating min: Termination (µin) | 152.4 |
| Plating min: Termination (µm) | 3.81 |
| Polarized to Mating Part | Yes |
| Temperature Range - Operating | -10°C to +105°C |
| Termination Interface: Style | Surface Mount |

Electrical

| | |
|-------------------------------|--------|
| Current - Maximum per Contact | 1A, 4A |
| Voltage - Maximum | 48V |

Solder Process Data

| | |
|------------------------------------------------|---------------------------|
| Duration at Max. Process Temperature (seconds) | 5 |
| Lead-free Process Capability | Reflow Capable (SMT only) |
| Max. Cycles at Max. Process Temperature | 1 |
| Process Temperature max. C | 245 |

Material Info

EU RoHS

**ELV and RoHS
Compliant**
**REACH SVHC
Contains SVHC: No**
**Halogen-Free
Status**
Not Halogen-Free

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

87786Series

Mates With

Voltage Regulator Module

Reference - Drawing Numbers

Sales Drawing

SD-87786-001

This document was generated on 06/04/2010

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10 9 8 7 6 5 4 3 2 1

F

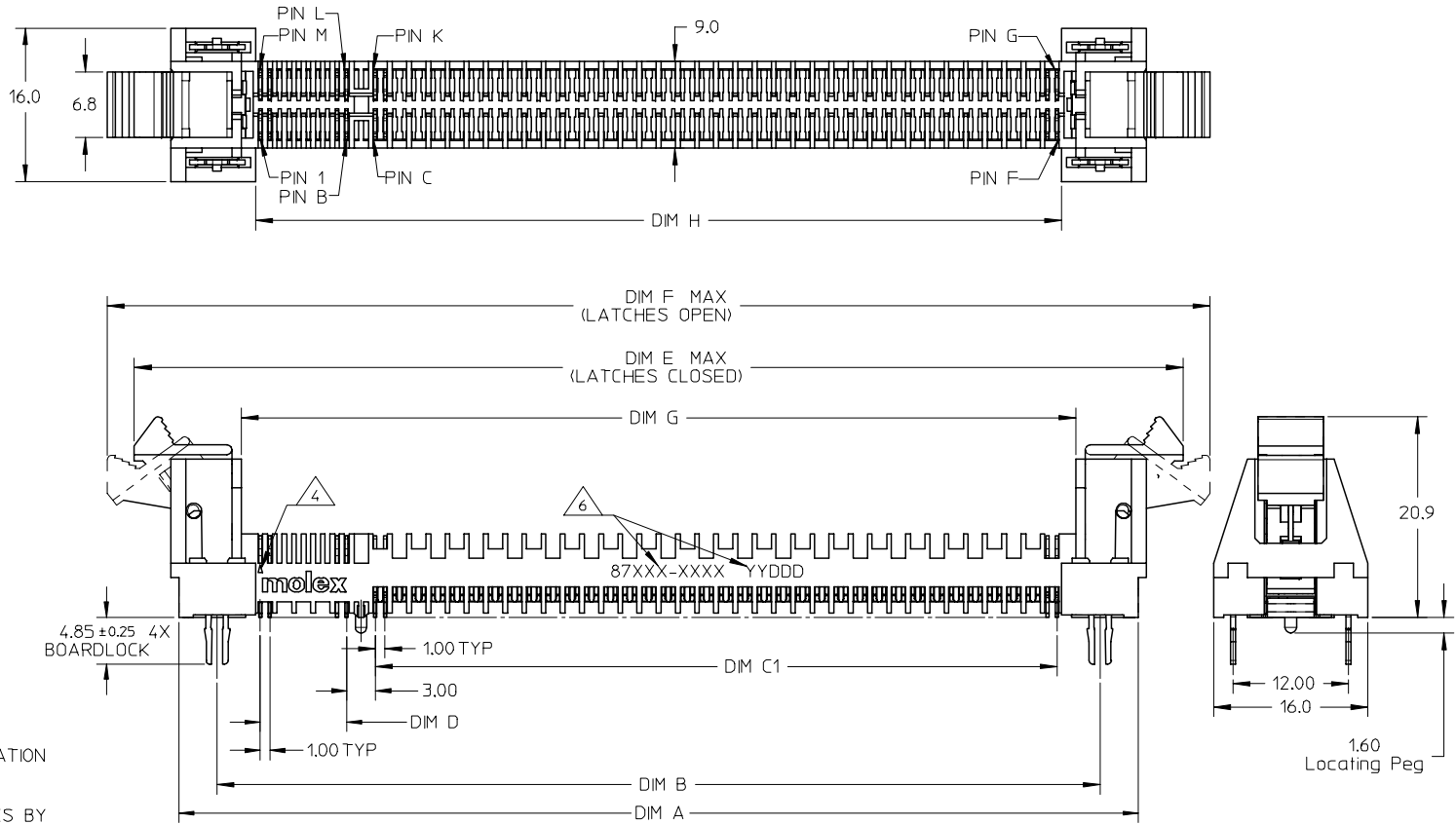
E

D

C

B

A



NOTES:

1. MATERIAL :
HOUSING: LCP, GLASS FILLED,
UL94V-0, COLOR: BLACK
LATCHES: NYLON 46, GLASS FILLED,
UL94V-0, COLOR: BEIGE
CONTACTS, FORKLOCK & FITTING NAIL:
COPPER ALLOY
2. FINISH:
CONTACTS : 0.76um(30u") MIN GOLD OVER
1.27um (50u") MIN NICKEL
SMT TAIL : 3.81um (150u") MIN TIN OVER
1.27um (50u") MIN NICKEL
3. THIS DRAWING IS BASED UPON PIN CONFIGURATION
OF 20 SIGNALS AND 72 POWER PINS.
a) THE OVERALL CONNECTOR LENGTH INCREASES BY
1.00MM FOR EVERY ADDITIONAL 2 SIGNAL PINS.
b) THE OVERALL CONNECTOR LENGTH INCREASES BY
2.00MM FOR EVERY ADDITIONAL 2 POWER PINS.

4. MOLDED-PIN #1 INDICATOR
5. FORKLOCK IS TO BE SOLDERED ONTO PCB.
6. PART NUMBER AND DATE CODE (YYDD) TO BE
LASER MARKED ONTO HOUSING.
7. UNLESS SPECIFIED OTHERWISE, ALL DIMENSIONS
ARE FOR REFERENCE PURPOSES ONLY.
8. SPECIFICATIONS:
PRODUCT SPECIFICATION: PS-87786-008.

| | | |
|------------------|-------------------|------------|
| OBS TIN/LEAD P/N | EC NO: S2006-0791 | 2006/03/30 |
| | DRWN:MLONG | 2006/03/30 |
| | CHKD:CGOH | 2006/03/30 |
| | APPR:PTLIM | 2006/03/30 |
| REV | DESCRIPTION | |

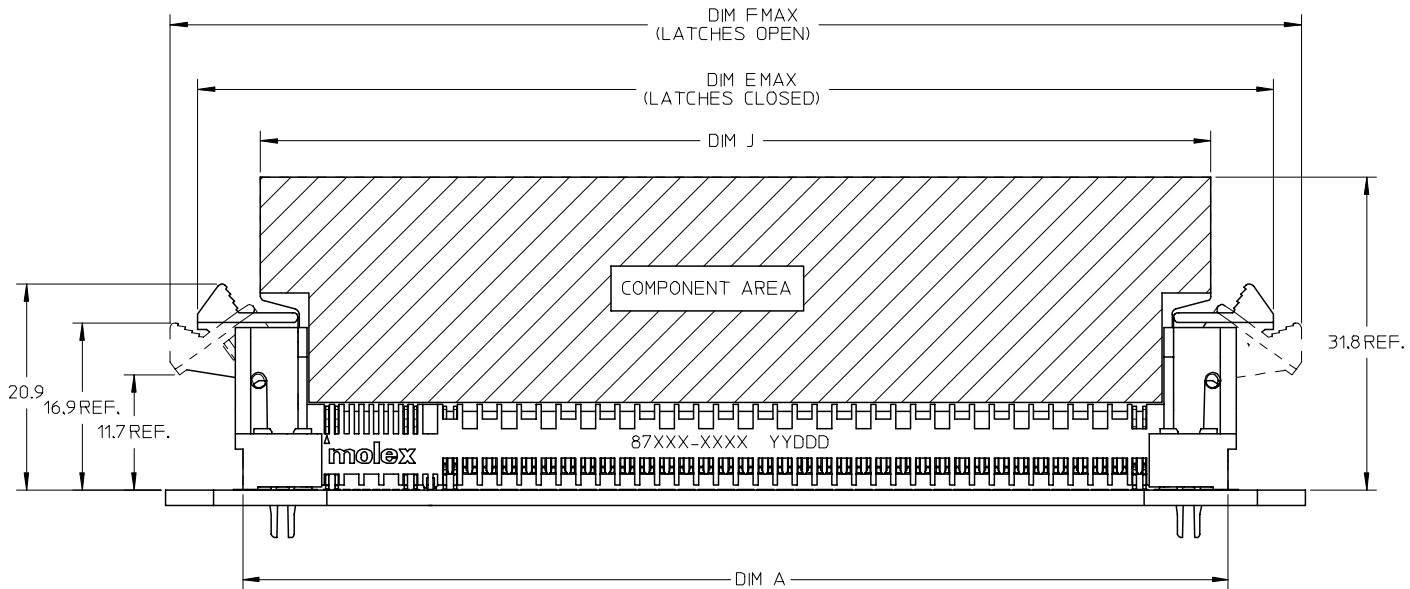
| | |
|-----------------|----|
| QUALITY SYMBOLS | =0 |
| | =0 |

| GENERAL TOLERANCES (UNLESS SPECIFIED) | |
|------------------------------------------------------|--------------|
| | mm INCH |
| 4 PLACES | ± --- ± --- |
| 3 PLACES | ± --- ± --- |
| 2 PLACES | ± 0.13 ± --- |
| 1 PLACE | ± 0.25 ± --- |
| ANGULAR ± 3 ° | |
| DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | |

| DIMENSION STYLE | |
|-----------------|--------------|
| MM ONLY | |
| DRAWN BY | DATE |
| CMGOH | 2003/02/25 |
| CHECKED BY | DATE |
| BHLOW | 2003/03/05 |
| APPROVED BY | DATE |
| PTLIM | 2003/03/05 |
| MATERIAL NO. | DOCUMENT NO. |
| SEE TABLE | SD-87786-001 |
| SIZE | |
| A3 | |

| | | |
|-------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|
| SCALE | DESIGN UNITS | THIRD ANGLE PROJECTION |
| NTS | METRIC | |
| TITLE | | |
| LOW PROFILE VRM SOCKET W/LATCH, SMT | | |
| MOLEX INCORPORATED | | |
| DOCUMENT NO. | | SHEET NO. |
| SD-87786-001 | | 1 OF 4 |
| THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | |

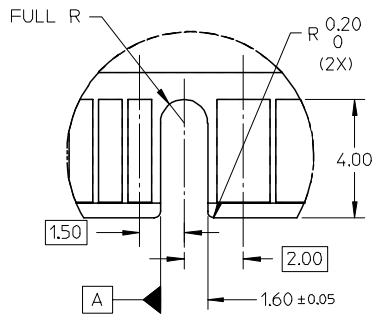
9 8 7 6 5 4 3 2 1



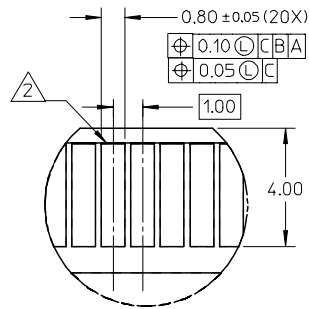
| | | | | | | | | | | |
|---------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------|------------------------------|-------------------------------------------------|------------------------|--|--|
| OBS TIN/LEAD P/N EC NO: S2006-0791 DRWN:MLONG CHKD:CGOH APPR:PTL IM | QUALITY SYMBOLS $\nabla=0$ $\triangle=0$ | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM ONLY | | SCALE NTS | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | | |
| | | | mm | INCH | DRAWN BY KMG0H | DATE 2003/02/25 | TITLE LOW PROFILE VRM SOCKET W/LATCH, SMT | | | |
| | | 4 PLACES | \pm --- | \pm --- | CHECKED BY BHLOW | DATE 2003/03/05 | | | | |
| | | 3 PLACES | \pm --- | \pm --- | APPROVED BY PTL IM | DATE 2003/03/05 | MOLEX INCORPORATED | | | |
| | 2 PLACES | ± 0.13 | \pm --- | MATERIAL NO. SEE TABLE | | DOCUMENT NO. SD-87786-001 | | SHEET NO. 2 OF 4 | | |
| | 1 PLACE | ± 0.25 | \pm --- | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | | | | | |
| | ANGULAR $\pm 3^\circ$ | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | | | | |

NOTES:

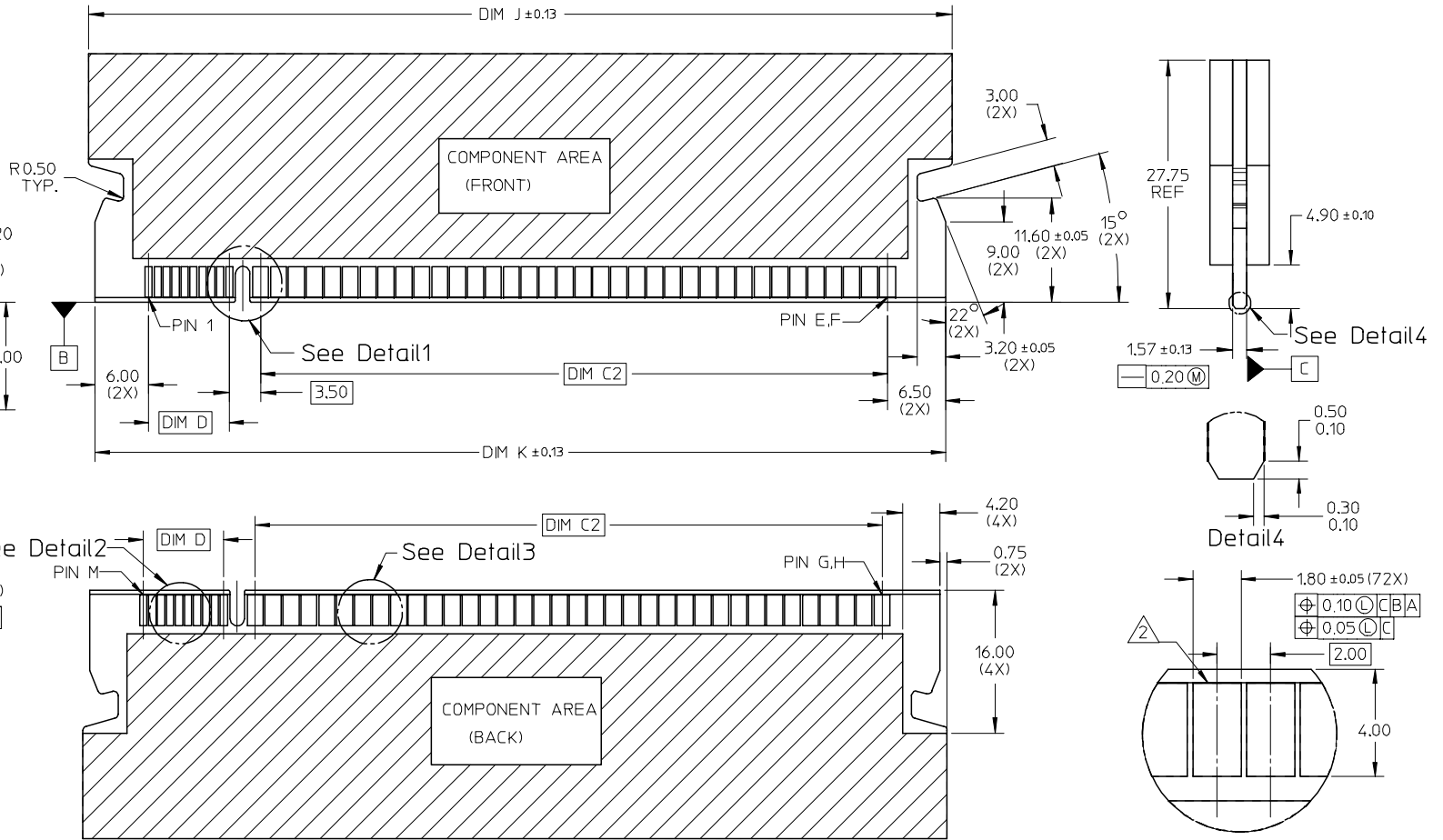
- OPPOSING POWER PADS MUST BE OF THE SAME POLARITY.
- APPLICATION NOTE:
EDGE OF CONTACT PADS SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS.



Detail1



Detail2



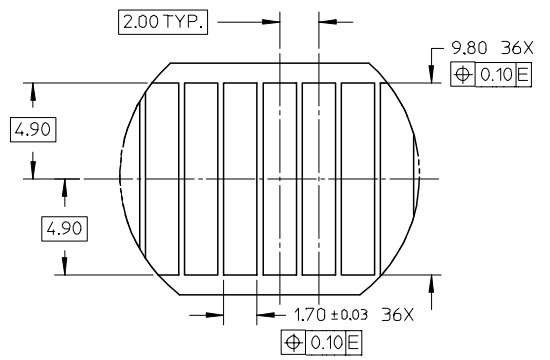
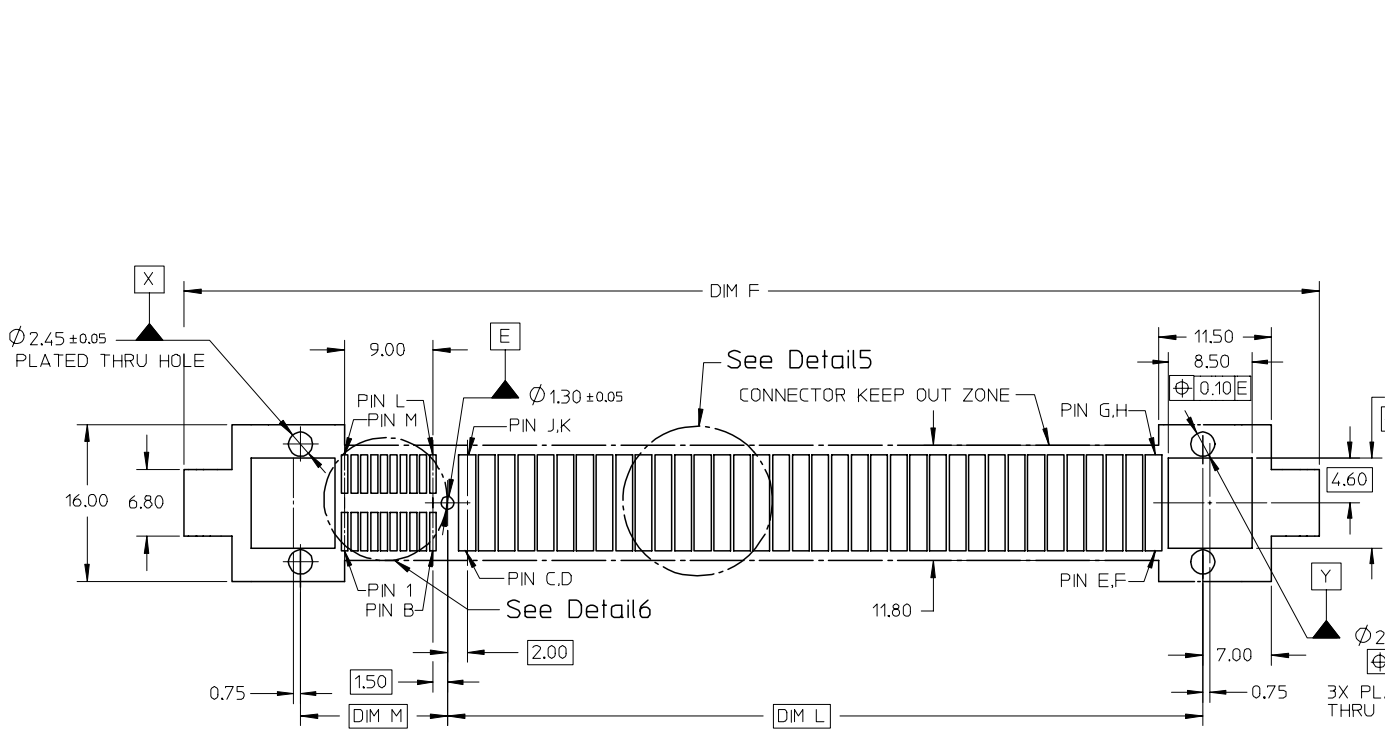
Detail3

Detail4

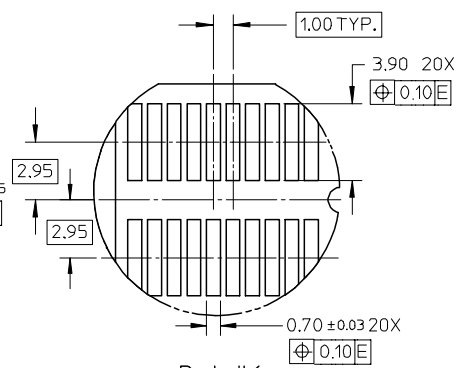
RECOMMENDED MODULE OUTLINE

| | | | | | | | | | | | |
|--------------------------------------------------------------------------------|----------------------------------------|--------------------|-------------------------------|------------------------------------------------------------|-------|----------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|--|
| OBS TIN/LEAD P/N EC NO: S2006-0791 DRWN:MLONG CHKD:CGOH APPR:PTLIM | 2006/03/30 2006/03/30 2006/03/30 | DESCRIPTION REV | QUALITY SYMBOLS ▽=0 △=0 | GENERAL TOLERANCES (UNLESS SPECIFIED) | | DIMENSION STYLE MM ONLY | | SCALE NTS | DESIGN UNITS METRIC | THIRD ANGLE PROJECTION | |
| | | | | mm | INCH | DRAWN BY KMG0H | DATE 2003/02/25 | TITLE LOW PROFILE VRM SOCKET W/LATCH, SMT | | | |
| | | | | 4 PLACES ± --- | ± --- | CHECKED BY BHLOW | DATE 2003/03/05 | | | | |
| | | | | 3 PLACES ± --- | ± --- | APPROVED BY PTLIM | DATE 2003/03/05 | | | | |
| | | | | 2 PLACES ± 0.13 | ± --- | | | | | | |
| | | | | 1 PLACE ± 0.25 | ± --- | | | | | | |
| | | | | ANGULAR ± 3 ° | | | | | | | |
| | | | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | MATERIAL NO. SEE TABLE | | DOCUMENT NO. SD-87786-001 | SHEET NO. 3 OF 4 | | |
| | | | | | | SIZE A3 | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | |

| 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | | | | | | | | | | | | | | | | | | | |
|-------------|-------|--------|-------|----------------|--------|-------|--------|--------|-------|--------|--------|-------|-------|-------|-------|-------|-------|--------------------------|----|----|----|----|----|----|-----|-----|-----|-----|
| PART NUMBER | TYPE | SIGNAL | POWER | PLATING OPTION | DIM A | DIM B | DIM C1 | DIM C2 | DIM D | DIM E | DIM F | DIM G | DIM H | DIM J | DIM K | DIM L | DIM M | PIN NUMBER CONFIGURATION | | | | | | | | | | |
| 87786-1002 | VRM10 | 20 | 72 | TIN | 100.00 | 92.00 | 71.00 | 70.00 | 9.00 | 110.50 | 116.80 | 87.00 | 84.00 | 96.50 | 95.00 | 77.00 | 15.00 | B | C | D | E | F | G | H | J | K | L | M |
| 87786-1011 | VRM11 | 24 | 70 | TIN | 100.00 | 92.00 | 69.00 | 68.00 | 11.00 | 110.50 | 116.80 | 87.00 | 84.00 | 96.50 | 95.00 | 75.00 | 17.00 | 12 | 13 | 14 | 81 | 82 | 83 | 84 | 151 | 152 | 153 | 164 |



Detail 5
POWER SOLDER PAD



Detail 6
SIGNAL SOLDER PAD

RECOMMENDED PCB LAYOUT

| | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------|--------------------|------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------|------------------------|--|
| OBS TIN/LEAD P/N EC NO: S2006-0791 DRWN:MLG 2006/03/30 CHKD:CGH 2006/03/30 APPR:PTLIM 2006/03/30 | DESCRIPTION REV | QUALITY SYMBOLS | GENERAL TOLERANCES (UNLESS SPECIFIED) | DIMENSION STYLE | SCALE | DESIGN UNITS | THIRD ANGLE PROJECTION | |
| | | ▽=0 ∇=0 | mm INCH | MM ONLY | NTS | METRIC | | |
| | | | 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.13 ± --- 1 PLACE ± 0.25 ± --- | DRAWN BY DATE KMG0H 2003/02/25 | TITLE | LOW PROFILE VRM SOCKET W/LATCH, SMT | | |
| | | | ANGULAR ± 3 ° | CHECKED BY DATE BHL0W 2003/03/05 | APPROVED BY DATE PTLIM 2003/03/05 | MOLEX MOLEX INCORPORATED | | |
| | | DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS | | MATERIAL NO. | DOCUMENT NO. | SHEET NO. | | |
| | | | | SEE TABLE | SD-87786-001 | 4 OF 4 | | |
| | | | | THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION | | | | |