

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: [0780161001](#)
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 20, Power 72, Leadfree

General

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

Physical

Circuits (Loaded)	92
Circuits (maximum)	92
Circuits Detail	20 Signal, 72 Power
Durability (mating cycles max)	25
Entry Angle	Vertical (Top Entry)
Keying to Mating Part	Yes
Material - Plating Mating	Gold
Material - Plating Termination	Tin
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
Plating min: Mating (µm)	0.76
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
Sales Drawing	SD-78016-001

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

10 9 8 7 6 5 4 3 2 1

F

E

D

C

B

A

F

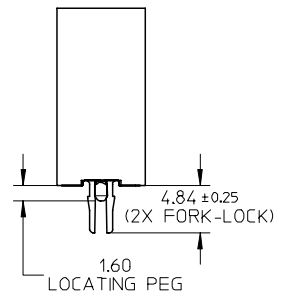
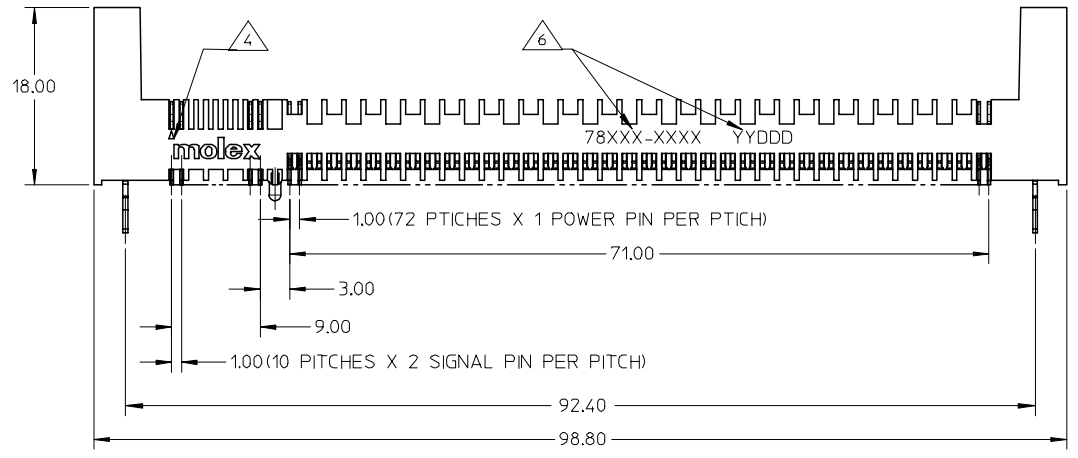
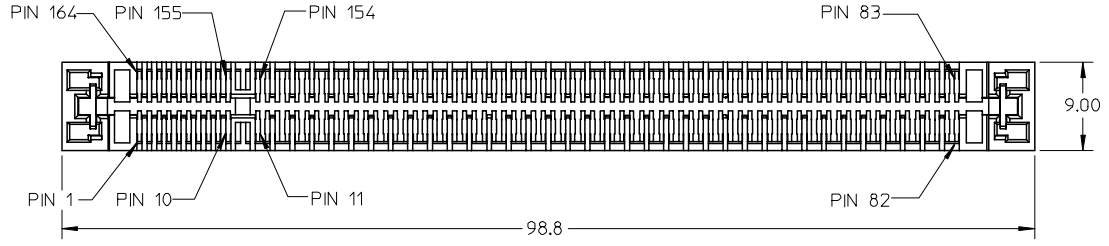
E

D

C

B

A



NOTES:

1. MATERIAL :
HOUSING : LCP
CONTACTS : COPPER ALLOY
FORKLOCKS : COPPER ALLOY
2. FINISH :
CONTACTS : 0.76µm (30u") MIN GOLD OVER
1.27µm (50u") MIN NICKEL
SOLDER TAIL : 3.81µm (150u") MIN TIN OVER
1.27µm (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 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.

EDIT HOUSING LABEL EC NO: S2006-0517 DRWN:KFLM CHKD:BLW APPR:PTLIM	2005/11/21 2005/11/21 2005/11/21	DESCRIPTION A1	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
			$\nabla=0$ $\nabla C=0$	mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.13 ± --- 1 PLACE ± 0.25 ± --- ANGULAR ± 3 °	MM ONLY	NTS	METRIC	SALES DRAWING LOW PROFILE VRM, 20S-72P CONFIG., SMT, BOARD-LOCK MOLEX INCORPORATED
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWN BY: KFLIM CHECKED BY: BLW APPROVED BY: PTLIM DATE: 2005/10/05 DATE: 2005/10/10 DATE: 2005/10/10	TITLE: SD-78016-001 DOCUMENT NO. SD-78016-001 SHEET NO. 1 OF 4			
			MATERIAL NO. SEE TABLE 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

10 9 8 7 6 5 4 3 2 1

F F

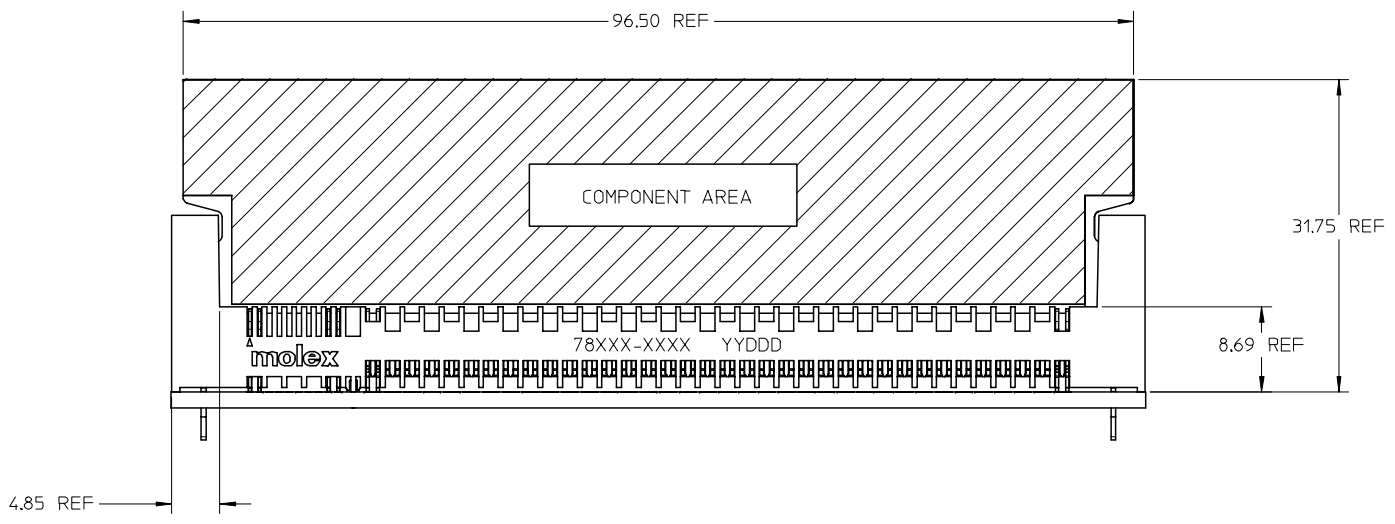
E E

D D

C C

B B

A A



EDIT HOUSING LABEL	2005/11/21
EC NO: S2006-0517	2005/11/21
DRWN:KFLM	2005/11/21
CHKD:BLW	2005/11/21
APPR:PTLIM	2005/11/21
REV	DESCRIPTION
A1	

QUALITY SYMBOLS	DESCRIPTION
▽=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		

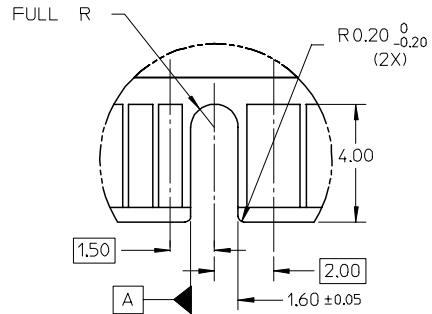
DIMENSION STYLE	
MM ONLY	
DRAWN BY	DATE
KFL IM	2005/10/05
CHECKED BY	DATE
BLW	2005/10/10
APPROVED BY	DATE
PTL IM	2005/10/10
MATERIAL NO.	
SEE TABLE	
SIZE	
A3	

SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
NTS	METRIC	
TITLE		
SALES DRAWING		
LOW PROFILE VRM, 20S-72P		
CONFIG., SMT, BOARD-LOCK		
molex MOLEX INCORPORATED		
DOCUMENT NO.		SHEET NO.
SD-78016-001		2 OF 4
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		

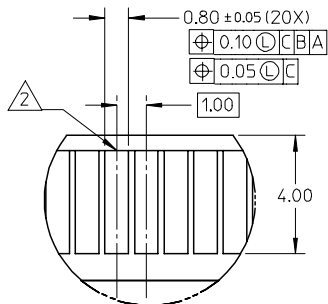
9 8 7 6 5 4 3 2 1

NOTES:

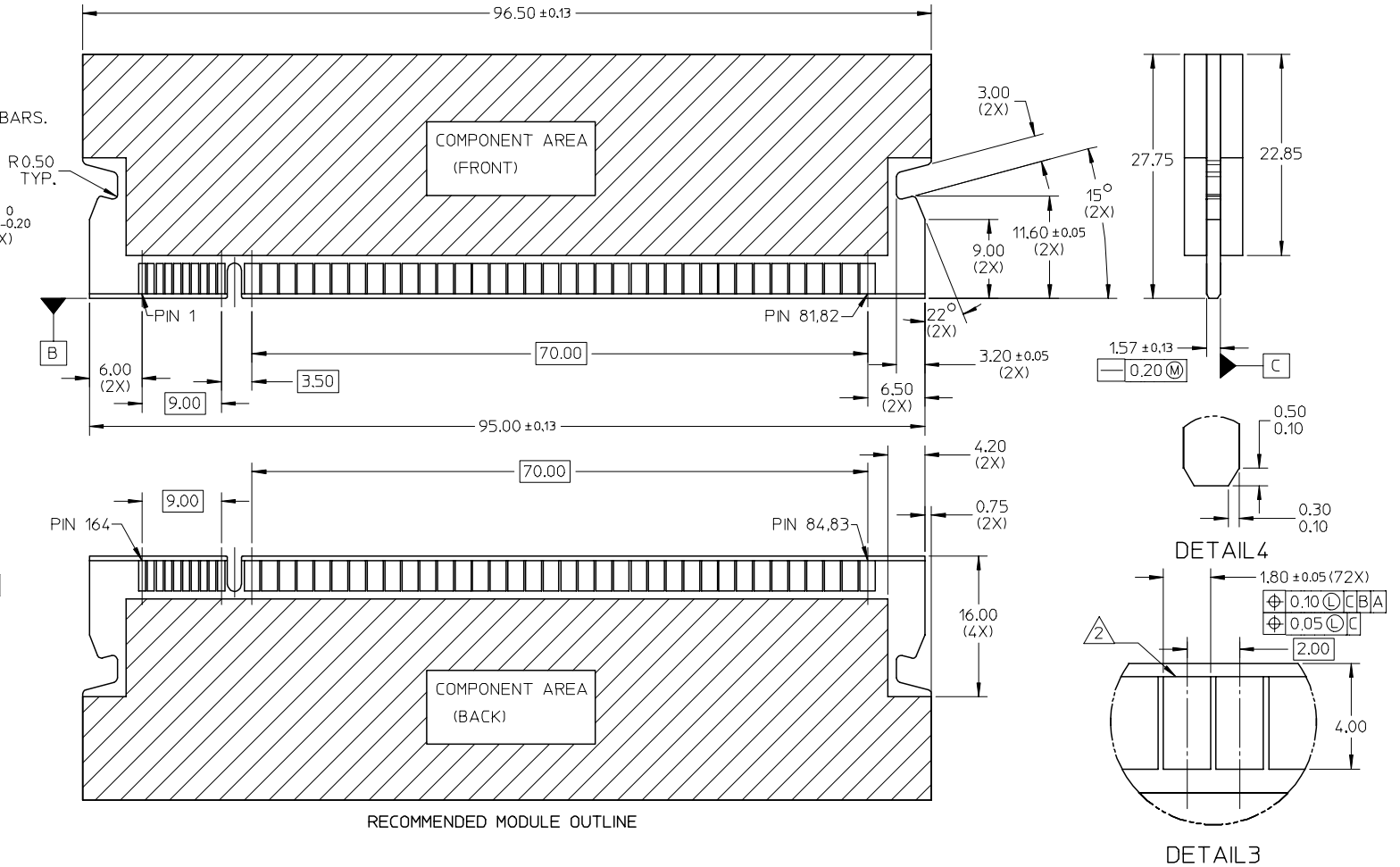
1. OPPOSING POWER PADS MUST BE OF THE SAME POLARITY.
2. APPLICATION NOTE: EDGE OF CONTACT PADS SHALL BE FREE OF BURRS AND EXTERNAL TIE BARS.



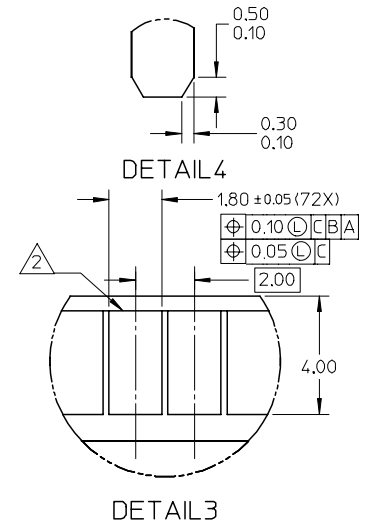
DETAIL 1



DETAIL 2



RECOMMENDED MODULE OUTLINE

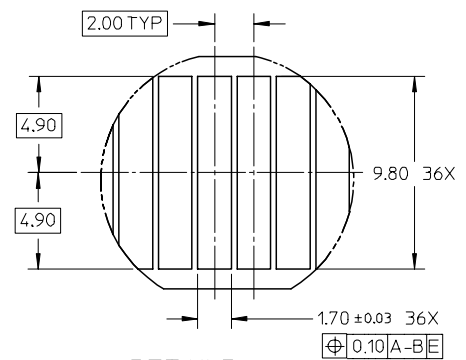


DETAIL 3

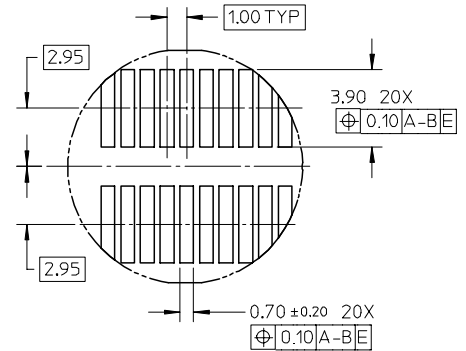
DETAIL 4

INITIAL RELEASE EC NO: S2006-0517 DRWN:KFLM CHKD:BLW APPR:PTLIM 2005/11/21 2005/11/21 2005/11/21	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED) mm INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± --- 2 PLACES ± 0.13 ± --- 1 PLACE ± 0.25 ± --- ANGULAR ± 3°	DIMENSION STYLE MM ONLY	SCALE NTS	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
	DRAWN BY KFL IM	DATE 2005/10/05	TITLE SALES DRAWING LOW PROFILE VRM, 20S-72P CONFIG., SMT, BOARD-LOCK				
	CHECKED BY BLW	DATE 2005/10/10	MOLEX INCORPORATED				
	APPROVED BY PTL IM	DATE 2005/10/10	MATERIAL NO. SEE TABLE	DOCUMENT NO. SD-78016-001	SHEET NO. 3 OF 4		
A1	REV	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

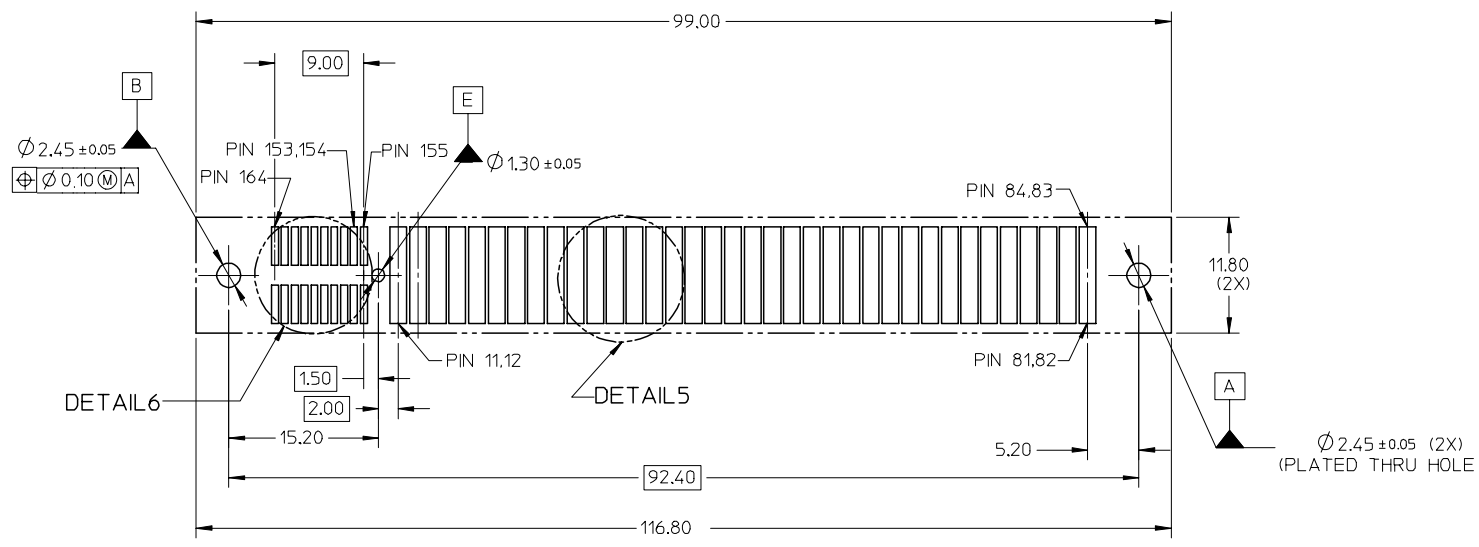
10	9	8	7	6	5	4	3	2	1
PART NUMBER	SIGNAL	POWER	PLATING OPTION						
78016-1001	20	72	TIN						



DETAIL5
POWER SOLDER PAD



DETAIL6



RECOMMENDED PCB LAYOUT

NOTES:
1. PCB LAYOUT BASED UPON SOCKET PIN CONFIGURATION OF 20 SIGNAL PINS AND 72 POWER PINS.

INITIAL RELEASE	2005/11/21
EC NO: S2006-0517	2005/11/21
DRWN:KFLM	2005/11/21
CHKD:BLHW	2005/11/21
APPR:PTLIM	2005/11/21
REV	DESCRIPTION
A1	

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		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
MM ONLY		NTS	METRIC	
DRAWN BY	DATE	TITLE		
KFL IM	2005/10/05	SALES DRAWING		
CHECKED BY	DATE	LOW PROFILE VRM, 20S-72P		
BHLOW	2005/10/10	CONFIG., SMT, BOARD-LOCK		
APPROVED BY	DATE	MOLEX INCORPORATED		
PTL IM	2005/10/10			
MATERIAL NO.	DOCUMENT NO.	SHEET NO.		
	SD-78016-001	4 OF 4		
SIZE	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			
A3				