

**PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION**

**Part Number:** [0878101001](#)  
**Status:** **Active**  
**Overview:**  
**Description:** 1.00mm (.039") Pitch iCool™ Low Profile VRM, Vertical, Through Hole, without Tower, with Beveled Metal Pins, 22 Signal, 88 Power, 0.76µm (30µ") Gold (Au) Plating, Leadfree

**Agency Certification**

CSA LR19980  
 UL E29179

**General**

Product Family Edge Card Connectors  
 Series 87810  
 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  
 PC Tail Length (in) 0.150 In  
 PC Tail Length (mm) 3.80 mm  
 PCB Locator No  
 PCB Retention Yes  
 PCB Thickness Recommended (in) 0.093 In  
 PCB Thickness Recommended (mm) 2.40 mm  
 Packaging Type Tray  
 Pitch - Mating Interface (in) 0.039 In  
 Pitch - Mating Interface (mm) 1.00 mm  
 Plating min: Mating (µin) 30  
 Plating min: Mating (µm) 0.76  
 Plating min: Termination (µin) 150  
 Plating min: Termination (µm) 3.81  
 Polarized to Mating Part Yes  
 Temperature Range - Operating -10°C to +105°C  
 Termination Interface: Style Through Hole

**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

**EU RoHS**

**ELV and RoHS  
 Compliant**  
**REACH SVHC  
 Contains SVHC: No**  
**Halogen-Free  
 Status**  
**Halogen-Free**

**China RoHS**



**Need more information on product  
 environmental compliance?**

Email [productcompliance@molex.com](mailto: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**

87810Series

**Mates With**

Voltage Regulator Module

**Material Info**

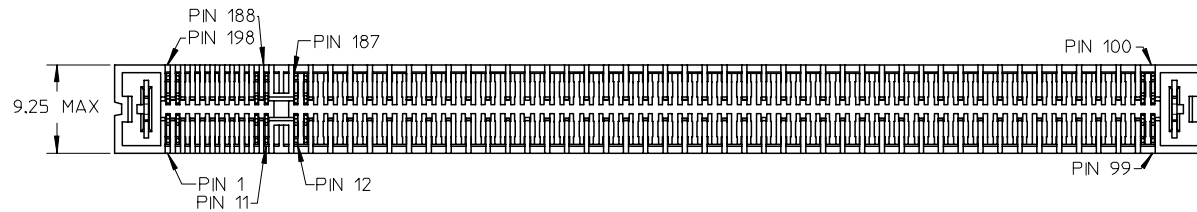
**Reference - Drawing Numbers**

Sales Drawing

SD-87810-001

This document was generated on 06/04/2010

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NOTES:

1. MATERIAL :

HOUSING : LCP, GLASS FILLED, UL94V-0,  
COLOR: BLACK

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. MOLDED PIN #1 INDICATOR

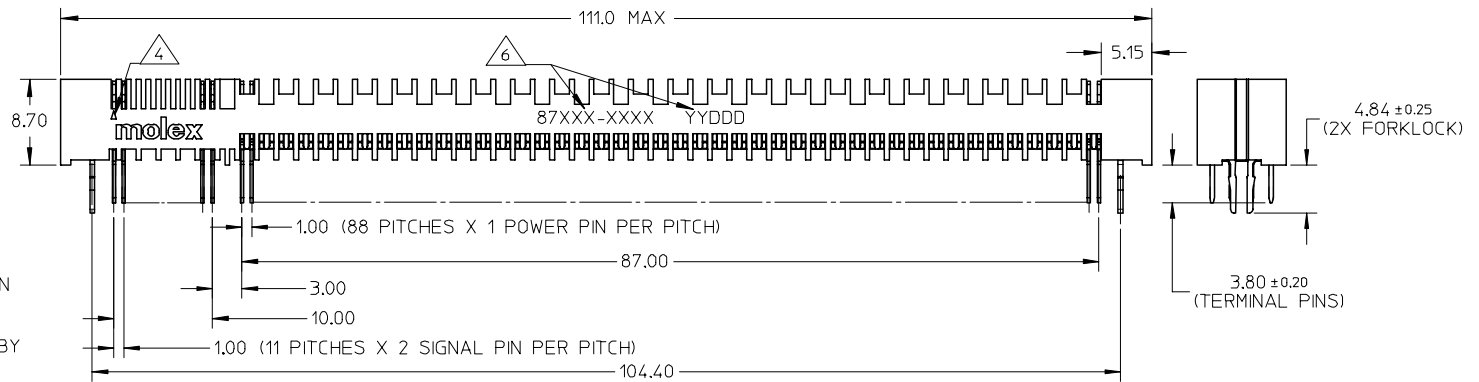
5. FORKLOCK TO BE SOLDERED ONTO PCB BOARD.

6. 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. PRODUCT SPECIFICATION: PS-87810-008

9. PARTS PACKAGED IN TRAY



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9. PARTS PACKAGED IN TRAY

ADDED NTOES	DESCRIPTION
EC NO: S2007-0383	2006/10/20
DRWN:WLOKE	2006/10/25
CHKD:WAGESHKN	2006/10/25
APPR:PTL IM	2006/10/27
B1	REV

QUALITY SYMBOLS	DESCRIPTION
	=0
	=0

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

DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
KMGOH	2003/05/27
CHECKED BY	DATE
PTL IM	2003/05/27
APPROVED BY	DATE
SKTOH	2003/05/29
MATERIAL NO.	
SEE TABLE	
SIZE	A3

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
NTS	METRIC	
TITLE		
LOW PROFILE VRM SOCKET THROUGH HOLE, BOARDLOCK		
MOLEX INCORPORATED		
DOCUMENT NO.	SHEET NO.	
SD-87810-001	1 OF 4	
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

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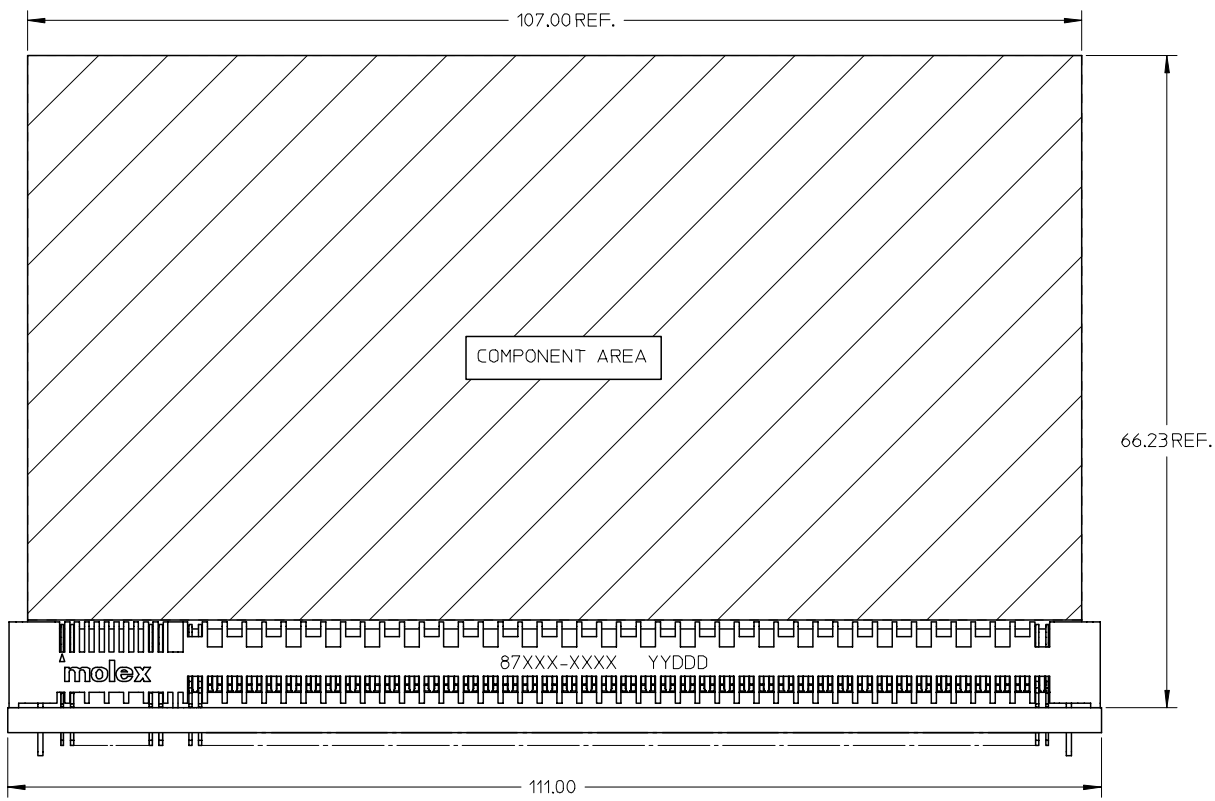
E

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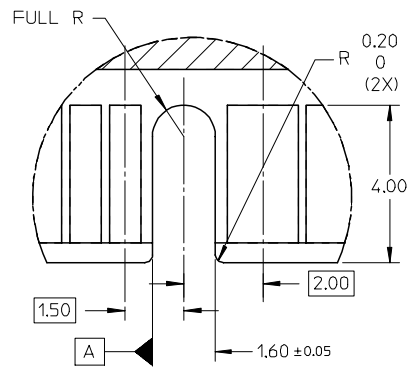


<b>ADDED NTOES</b> EC NO: S2007-0383 2006/10/20 DRWN:WLOKE 2006/10/25 CHKD:NAJESHKN 2006/10/25 APPR:PTL IM 2006/10/27	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
			mm	INCH	DRAWN BY	DATE	TITLE LOW PROFILE VRM SOCKET THROUGH HOLE, BOARDLOCK			
		4 PLACES	± ---	± ---	KMGOH	2003/05/27	MOLEX INCORPORATED			
		3 PLACES	± ---	± ---	CHECKED BY	DATE	DOCUMENT NO. SD-87810-001 SHEET NO. 2 OF 4			
2 PLACES	± 0.13	± ---	PTL IM	2003/05/27	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS					
1 PLACE	± 0.25	± ---	APPROVED BY	DATE	SEE TABLE					
	ANGULAR ± 1 °		SKTOH	2003/05/29						
			MATERIAL NO.							
B1	REV	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION								

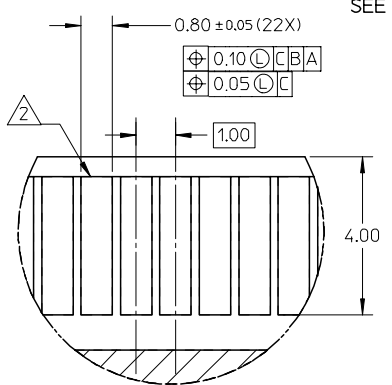
9 8 7 6 5 4 3 2 1

NOTES:

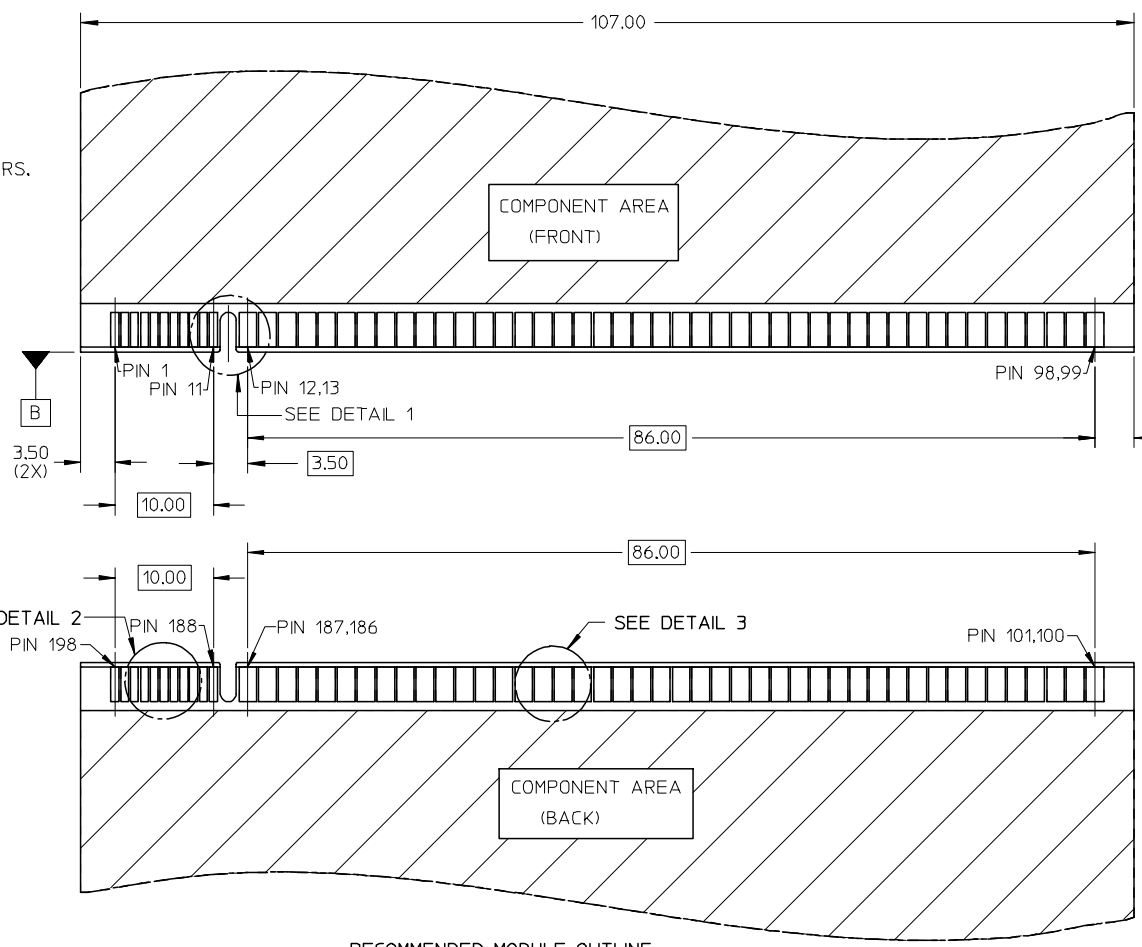
- 1. OPPOSING POWER PADS MUST BE OF THE SAME POLARITY
- 2. APPLICATION NOTE:  
EDGE OF CONTACT PADS SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS.



DETAIL 1



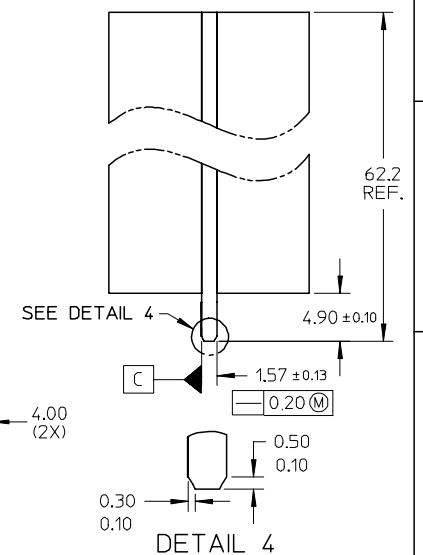
DETAIL 2



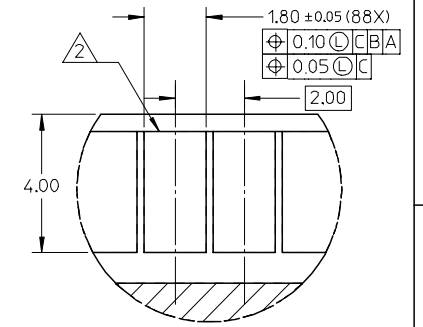
COMPONENT AREA (FRONT)

COMPONENT AREA (BACK)

RECOMMENDED MODULE OUTLINE



DETAIL 4



DETAIL 3

ADDED NTOES EC NO: S2007-0383 DRWN:KLOKE CHKD:NAJESHKN APPR:PTL IM	2006/10/20 2006/10/25 2006/10/27	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 2003/05/27	TITLE LOW PROFILE VRM SOCKET THROUGH HOLE, BOARDLOCK				
			4 PLACES	± ---	± ---	CHECKED BY PTL IM	DATE 2003/05/27					
			3 PLACES	± ---	± ---	APPROVED BY SKT0H	DATE 2003/05/29	MOLEX INCORPORATED				
2 PLACES	± 0.13	± ---	MATERIAL NO.	DOCUMENT NO. SD-87810-001	SHEET NO. 3 OF 4							
1 PLACE	± 0.25	± ---	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE TABLE							
			ANGULAR ± 1 °		SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

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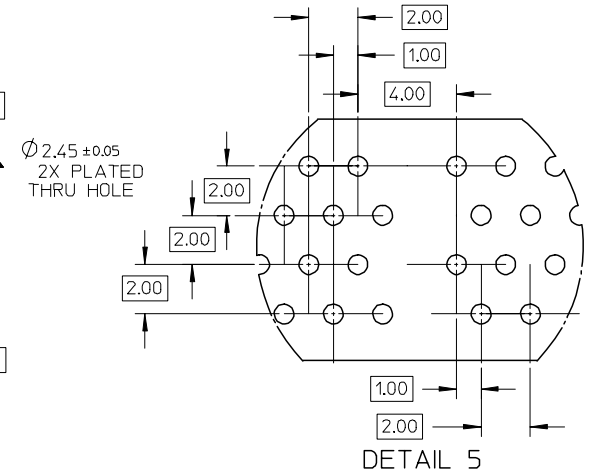
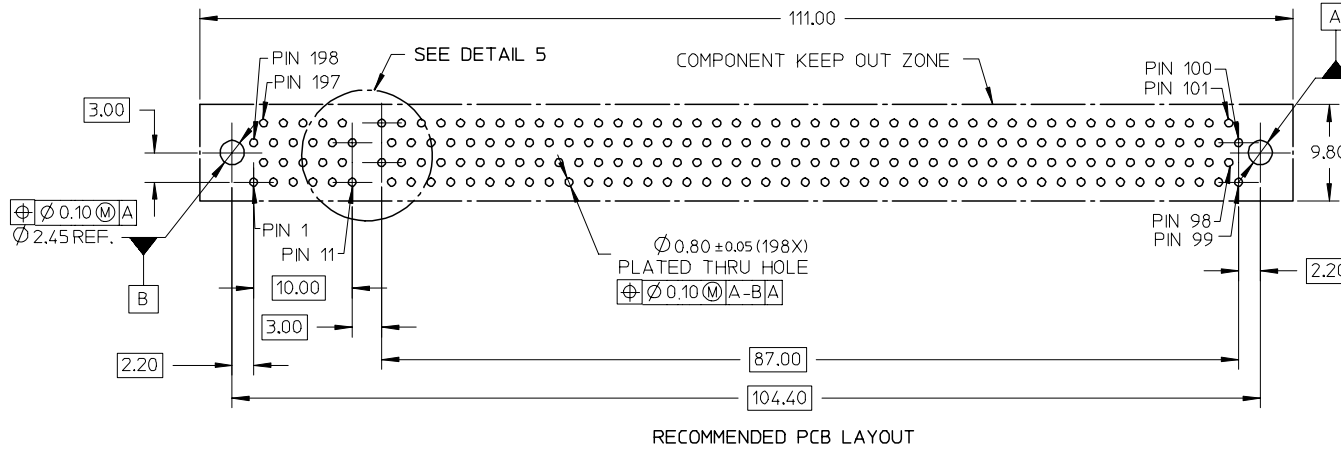
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- NOTES:
1. PCB LAYOUT BASED UPON SOCKET PIN CONFIGURATION OF 22 SIGNAL PINS AND 88 POWER PINS.
  2. THERE IS ONE SOLDERTAIL FOR EACH SIGNAL PIN AND TWO SOLDERTAILS FOR EACH POWER PIN.
  3. THE PCB THICKNESS ARE BASED FROM 0.093 INCH (2.36MM) TO 0.110 INCH (2.79MM).

ADDED NTOES EC NO: S2007-0383 2006/10/20 DRWN:WLOKE 2006/10/25 CHKD:WAGESHKN APPR:PTLIM 2006/10/27	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
						DRAWN BY KMG0H		TITLE LOW PROFILE VRM SOCKET THROUGH HOLE, BOARDLOCK		
						CHECKED BY PTLIM		MOLEX INCORPORATED		
						APPROVED BY SKTOH		DOCUMENT NO. SD-87810-001		SHEET NO. 4 OF 4
B1	REV	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				

9 8 7 6 5 4 3 2 1