

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: **0780162001**
Status: **Active**
Overview:
Description: 1.00mm (.039) Pitch iCool™ Low Profile VRM, Vertical, Surface Mount, with Tower, with Beveled Metal Pins, 0.76µm (30µ") Gold (Au) Plating, Signal 22, Power 88, Leadfree

Agency Certification

UL E29179

General

Product Family Edge Card Connectors
 Series 78016
 Component Type Edgecard to PCB
 Overview icool
 Product Name iCool™, VRM

Physical

Circuits (Loaded) 110
 Circuits (maximum) 110
 Circuits Detail 22 Signal, 88 Power
 Color - Resin Black
 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 Wave Capable (TH only)
 Max. Cycles at Max. Process Temperature 1
 Process Temperature max. C 245

Material Info

Reference - Drawing Numbers

Product Specification PS-87810-008

EU RoHS

**ELV and RoHS
Compliant**

REACH SVHC

Contains SVHC: No

**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

78016Series

Mates With

Voltage Regulator Module

This document was generated on 06/04/2010

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

10 9 8 7 6 5 4 3 2 1

F

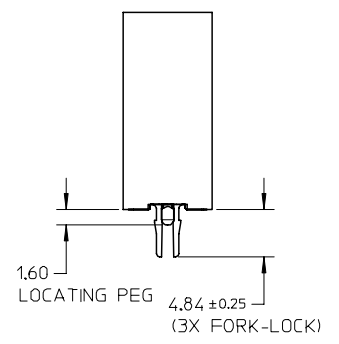
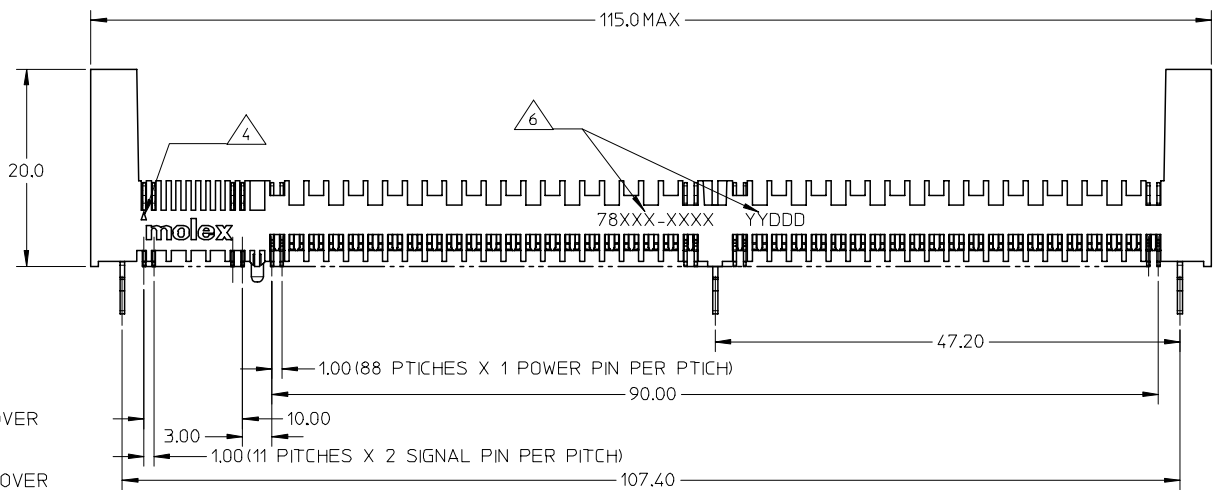
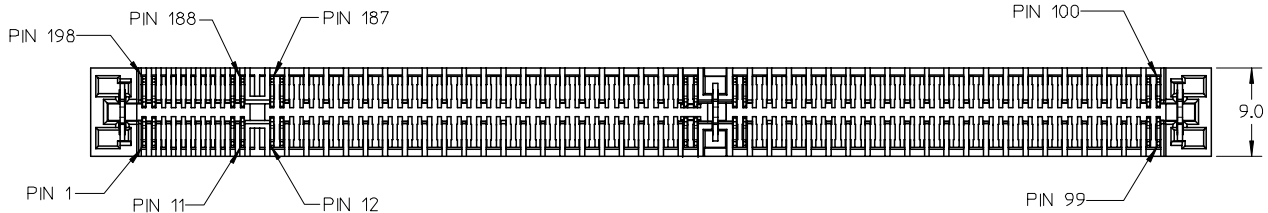
E

D

C

B

A

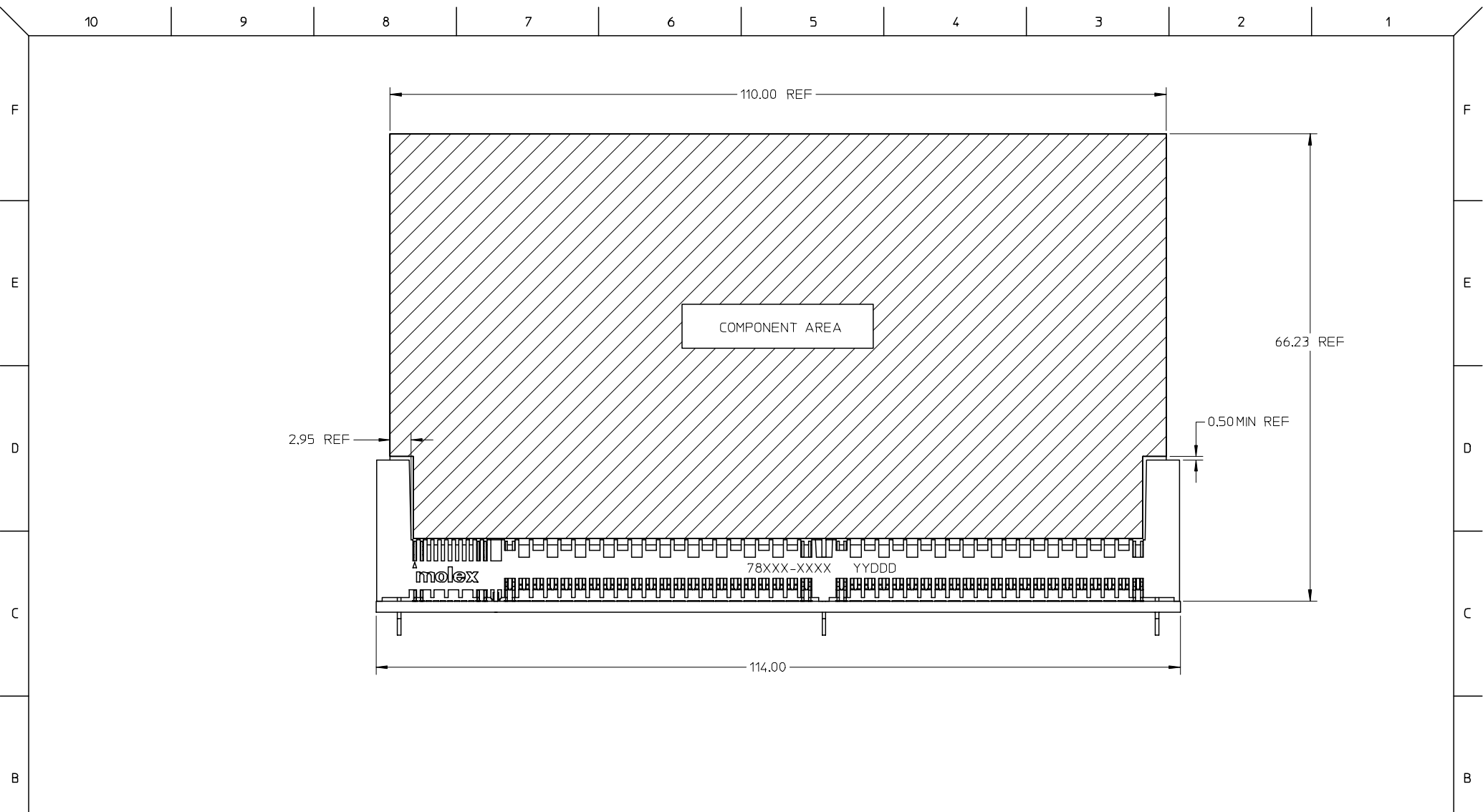


NOTES:

1. MATERIAL :
HOUSING : LCP
CONTACTS : COPPER ALLOY
FORKLOCKS : COPPER ALLOY
2. FINISH :
CONTACTS : 0.76um (30u") MIN GOLD OVER
1.27um (50u") MIN NICKEL
SOLDER TAIL : 3.81um (150u") MIN TIN OVER
1.27um (50u") MIN NICKEL
3. THIS DRAWING IS BASED UPON PIN CONFIGURATION OF 22 SIGNALS and 88 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. \triangle MOLDED PIN #1 INDICATOR
5. FORKLOCK TO BE SOLDERED ONTO PCB BOARD.
6. \triangle PART NUMBER AND DATE CODE (YYDDD) TO BE LASER MARK ONTO HOUSING.
7. EXTERNAL MEANS OF MECHANICAL HOLD DOWN DEVICES ARE NEEDED FOR THE SHOCK AND VIBRATION.
8. SPECIFICATIONS:
PRODUCT SPECIFICATION: PS-87810-008
9. PART PACK IN TRAY.

ADD NOTES EC NO: S2006-1240 DRWN:KLOKE CHKD:BLW APPR:PTL IM	2006/06/29 2006/06/30 2006/06/30	QUALITY SYMBOLS $\nabla=0$ $\triangle=0$	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
			4 PLACES \pm --- \pm --- 3 PLACES \pm --- \pm --- 2 PLACES \pm 0.13 \pm --- 1 PLACE \pm 0.25 \pm --- ANGULAR \pm 3 °	mm INCH	DRAWN BY BHLOW CHECKED BY CGOH APPROVED BY PTL IM	DATE 2005/11/02 DATE 2005/11/14 DATE 2005/11/14	TITLE LOW PROFILE VRM, 22S-88P CONFIG., SMT, BOARD-LOCK			
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO. SEE TABLE		DOCUMENT NO. SD-78016-010		SHEET NO. 1 OF 5	
	A2				SIZE A3		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

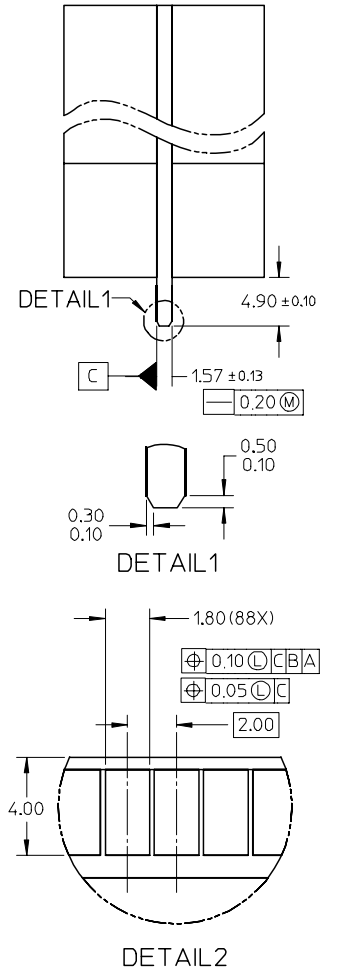
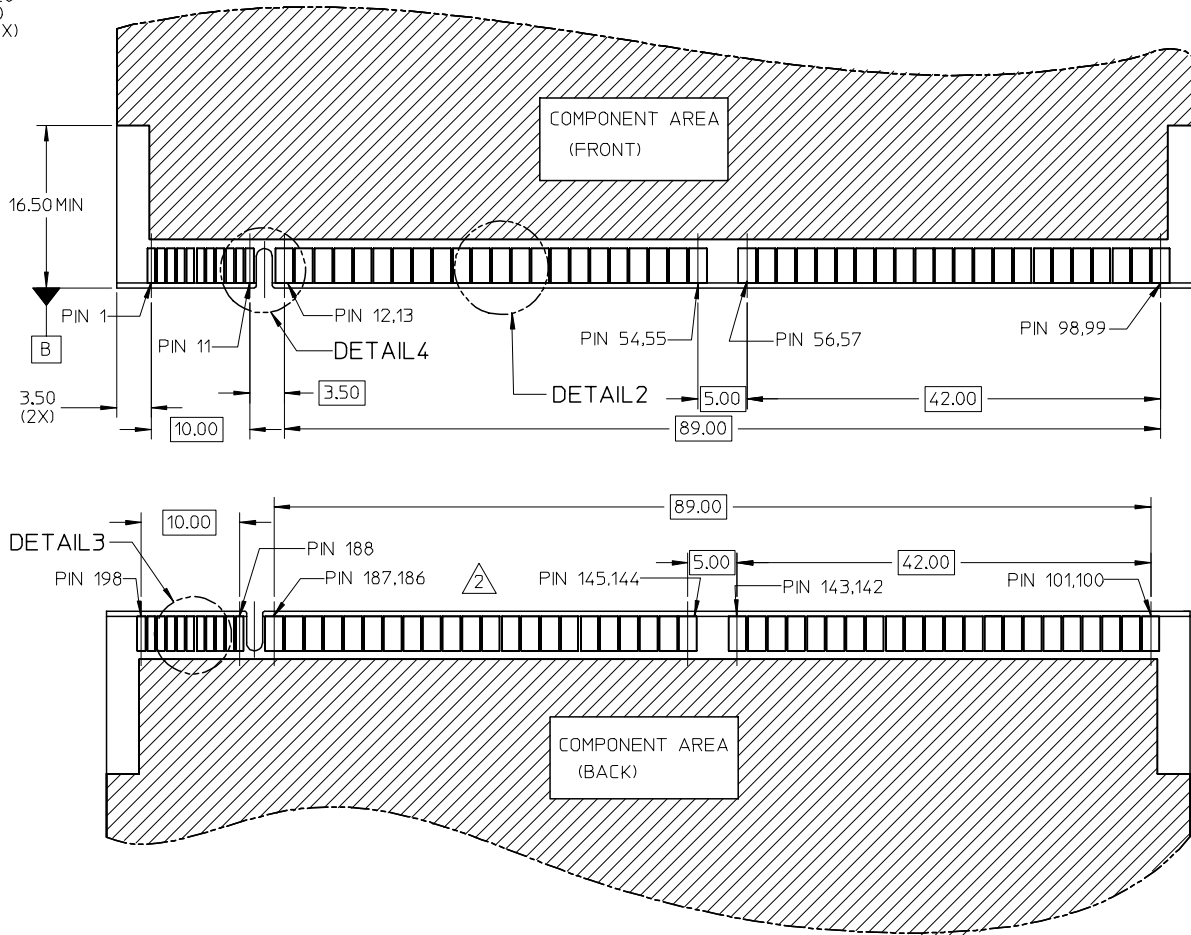
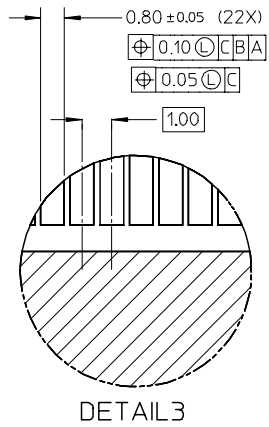
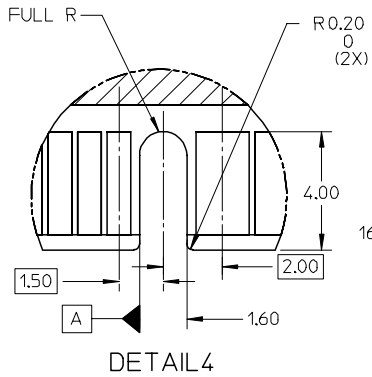


ADD NOTES EC NO: S2006-1240 2006/06/29 DRWN:KLOKE 2006/06/30 CHKD:BLW 2006/06/30 APPR:PTL IM 2006/06/30	QUALITY SYMBOLS =0 =0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY	SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
		4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.13 ± --- 1 PLACE ± 0.25 ± --- ANGULAR ± 3 °	mm INCH	DRAWN BY DATE BLW 2005/11/02	CHECKED BY DATE CGH 2005/11/14	TITLE LOW PROFILE VRM, 22S-88P CONFIG., SMT, BOARD-LOCK			
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		APPROVED BY DATE PTL IM 2005/11/14	MOLEX INCORPORATED				
		SIZE A3		MATERIAL NO. DOCUMENT NO. SHEET NO. SEE TABLE SD-78016-010 2 OF 5	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

F
E
D
C
B
A

F
E
D
C
B
A



NOTES:

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

ADD NOTES	EC NO: S2006-1240	2006/06/29
DRWN:KLOKE	CHKD:BLW	2006/06/30
APPR:PTL IM		2006/06/30
A2	REV	DESCRIPTION

QUALITY SYMBOLS	▽=0
	▽=0

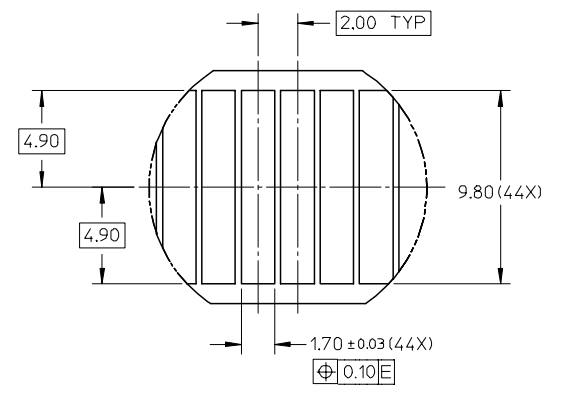
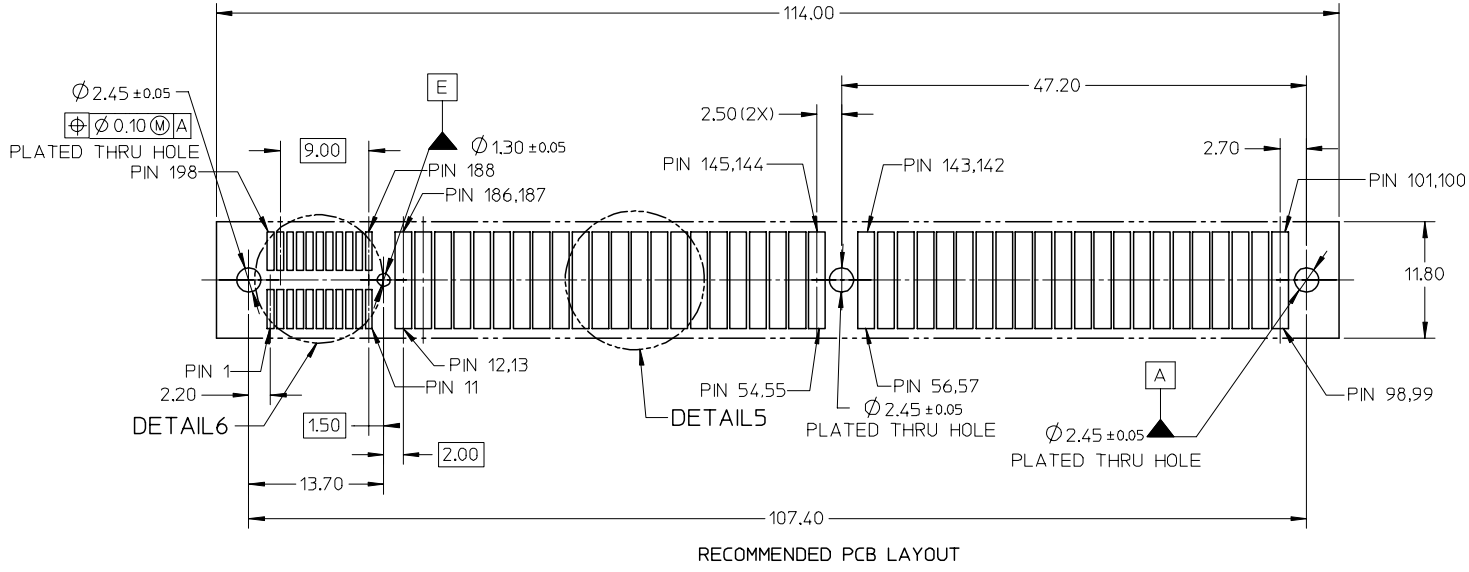
GENERAL TOLERANCES (UNLESS SPECIFIED)	
mm	INCH
4 PLACES ± ---	± ---
3 PLACES ± ---	± ---
2 PLACES ± 0.13	± ---
1 PLACE ± 0.25	± ---
ANGULAR ± 3 °	
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	

DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
BHLOW	2005/11/02
CHECKED BY	DATE
CGOH	2005/11/14
APPROVED BY	DATE
PTL IM	2005/11/14
MATERIAL NO.	DOCUMENT NO.
SEE TABLE	SD-78016-010
SIZE	A3

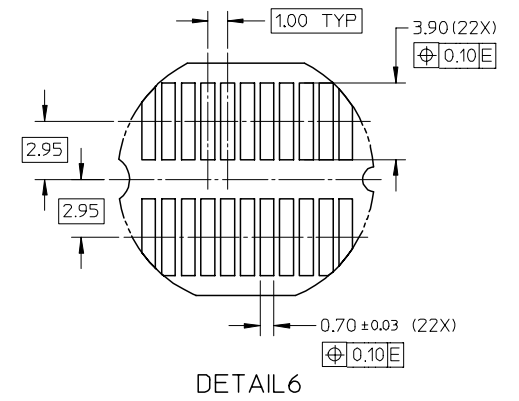
SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
NTS	METRIC	
TITLE		
LOW PROFILE VRM, 22S-88P CONFIG., SMT, BOARD-LOCK		
MOLEX MOLEX INCORPORATED		
DOCUMENT NO.		SHEET NO.
SD-78016-010		3 OF 5
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		

9 8 7 6 5 4 3 2 1

10	9	8	7	6	5	4	3	2	1
PART NUMBER	SIGNAL	POWER	PLATING OPTION	RECOMMENDED PCB THICKNESS					
78016-2001	22	88	TIN	0.062" (1.57MM)					



DETAILS 5
POWER SOLDER PAD



DETAILS 6

NOTES:
1. PCB LAYOUT BASED UPON SOCKET PIN CONFIGURATION OF 22 SIGNAL PINS AND 88 POWER PINS.

ADD NOTES EC NO: S2006-1240 DRWN:KLOKE CHKD:BLW APPR:PTL IM	2006/06/29 2006/06/30 2006/06/30	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
				mm	INCH	DRAWN BY	DATE	TITLE LOW PROFILE VRM, 22S-88P CONFIG., SMT, BOARD-LOCK		
			4 PLACES	± ---	± ---	BHLOW	2005/11/02			
			3 PLACES	± ---	± ---	CHECKED BY	DATE			
2 PLACES	± 0.13	± ---	CGOH	2005/11/14	APPROVED BY PTL IM	DATE 2005/11/14	MOLEX INCORPORATED	SHEET NO. 4 OF 5		
1 PLACE	± 0.25	± ---	MATERIAL NO.					DOCUMENT NO. SD-78016-010		
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			SEE TABLE		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

F

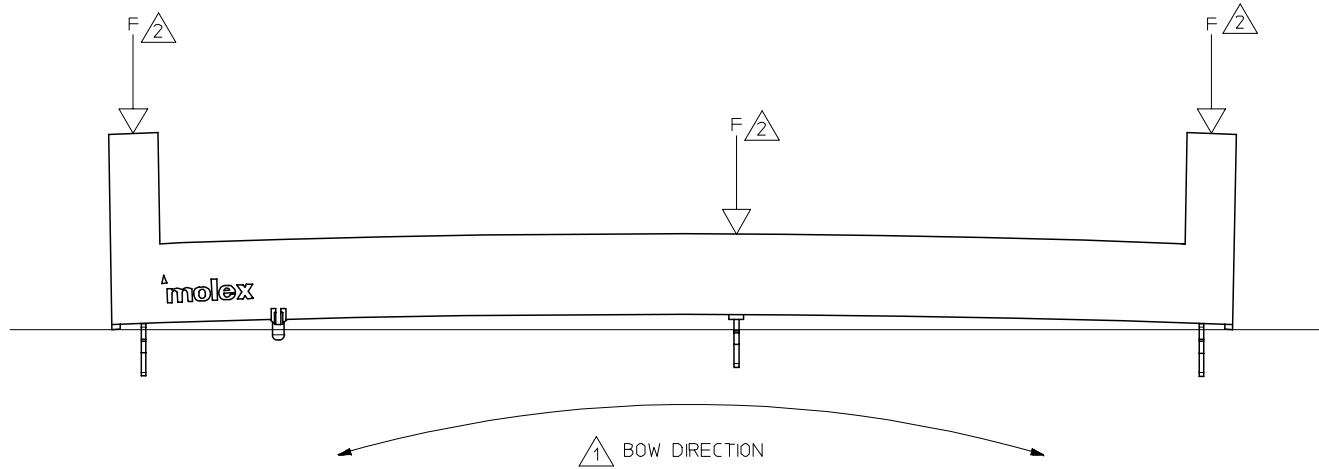
E

D

C

B

A



APPLICATION NOTES:

1 ALLOWABLE BOW SHALL NOT EXCEED 0.35MM IN THIS DIRECTION.

2 CONNECTOR INSERTION FORCE (F) SHOULD BE APPLIED EVENLY AT 3 LOCATIONS TO ENSURE THE CONNECTOR IS PLACED FLATLY ONTO THE PCB SURFACE BEFORE IR.

ADD NOTES EC NO: S2006-1240 2006/06/29 DRWN:KLOKE 2006/06/30 CHKD:BLW 2006/06/30 APPR:PTLIM 2006/06/30	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY	DATE	TITLE LOW PROFILE VRM, 22S-88P CONFIG., SMT, BOARD-LOCK			
		4 PLACES	± ---	± ---	BHLOW	2005/11/02				
		3 PLACES	± ---	± ---	CHECKED BY	DATE	MOLEX INCORPORATED			
2 PLACES	± 0.13	± ---	CGOH	2005/11/14						
1 PLACE	± 0.25	± ---	APPROVED BY	DATE	DOCUMENT NO. SD-78016-010					
ANGULAR ± 3 °			PTLIM	2005/11/14						
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE		MATERIAL NO.		SHEET NO.		5 OF 5		
A2	REV	SIZE A3		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