This document was generated on 06/04/2010

PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

Part Number: 0877159305

Status: Active

Overview:

Description: 1.00mm (.039") Pitch, PCI Express* Connector, 164 Circuits, Nylon 4/6 Glass-filled, Black Housing, Phosphor Bronze, 0.38µm (15µ") Gold (Au) Plating, with Plastic Pegs, 3.00mm (.118") Soldertail, Lead Free

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
87715Series

Mates With
PCI Express Card

Agency Certification

CSA	LR19980
UL	E29179

General

Product Family	Edge Card Connectors
Series	87715
Comments	PCI 16 lanes
Component Type	Edgecard to PCB
Overview	pci_express_card_edge_connector
Product Name	PCI Express*

Physical

Circuits (Loaded)	164
Circuits (maximum)	164
Circuits Detail	All Signal
Color - Resin	Black
Durability (mating cycles max)	50
Entry Angle	Vertical (Top Entry)
Flammability	94V-0
Keying to Mating Part	Yes
Material - Metal	Phosphor Bronze
Material - Plating Mating	Gold
Material - Plating Termination	Tin
Material - Resin	High Temperature Thermoplastic
PC Tail Length (in)	0.118 In
PC Tail Length (mm)	3.00 mm
PCB Locator	Yes
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
Pitch - Term. Interface (in)	0.039 In
Pitch - Term. Interface (mm)	1.00 mm
Plating min: Mating (µin)	15
Plating min: Mating (µm)	0.38
Plating min: Termination (µin)	100
Plating min: Termination (µm)	2.5
Polarized to Mating Part	Yes
Temperature Range - Operating	-55°C to +85°C
Termination Interface: Style	Through Hole

Electrical

Current - Maximum per Contact	1.1A
Voltage - Maximum	50V AC (RMS)/DC

Solder Process Data

Duration at Max. Process Temperature (seconds)	10

Lead-free Process Capability	Wave Capable (TH only)
Max. Cycles at Max. Process Temperature	1
Process Temperature max. C	260

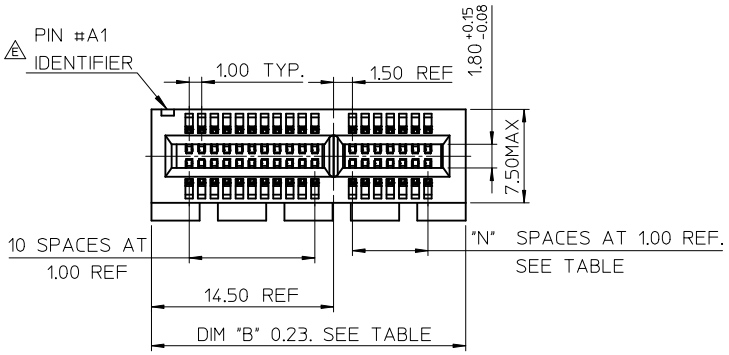
Material Info

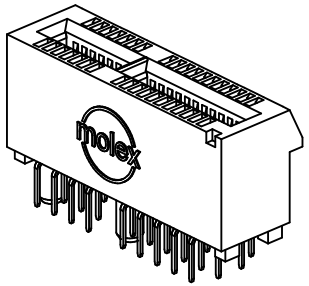
Reference - Drawing Numbers

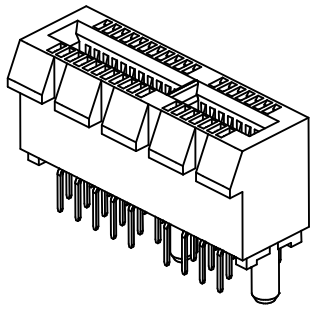
Packaging Specification	PK-87715-207
Product Specification	PS-87715-200
Sales Drawing	SD-87715-207, SD-87715-901
Test Summary	TS-87715-207

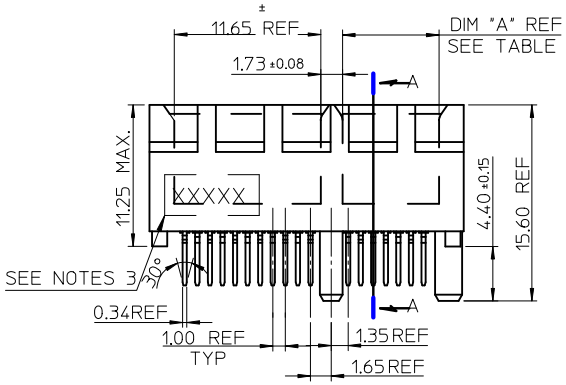
* PCI Express is a registered trademark of PCI-SIG®

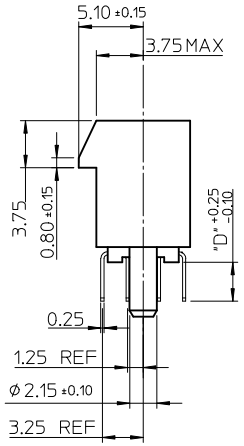
This document was generated on 06/04/2010
PLEASE CHECK WWW.MOLEX.COM FOR LATEST PART INFORMATION

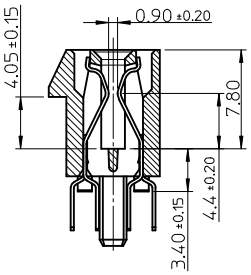




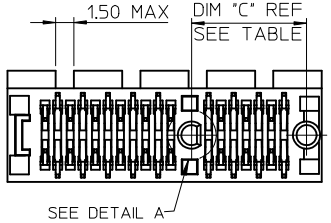


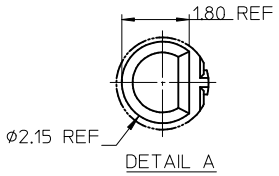






SECTION A-A





NOTES:
1.MATERIALS:
1-1.HOUSING: SEE TABLE ,GLASS FIBER FILLED UL94V-0,
COLOR: SEE TABLE.
1-2.CONTACT: SEE TABLE
2.PLATING:
2-1.CONTACT AREA: GOLD, THICKNESS : SEE TABLE .
2-2.SOLDER TAIL: 100 MICROINCH MIN. TIN PLATING.
2-3.UNDER PLATING: NICKEL PLATING OVERALL.
3.WEEK CODE: XX(YEAR) XX(WEEK) X(LOCATION).
4.PRODUCT SPECIFICATION REFER TO PS-87715-200.
5.PACKAGING SPECIFICATION REFER TO PK-87715-207.
6.TEST SUMMARY:REFER TO TS-87715-207.
7.LEAD FREE AND ROHS COMPLIANCE PRODUCT.

CONNECTOR LINK WIDTH	# POS REF	N	DIM "A"	DIM "B"	DIM "C"
X4	64	20	21.65	39.00	23.15
X8	98	37	38.65	56.00	40.15

PCB THK (REF)	DIM "D"
1.60	2.30
1.58	2.54
2.36	3.00

REVISED
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2004/07/20
CH'KD:ALLEN LIN 2004/07/20
APPR:XJSONG 2010/06/03
DESCRIPTION
G
REV

QUALITY SYMBOLS
EA=0
EC=0
EF=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

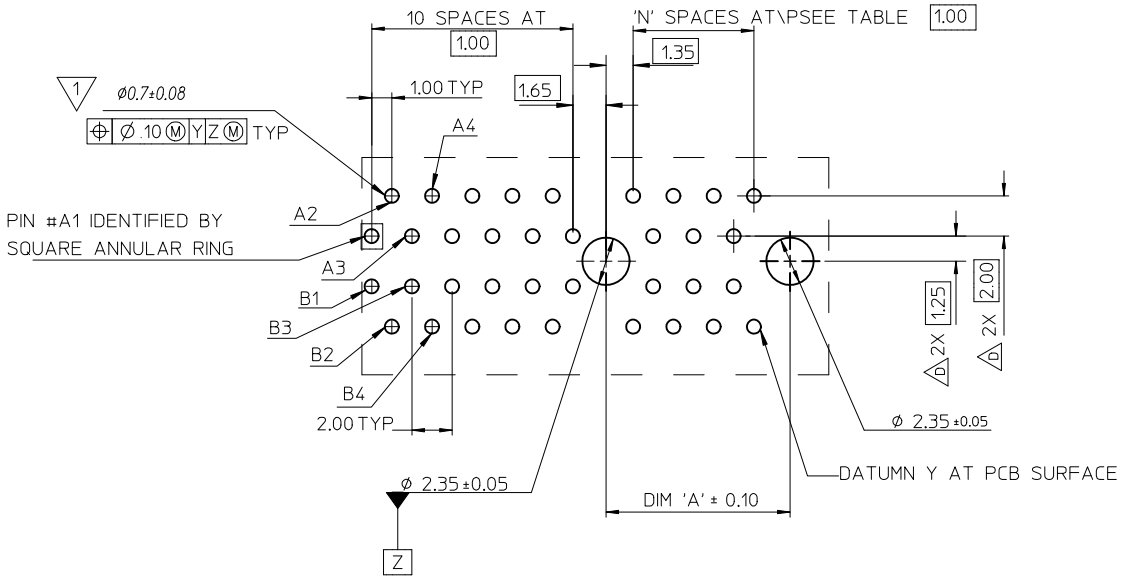
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

		DATE
DRAWN BY	TOM	2004/07/20
CHECKED BY	ALLEN LIN	2004/07/20
APPROVED BY	WILSON	2004/07/20

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)
MOLEX INCORPORATED
MATERIAL NO.: SEE SHEET 4
DOCUMENT NO.: SD-87715-207
SHEET NO.: 1 OF 4
SIZE: A3

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION



1 THE HORIZONTAL AXIS FOR THE HOLE PATTERN IS ESTABLISHED BY A LINE THROUGH THE CENTER OF THE TWO ø2.35 HOLES. THE VERTICAL AXIS IS 90° TO THE HORIZONTAL AXIS. THROUGH THE CENTER OF DATUM Z

CONNECTOR LINK WIDTH	# POS REF	N	DIM 'A'
X4	64	20	23.15
X8	98	37	40.15

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2004/07/20
CH'KD:ALLEN LIN 2010/06/03
APPR:XJSONG
DESCRIPTION
G
REV

QUALITY SYMBOLS
FA=0
FC=0
FP=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: TOM DATE: 2004/07/20
CHECKED BY: ALLEN LIN DATE: 2004/07/20
APPROVED BY: WILSON DATE: 2004/07/20

TITLE
PCI EXPRESS
EDGE CARD CONNECTOR
(LEAD FREE VERSION)

molex MOLEX INCORPORATED

MATERIAL NO.: SEE SHEET 4
DOCUMENT NO.: SD-87715-207
SHEET NO.: 2 OF 4
SIZE: A3

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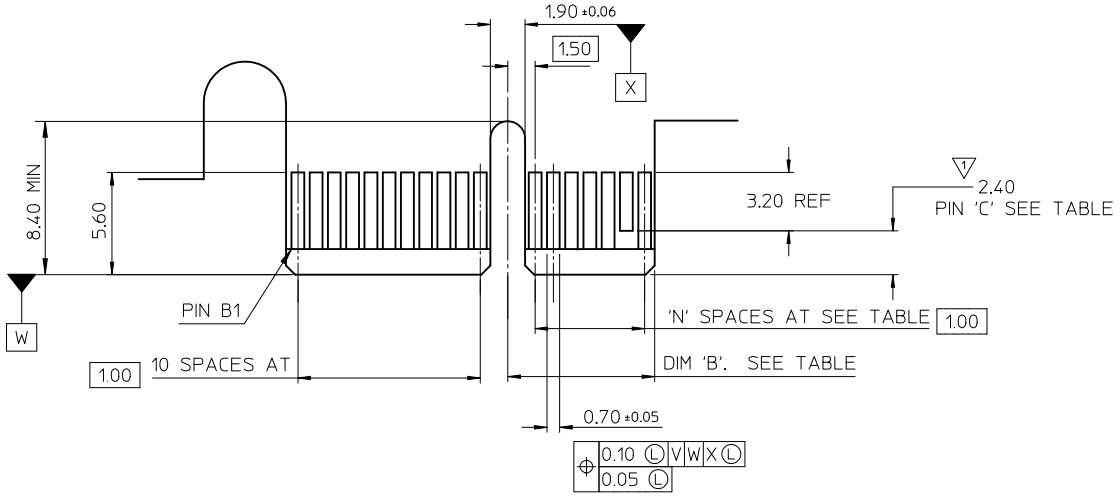
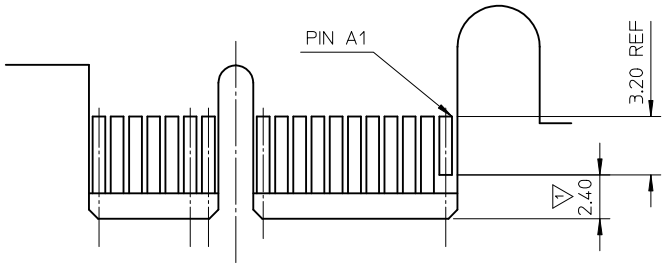


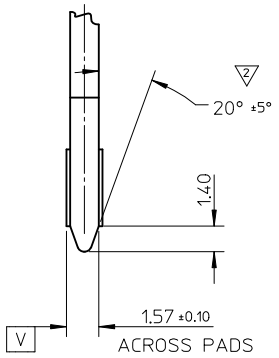
← I/O PANEL DIRECTION

PRIMARY (COMPONENT) SIDE



I/O PANEL DIRECTION →

SECONDARY (SOLDER) SIDE



1. NO TIE BAR PERMITTED FROM CARD EDGE TO LEADING EDGE OF PAD FOR PINS A1 AND "C".
2. CHAMFER EOGES MUST BE FREE OF CUTTING BURRS.
3. TOLERANCE: .XX±.13

CONNECTOR LINK WIDTH	# POS REF	N	DIM 'B'	'C' 1
X4	64	20	22.15	B17, B31
X8	98	37	39.15	B17, B31 B48

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2004/07/20
CHKD:ALLEN LIN 2004/07/20
APPR:XJSONG 2010/06/03
DESCRIPTION
G
REV

QUALITY SYMBOLS
FA=0
FC=0
FP=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: TOM DATE: 2004/07/20
CHECKED BY: ALLEN LIN DATE: 2004/07/20
APPROVED BY: WILSON DATE: 2004/07/20

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)

molex MOLEX INCORPORATED

MATERIAL NO.: SEE SHEET 4
DOCUMENT NO.: SD-87715-207
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

MOLEX P/N	CIRCUIT SIZE	HOUSING MATERIAL	HOUSING COLOR	TERMINAL MATERIAL	CONTACT PLATING	SOLDER TAIL "D" LENGTH
87715-9100	64	NYLON46	BLACK	PHOSPHOR BRONZE	GOLD FLASH	2.54
87715-9101					10 MICROINCH	
87715-9102					15 MICROINCH	
87715-9103					GOLD FLASH	3.00
87715-9104					10 MICROINCH	
87715-9105					15 MICROINCH	
87715-9106					30 MICROINCH	2.54
87715-9107					GOLD FLASH	2.30
87715-9108					15 MICROINCH	
87715-9109					30 MICROINCH	3.00

MOLEX P/N	CIRCUIT SIZE	HOUSING MATERIAL	HOUSING COLOR	TERMINAL MATERIAL	CONTACT PLATING	SOLDER TAIL "D" LENGTH
87715-9200	98	NYLON46	BLACK	PHOSPHOR BRONZE	GOLD FLASH	2.54
87715-9201					10 MICROINCH	
87715-9202					15 MICROINCH	
87715-9203					GOLD FLASH	3.00
87715-9204					10 MICROINCH	
87715-9205					15 MICROINCH	
87715-9206					30 MICROINCH	2.54
87715-9207					GOLD FLASH	2.30
87715-9208					15 MICROINCH	
87715-9209					30 MICROINCH	3.00

MOLEX P/N	CIRCUIT SIZE	HOUSING MATERIAL	HOUSING COLOR	TERMINAL MATERIAL	CONTACT PLATING	SOLDER TAIL "D" LENGTH
87715-9602	98	NYLON46	BLACK	BRASS	15 MICROINCH	2.54

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2004/07/20
CH'KD:ALLEN LIN 2004/07/20
APPR:XJSONG 2010/06/03
DESCRIPTION
G
REV

QUALITY SYMBOLS
$\sqrt{F_A}$=0
$\sqrt{F_C}$=0
$\sqrt{F_P}$=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: TOM DATE: 2004/07/20
CHECKED BY: ALLEN LIN DATE: 2004/07/20
APPROVED BY: WILSON DATE: 2004/07/20

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)

molex MOLEX INCORPORATED

MATERIAL NO.: SEE TABLE
DOCUMENT NO.: SD-87715-207
SHEET NO.: 4 OF 4
SIZE: A3

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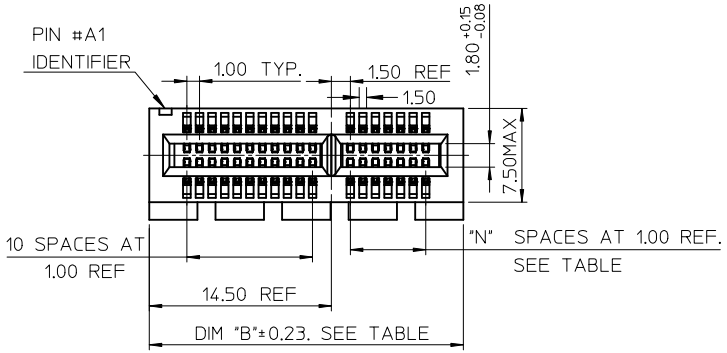
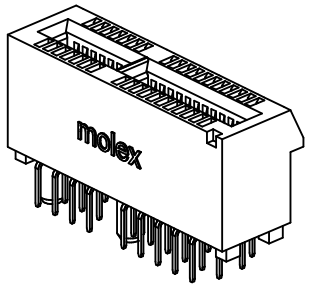
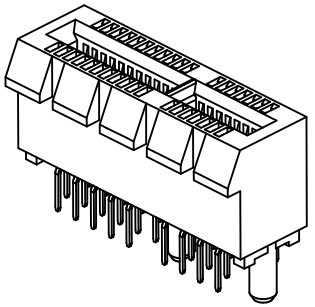
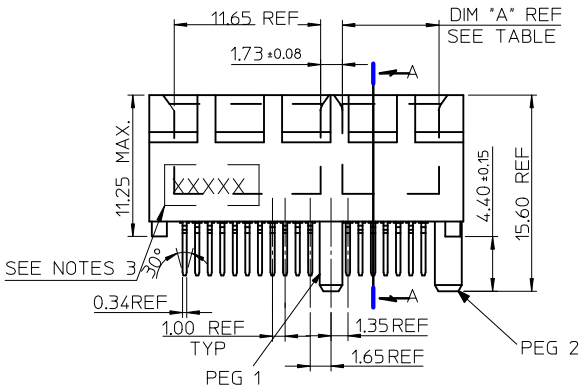
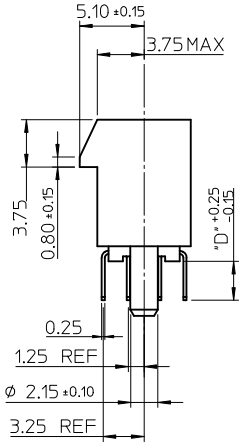
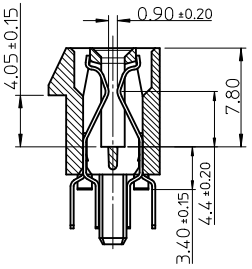




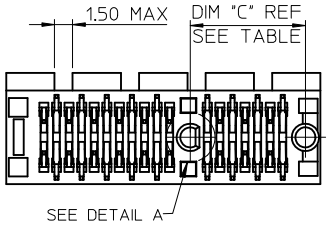


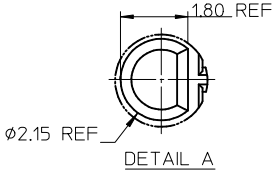






SECTION A-A





DETAIL A

NOTES:
1.MATERIALS:
1-1.HOUSING: SEE TABLE ,GLASS FIBER FILLED UL94V-0,
COLOR: SEE TABLE.
1-2.CONTACT: SEE TABLE
2.PLATING:
2-1.CONTACT AREA: GOLD, THICKNESS : SEE TABLE .
2-2.SOLDER TAIL: 100 MICROINCH MIN. TIN PLATING.
2-3.UNDER PLATING: NICKEL PLATING OVERALL.
3.DATE CODE: YY MM DD.
4.PRODUCT SPECIFICATION REFER TO PS-87715-200.
5.TEST SUMMARY:REFER TO TS-87715-207.

CONNECTOR LINK WIDTH	# POS REF	N	DIM "A"	DIM "B"	DIM "C"
X1	36	6	7.65	25.00	9.15
X16	164	70	71.65	89.00	73.15

PCB THK (REF)	DIM "D"
1.58	2.54
2.36	3.00

REVISED
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2007/05/14
CH'KD:HARVEY 2007/05/14
APPR:XJSONG 2010/06/03
DESCRIPTION
B
REV

QUALITY SYMBOLS
=0
=0
=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

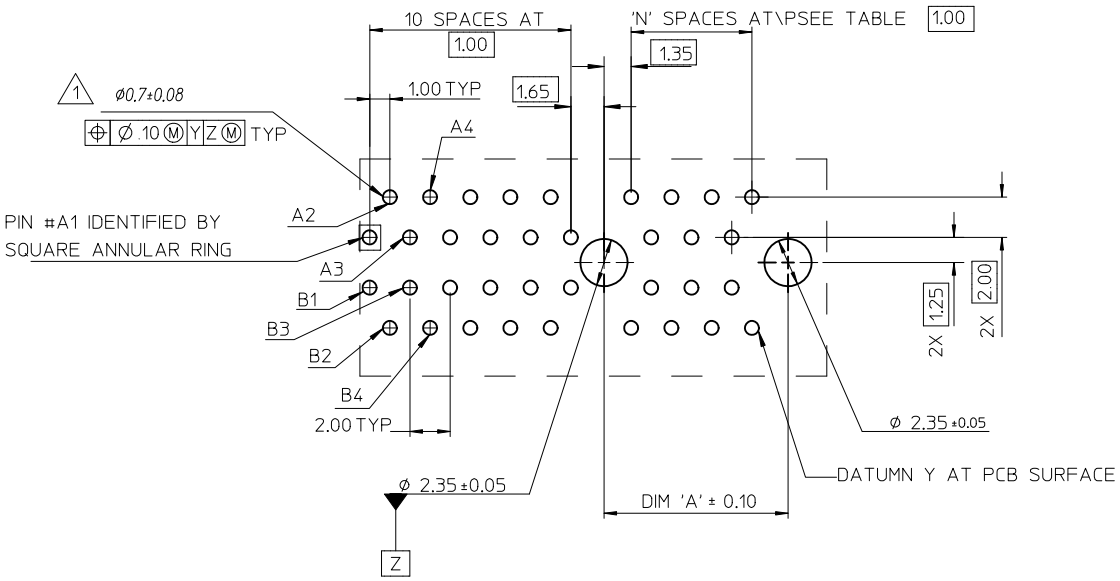
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: DAVID HU DATE: 2007/05/14
CHECKED BY: HARVEY DATE: 2007/05/14
APPROVED BY: JENNY CHEN DATE: 2007/05/14

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)
MOLEX INCORPORATED
MATERIAL NO.: SEE SHEET 4
DOCUMENT NO.: SD-87715-901
SHEET NO.: 1 OF 4
SIZE: A3

THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION



1 THE HORIZONTAL AXIS FOR THE HOLE PATTERN IS ESTABLISHED BY A LINE THROUGH THE CENTER OF THE TWO ø2.35 HOLES. THE VERTICAL AXIS IS 90° TO THE HORIZONTAL AXIS. THROUGH THE CENTER OF DATUM Z

CONNECTOR LINK WIDTH	# POS REF	N	DIM 'A'
X1	36	6	9.15
X16	164	70	73.15

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2007/05/14
CH'KD:HARVEY
APPR:XJSONG 2010/06/03
DESCRIPTION
B
REV

QUALITY SYMBOLS
F_A=0
F_C=0
F_P=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

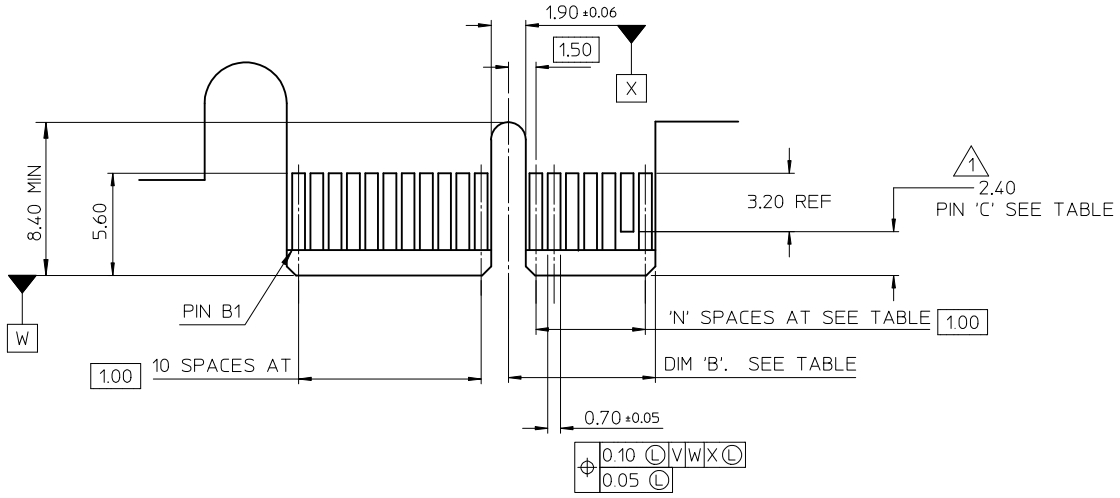
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

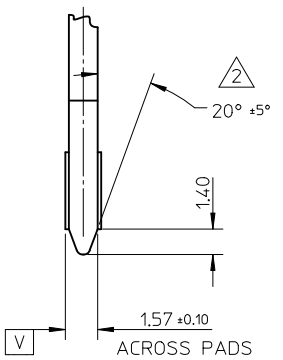
DRAWN BY: DAVID HU DATE: 2007/05/14
CHECKED BY: HARVEY DATE: 2007/05/14
APPROVED BY: JENNY CHEN DATE: 2007/05/14
MATERIAL NO.: SEE SHEET 1

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)
MOLEX INCORPORATED
DOCUMENT NO.: SD-87715-901
SHEET NO.: 2 OF 4
SIZE: A3

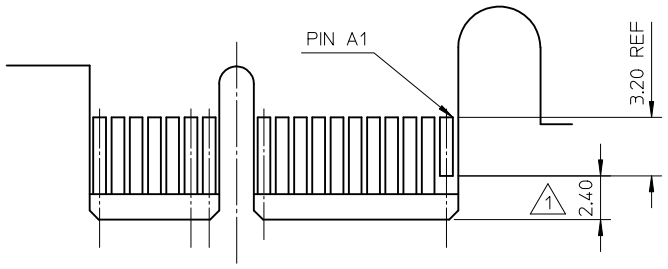
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION



← I/O PANEL DIRECTION



PRIMARY (COMPONENT) SIDE



I/O PANEL DIRECTION →

SECONDARY (SOLDER) SIDE

1. NO TIE BAR PERMITTED FROM CARD EDGE TO LEADING EDGE OF PAD FOR PINS A1 AND "C".
2. CHAMFER EOGES MUST BE FREE OF CUTTING BURRS.
3. TOLERANCE: .XX±.13

CONNECTOR LINK WIDTH	# POS REF	N	DIM 'B'	'C' 1
X1	36	6	8.15	B17
X16	164	70	72.15	B17, B31 B48,B81

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2007/05/14
CH'KD:HARVEY 2010/06/03
APPR:XJSONG
DESCRIPTION
REV
B

QUALITY SYMBOLS
FA=0
FC=0
FV=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: DAVID HU DATE: 2007/05/14
CHECKED BY: HARVEY DATE: 2007/05/14
APPROVED BY: JENNY CHEN DATE: 2007/05/14

TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)

molex MOLEX INCORPORATED

MATERIAL NO.: SEE SHEET 1
DOCUMENT NO.: SD-87715-901
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

MOLEX P/N	CIRCUIT SIZE	HOUSING MATERIAL	HOUSING COLOR	TERMINAL MATERIAL	CONTACT PLATING	SOLDER TAIL "D" LENGTH	PEG 1	PEG 2	DESCRIPTION
87715-9000	36	NYLON46	BLACK	PHOSPHOR BRONZE	GOLD FLASH	2.54	WITH	WITH	TOOLED
87715-9001					10 MICROINCH				
87715-9002					15 MICROINCH				
87715-9003					GOLD FLASH	3.00			
87715-9004					10 MICROINCH				
87715-9005					15 MICROINCH				
87715-9006					30 MICROINCH	2.54			
87715-9009					30 MICROINCH	3.00			
87715-0001					15 MICROINCH	2.54		WITHOUT	

B

MOLEX P/N	CIRCUIT SIZE	HOUSING MATERIAL	HOUSING COLOR	TERMINAL MATERIAL	CONTACT PLATING	SOLDER TAIL "D" LENGTH	PEG 1	PEG 2	DESCRIPTION
87715-9300	164	NYLON46	BLACK	PHOSPHOR BRONZE	GOLD FLASH	2.54	WITH	WITH	TOOLED
87715-9301					10 MICROINCH				
87715-9302					15 MICROINCH				
87715-9303					GOLD FLASH	3.00			
87715-9304					10 MICROINCH				
87715-9305					15 MICROINCH				
87715-9306					30 MICROINCH	2.54			
87715-9309					30 MICROINCH	3.00			

B

SEE SHEET 1
EC NO: SH2010-0425 2010/05/14
DRWN:RZHANG 2007/05/14
CH'KD:HARVEY 2010/06/03
APPR:XJSONG
DESCRIPTION
REV B

QUALITY SYMBOLS
F_A=0
F_C=0
F_P=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± ---
2 PLACES	± 0.25	± ---
1 PLACE	± 0.25	± ---
ANGULAR ± 3 °		

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE: MM ONLY
SCALE
DESIGN UNITS: METRIC
THIRD ANGLE PROJECTION

DRAWN BY: DAVID HU DATE: 2007/05/14
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TITLE: PCI EXPRESS EDGE CARD CONNECTOR (LEAD FREE VERSION)

MOLEX INCORPORATED

MATERIAL NO.: SEE SHEET 1
DOCUMENT NO.: SD-87715-901
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