



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

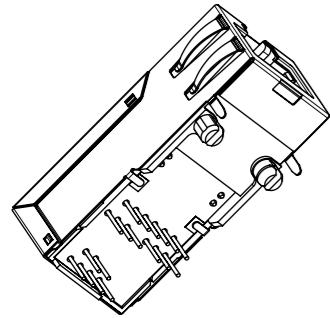
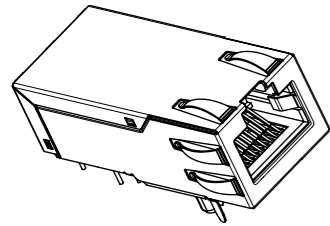
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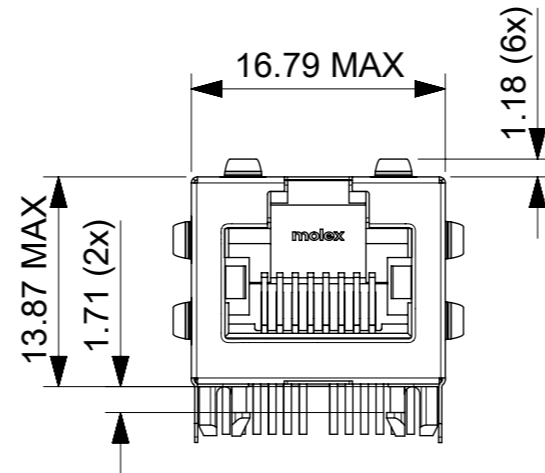
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



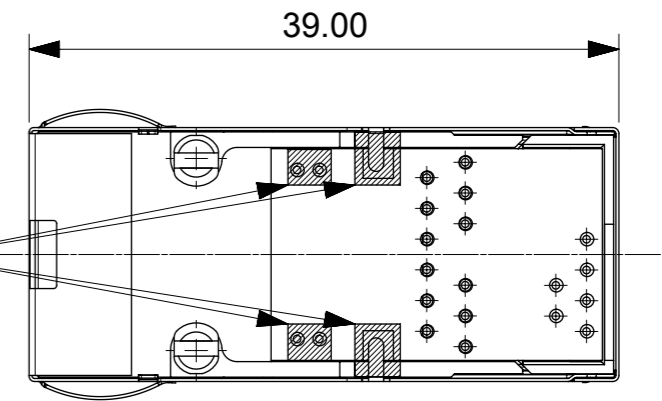
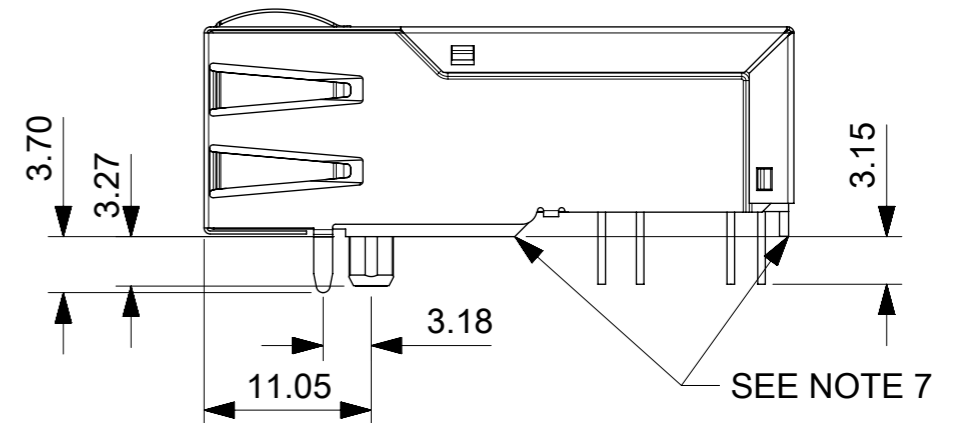
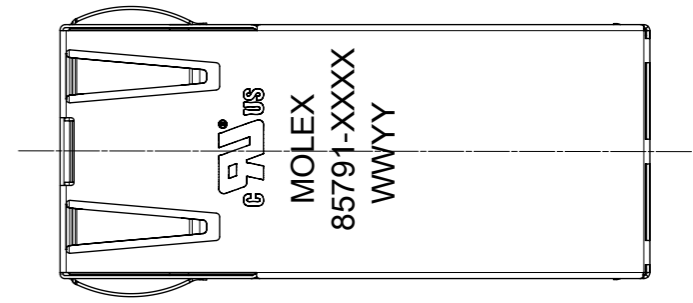
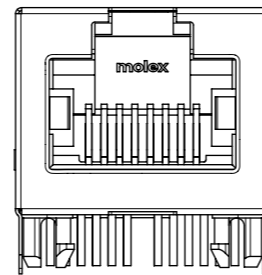
PDJack™ GIGABIT SINGLE PORT MAGNETIC JACK WITH
INTEGRATED POWER OVER ETHERNET PLUS POWERED
DEVICE (PD) CONTROLLER AND BRIDGE RECTIFIERS



SCALE 1:1



NO SHIELD
SPRING VERSION
85791-4420



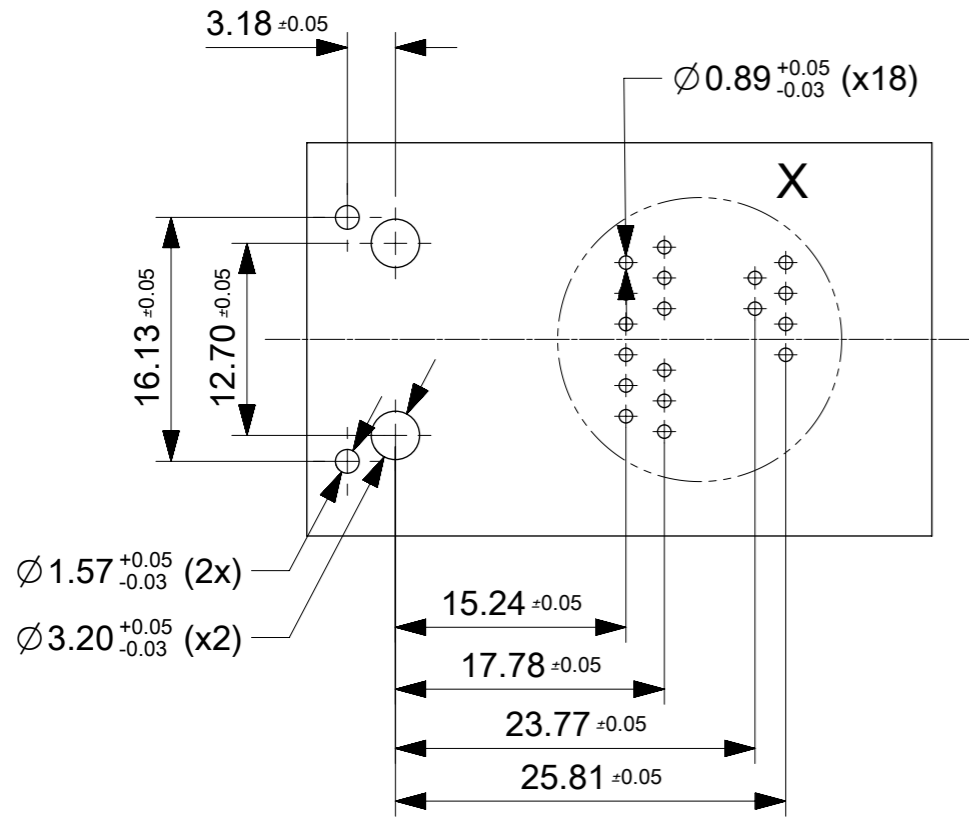
NOTES:

- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE TIN DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - RJ45 TERMINALS MATERIAL: COPPER ALLOY
CONTACT PLATING: 0.76 MICROMETER GOLD
OVER 1.9 MICROMETER NICKEL
PHY TERMINALS: TIN PLATED
- 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
- 5 - PRODUCT SPECIFICATION: PS-85791-001
- 6 - PACKAGING SPECIFICATION: PK-85759-001
- 7 - STAND OFF TO SYSTEM BOARD
- 8 - STUBBED PINS AND SHIELD LATCHES:
AVOID TO ROUTE TRACES OR
TO PLACE ANY VIAS OR PAD IN THIS AREA
- 9 - RECOMMENDED PCB THICKNESS: 1.6mm
- 10 - INSCRIPTION MARKED BY LASER:
UL LOGO
1st : MOLEX
2st : P/N (SEE BOM)
3rd : DATE CODE(WEEK/YEAR)

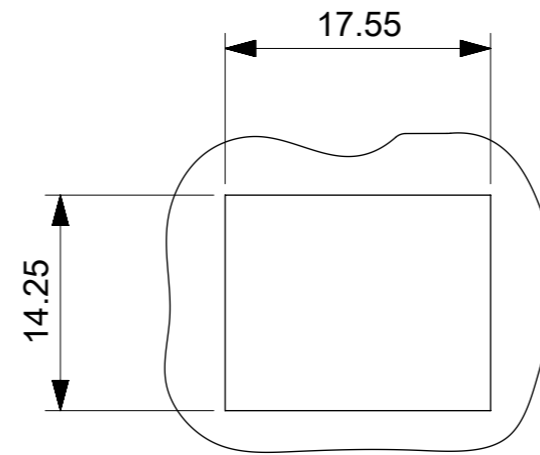
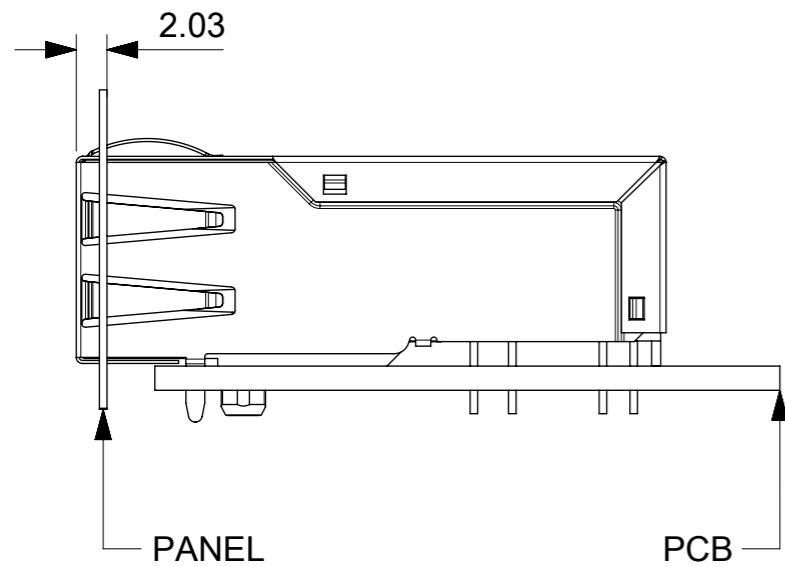
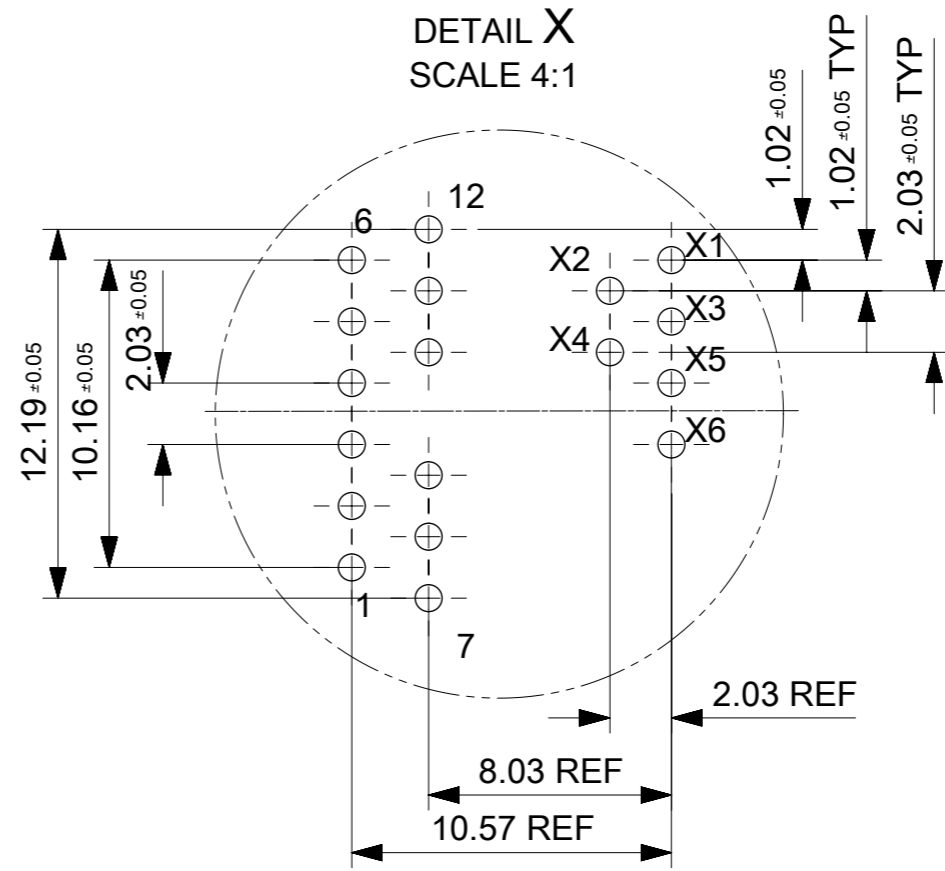
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

EC DESCRIPTION EC NO: 102944 DRWN: MFURKEL CHK'D: REV: F	2015/09/28	2016/03/14	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION UNITS	SCALE	 GIGABIT POE PLUS PDJACK (TM) 1X1 PRODUCT CUSTOMER DRAWING					
			▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 0 ▽ = 0		MM 2:1	DRWN BY MFURKEL				DATE 2015/06/10		
			4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±		CHK'D BY DATE	APPR BY DATE				SERIES 85791	MATERIAL NUMBER SEE BOM / SHEET 3	CUSTOMER
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE A3	THIRD ANGLE PROJECTION				DOCUMENT NUMBER 857910020	DOC TYPE PSD	DOC PART 000

SUGGESTED BOARD LAYOUT - COMPONENT SIDE



PIN CONFIGURATION

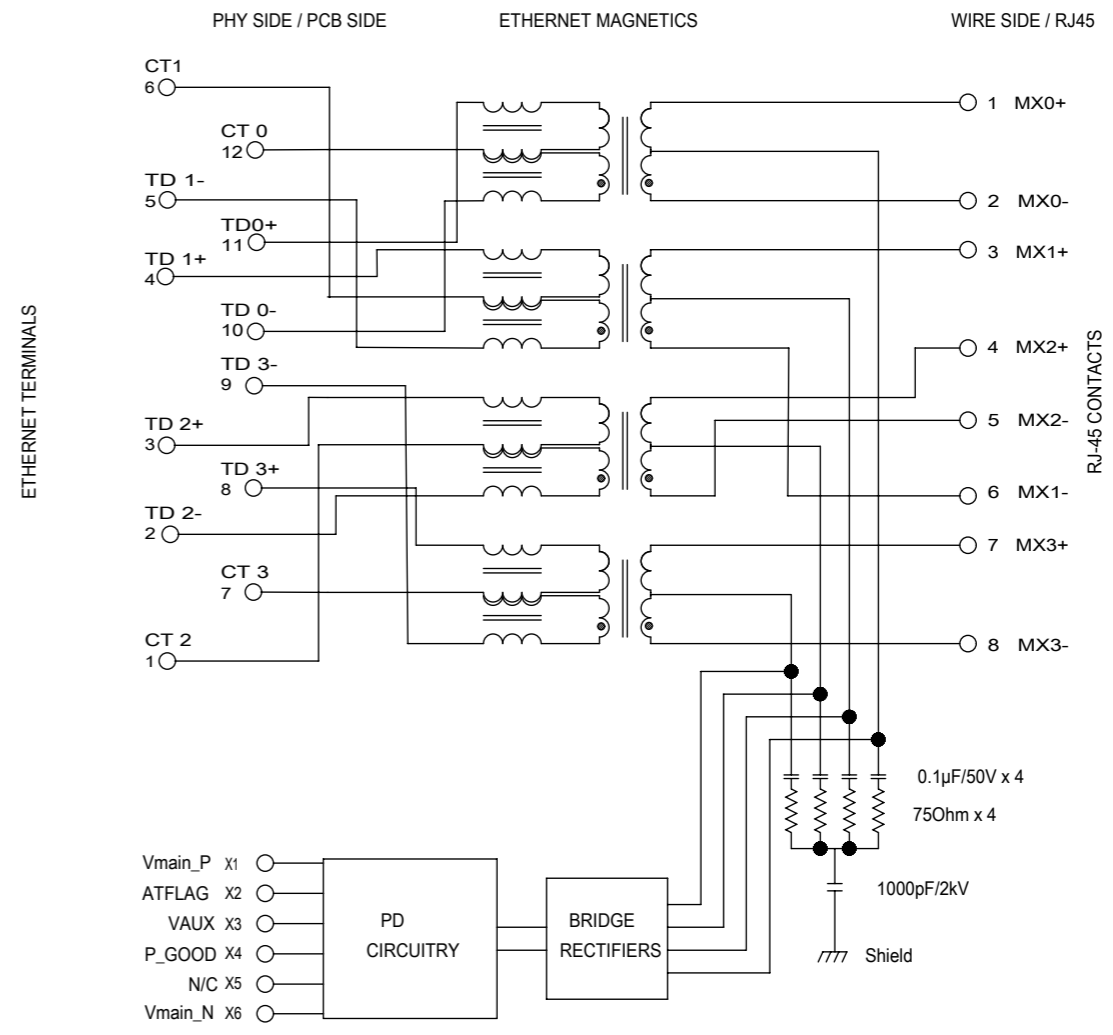


SUGGESTED PANEL CUTOUT

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

EC DESCRIPTION EC NO: 102944 DRWN: MFURKEL CHK'D: APPR: CBRUNS	2015/09/28 2016/03/14	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±	DIMENSION UNITS MM	SCALE 2:1					
		DRWN BY MFURKEL	DATE 2015/06/10	GIGABIT POE PLUS PDJACK (TM) 1X1						
		CHK'D BY CBRUNS	DATE	PRODUCT CUSTOMER DRAWING						
		APPR BY	DATE	DRAWING SIZE A3	THIRD ANGLE PROJECTION	SERIES 85791	MATERIAL NUMBER SEE BOM / SHEET 3	CUSTOMER	DOCUMENT NUMBER 857910020	DOC TYPE PSD

Electrical Specifications @25°C		
Operating temperature (SEE PART NUMBER)		
Description	VALUE	
OCL POE+TRANSF. 20mA bias	350µH min.	0/70°(0/55°Class4)
Turns Ratio	1CT:1CT	
Insertion Loss		Typical Values (dB max.)
Frequency (MHz)	Limits (dB max.)	0.5 @ 10MHz
1.0-9.9 MHz	0.4+0.1*log(F)	0.7 @ 50MHz
10-49.9 MHz	0.5+0.3*log(F/10)	1.0 @ 80MHz
50-79.9 MHz	1+1.4*log(F/80)	1.3 @ 100MHz
80-100 MHz	1.3+3*log(F/100)	
Return Loss		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	27 @ 10MHz
1-9.9 MHz	27dB min.	10 @ 100MHz
10-100 MHz	27-17*log(F/10)	
CMR		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	34 @ 10MHz
1-9.9 MHz	34dB min.	27 @ 80MHz
10-79.9 MHz	27dB min.	21.5 @ 200MHz
80-199.9 MHz	27-14.5*log(F/80)	10 @ 400MHz
200-399.9 MHz	21.5-39*log(F/200)	10 @ 1000MHz
400-1000 MHz	10	
NEXT		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	50 @ 6MHz
1-5.9 MHz	50	34 @ 50MHz
6-49.9 MHz	45-16*log(F/10)	25 @ 100MHz
50-100 MHz	25-30*log(F/100)	
Isolation PHY to Wire side	2.25kVDC/60sec	



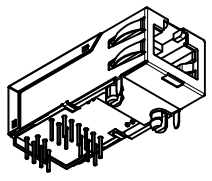
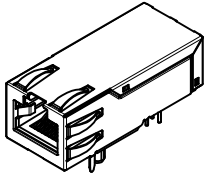
PIN	NAME	FUNCTION
X1	Vmain_P	Output voltage from PDJack(TM)
X2	ATFLAG (LOW)	Indicates 2 Event Classification was detected. Indicates PoE+ power levels available (Class 4 devices only)
X3	VAUX	Nominal voltage of 10.5V. Used as a startup supply for an external DC/DC controller.
X4	P_GOOD (LOW)	Indicates power good status
X5	N/C	
X6	Vmain_N	Vmain reference

PART NUMBER	CONNECTOR CONFIGURATION	CLASS / MAX POWER	OPERATING TEMPERATURE
857910020	GIGABIT POE PLUS PDJack(TM)-ICM	0 / 13W	0°C TO +70°C
857911020	GIGABIT POE PLUS PDJack(TM)-ICM	1 / 3,84W	0°C TO +70°C
857912020	GIGABIT POE PLUS PDJack(TM)-ICM	2 / 6,49W	0°C TO +70°C
857913020	GIGABIT POE PLUS PDJack(TM)-ICM	3 / 13W	0°C TO +70°C
857914020	GIGABIT POE PLUS PDJack(TM)-ICM	4 / 25,5W	0°C TO +55°C
857914420	GIGABIT POE PLUS PDJack(TM)-ICM NO SHIELD SPRINGS / PAGE 1	4 / 25,5W	0°C TO +55°C

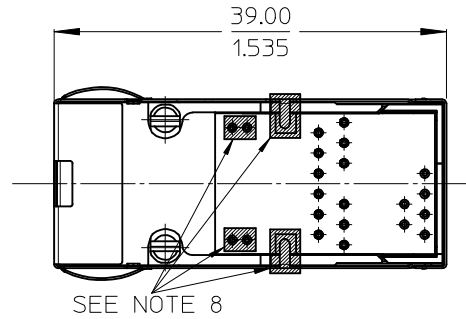
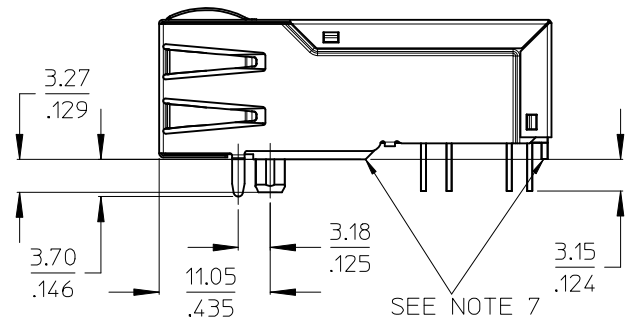
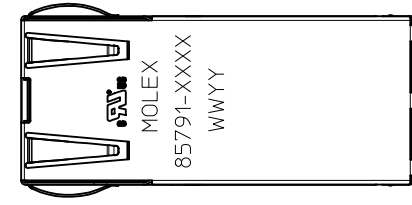
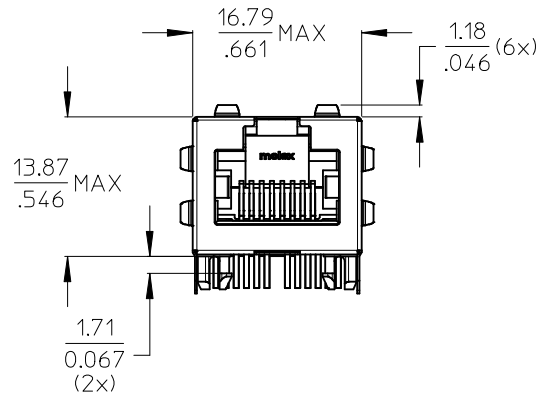
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

EC DESCRIPTION EC NO: 102944 DRWN: MFURKEL CHK'D: APPR: CBRUNS	QUALITY SYMBOLS = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ± DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DIMENSION UNITS MM SCALE 5:1 DRWN BY MFURKEL DATE 2015/06/10 CHK'D BY DATE APPR BY DATE	PRODUCT CUSTOMER DRAWING SERIES 85791 MATERIAL NUMBER SEE BOM / SHEET 3 CUSTOMER
	DRAWING SIZE A3 THIRD ANGLE PROJECTION			DOCUMENT NUMBER 857910020 DOC TYPE PSD DOC PART 000 SHEET NUMBER 3 OF 3

PDJack™ GIGABIT SINGLE PORT MAGNETIC JACK WITH INTEGRATED POWER OVER ETHERNET PLUS POWERED DEVICE (PD) CONTROLLER AND BRIDGE RECTIFIERS



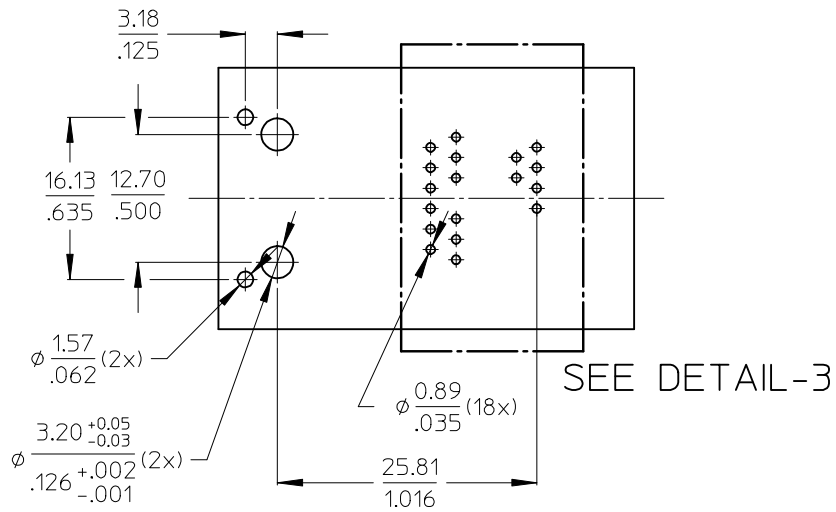
SCALE 1:1



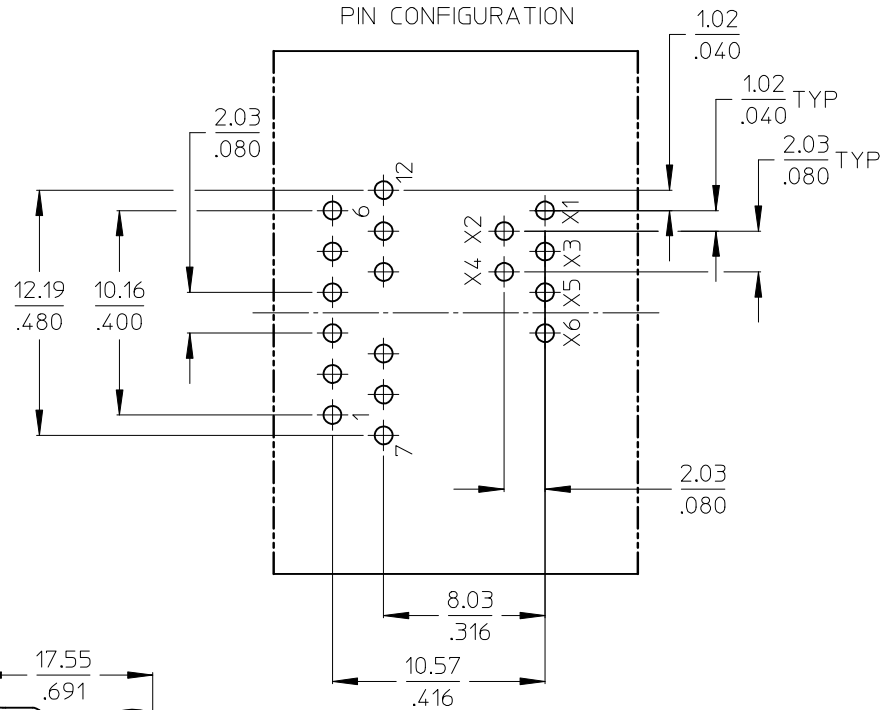
- NOTES:
- 1 - SHIELD MATERIAL: STAINLESS STEEL (GROUND PINS ARE TIN DIPPED)
 - 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
 - 3 - EXCEEDS PRODUCT REQUIREMENTS BASED ON PRODUCT SPECIFICATION PS-85791-001
CONTACTS MATERIAL: PHOSPHOR BRONZE
CONTACT PLATING: GOLD OR GOLD FLASH OVER PALLADIUM NICKEL
 - 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
 - 5 - PRODUCT SPECIFICATION: PS-85791-001
 - 6 - PACKAGING SPECIFICATION: PK-85759-001
 - 7 - STAND OFF TO SYSTEM BOARD
 - 8 - STUBBED PINS AND SHIELD LATCHES:
AVOID TO ROUTE TRACES OR TO PLACE ANY VIAS OR PAD IN THIS AREA
 - 9 - RECOMMENDED PCB THICKNESS: 1.6mm / 0.067inch
 - 10 - INSCRIPTION MARKED BY LASER:
1st : MOLEX
2st : P/N (SEE BOM)
3rd : DATE CODE(WEEK/YEAR)
UL LOGO (OPTIONAL)

ENTER DESCRIPTION EC NO: MG2011-0056 DRWN: JBADER 2013/02/08 CHKD: MMANGARUDOV 2013/04/05 APPR: SSTEINKE 2014/04/25	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
			mm	INCH	DRAWN BY	DATE	TITLE		
		4 PLACES	± ---	± ---	MMANGARUDOV	2012/04/25	GIGABIT POE PLUS PDJACK(TM) 1X1		
		3 PLACES	± ---	± ---	CHECKED BY	DATE			
2 PLACES	± 0.25	± ---	JBADER	2012/04/25	MOLEX INCORPORATED				
1 PLACE	± 0.50	± ---	APPROVED BY	DATE					
	ANGULAR ± .5 °		SSTEINKE	2012/06/18	DOCUMENT NO.			SHEET NO.	
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO.		SEE SHEET 3			SD-85791-002	1 OF 3
			SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				

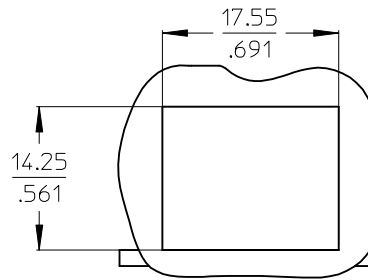
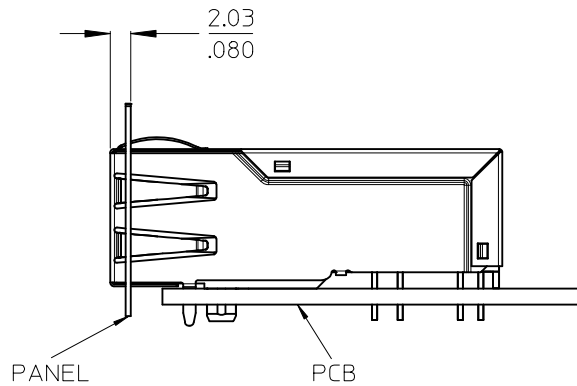
SUGGESTED BOARD LAYOUT - COMPONENT SIDE



PIN CONFIGURATION



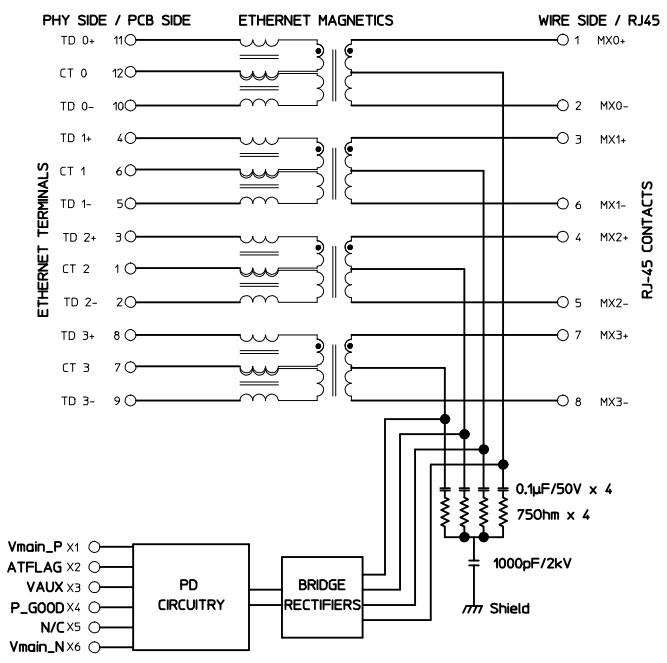
DETAIL-3
SCALE 4:1



SUGGESTED PANEL CUTOUT

ENTER DESCRIPTION EC NO: MG2011-0056 DRWN: JBADER 2013/02/08 CHKD: MMANGARUDOV 2013/04/05 APPR: SSTEINKE 2014/04/25	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM ONLY		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
			mm	INCH	DRAWN BY	DATE	TITLE		
		4 PLACES	± ---	± ---	MMANGARUDOV	2012/04/25	GIGABIT POE PLUS PDJACK(TM) 1X1		
		3 PLACES	± ---	± ---	CHECKED BY	DATE	MOLEX INCORPORATED		
		2 PLACES	± 0.25	± ---	JBADER	2012/04/25	DOCUMENT NO. SD-85791-002		
1 PLACE	± 0.50	± ---	APPROVED BY	DATE	SHEET NO. 2 OF 3				
			ANGULAR ± .5 °		SSTEINKE	2012/06/18	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION		
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE SHEET 3				

Electrical Specifications @25°C		
Operating temperature (SEE PART NUMBER)		
Description	Value	
OC_L_POE+TRANSF_20mA_bias	350µH min.	0/70°(0/55°CClass4)
Turns Ratio	1CT:1CT	
Insertion Loss		Typical Values (dB max.)
Frequency (MHz)	Limits (dB max.)	0.5 @ 10MHz
1.0-9.9 MHz	0.4+0.1*log(F)	0.7 @ 50MHz
10-49.9 MHz	0.5+0.3*log(F/10)	1.0 @ 80MHz
50-79.9 MHz	1+1.4*log(F/80)	1.3 @ 100MHz
80-100 MHz	1.3+3*log(F/100)	
Return Loss		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	27 @ 10MHz
1-9.9 MHz	27dB min.	10 @ 100MHz
10-100 MHz	27-17*log(F/10)	
CMR		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	34 @ 10MHz
1-9.9 MHz	34dB min.	27 @ 80MHz
10-79.9 MHz	27dB min.	21.5 @ 200MHz
80-199.9 MHz	27-14.5*log(F/80)	10 @ 400MHz
200-399.9 MHz	21.5-39*log(F/200)	10 @ 1000MHz
400-1000 MHz	10	
NEXT		TYPICAL Values (dB min.)
Frequency (MHz)	Limits (dB min.)	50 @ 6MHz
1-5.9 MHz	50	34 @ 50MHz
6-49.9 MHz	45-16*log(F/10)	25 @ 100MHz
50-100 MHz	25-30*log(F/100)	
Isolation PHY to Wire side	2.25kVDC/60sec	



PIN	NAME	FUNCTION
X1	Vmain_P	Output voltage from PDJack(TM)
X2	ATFLAG (LOW)	Indicates 2 Event Classification was detected. Indicates PoE+ power levels available (Class 4 devices only)
X3	VAUX	Nominal voltage of 10.5V. Used as a startup supply for an external DC/DC controller.
X4	P_GOOD (LOW)	Indicates power good status
X5	N/C	
X6	Vmain_N	Vmain reference

PART NUMBER	CONNECTOR CONFIGURATION	CLASS / MAX POWER	OPERATING TEMPERATURE
85791-0020	GIGABIT POE PLUS PDJack(TM)-ICM	0 / 13W	0°C TO +70°C
85791-1020	GIGABIT POE PLUS PDJack(TM)-ICM	1 / 3,84W	0°C TO +70°C
85791-2020	GIGABIT POE PLUS PDJack(TM)-ICM	2 / 6,49W	0°C TO +70°C
85791-3020	GIGABIT POE PLUS PDJack(TM)-ICM	3 / 13W	0°C TO +70°C
85791-4020	GIGABIT POE PLUS PDJack(TM)-ICM	4 / 25,5W	0°C TO +55°C

ENTER DESCRIPTION EC NO: MGZ011-0056 DRWN: JBADER 2013/02/08 CHKD: MMANGARUDOV 2013/04/05 APPR: SSTEINKE 2014/04/25	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED) DIMENSION STYLE: MM ONLY SCALE: 5:1 DESIGN UNITS: METRIC THIRD ANGLE PROJECTION
		DRAWN BY: MMANGARUDOV DATE: 2012/04/25 CHECKED BY: JBADER DATE: 2012/04/25 APPROVED BY: SSTEINKE DATE: 2012/06/18 MATERIAL NO.: SEE BOM DOCUMENT NO.: SD-85791-002 SHEET NO.: 3 OF 3
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