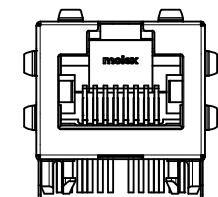
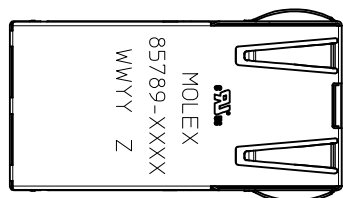
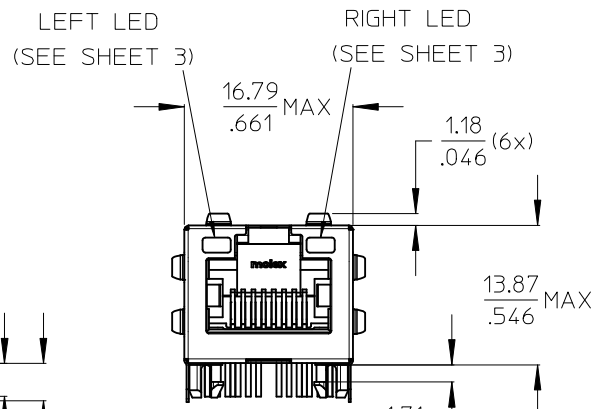


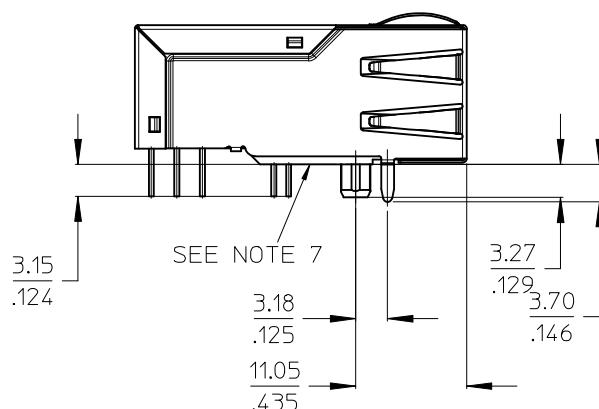
GIGABIT SINGLE PORT MAGNETIC JACK
PoE+ MAGNETICS ACC. TO IEEE802.3at
FOR PSE OR PD APPLICATIONS



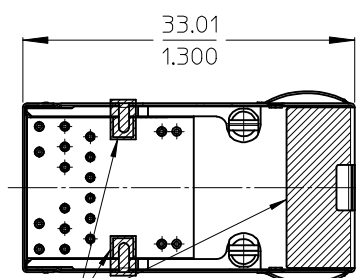
FRONT VIEW
 NON LED VERSION
 P/N 85789-1020



FRONT VIEW
 LED VERSION
 P/N SEE BOM ON SHEET 3



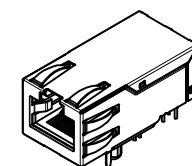
SEE NOTE 7



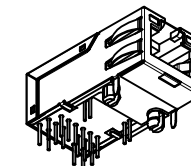
SEE NOTE 9

NOTES:

- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE SOLDER DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - TERMINALS MATERIAL: PHOSPOR BRONZE
RJ45 CONTACTS PLATING: 0.76 MICROMETER GOLD
OVER 1.9 MICROMETER NICKEL ON MATING AREA
SOLDER TERMINALS: 3 MICROMETER TIN
- 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
- 5 - PRODUCT SPECIFICATION: PS-85789-001
- 6 - PACKAGING SPECIFICATION: PK-85759-001
- 7 - STAND OFF TO SYSTEM BOARD
- 8 - RECOMMENDED PCB THICKNESS: 1.6mm / 0.067inch
- 9 - SHIELD AND SHIELD LATCHES: AVOID TO ROUTE
TRACES OR TO PLACE ANY VIAS OR PADS IN THIS AREA.
- 10 - INSCRIPTION MARKED BY LASER:
UL LOGO
1st : MOLEX
2st : P/N (SEE BOM)
3rd : DATE CODE(WEEK/YEAR)
Z=> MANUFACTURER CODE



NON LED VERSION

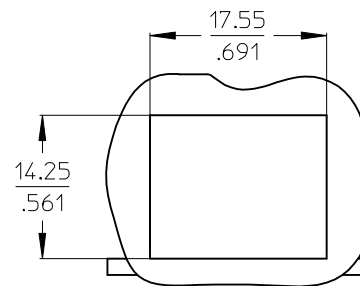
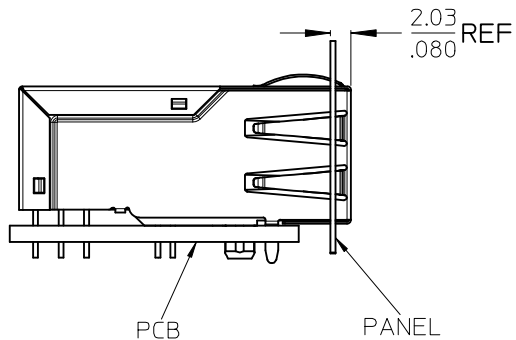


LED VERSION

SCALE 1:1

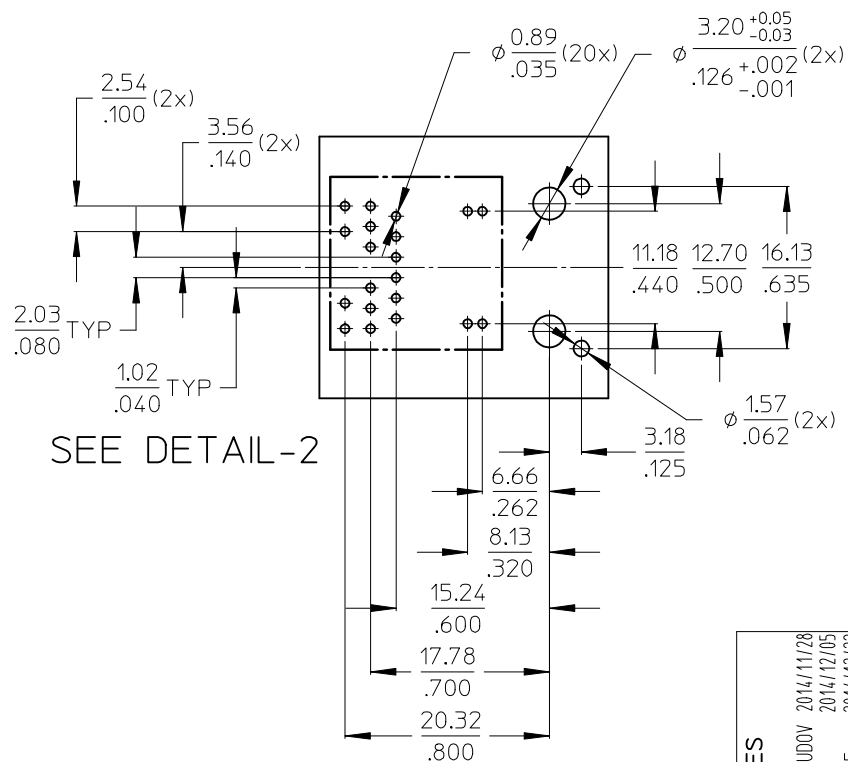
SCALE 1:1

NOTES UPDATE	EC NO: DRWN:MMANGARUDOV 2014/11/28 CHKD:DBYRNES 2014/12/05 APPR:SSTEINKE 2014/12/22	DESCRIPTION	QUALITY SYMBOLS ▽=0 ⌒=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
						MM/IN		2:1	METRIC		
					mm	INCH	DRAWN BY	DATE	TITLE	GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1	
				4 PLACES	± ---	± ---	JBADER	2010/01/14			
				3 PLACES	± ---	± .010	CHECKED BY	DATE	molex	DOCUMENT NO. SD-85789-001	SHEET NO. 1 OF 4
				2 PLACES	± 0.25	± .020	MMANGARUDOV	2010/01/14			
				1 PLACE	± 0.5	± ---	APPROVED BY	DATE			
				0 PLACE	±	±	SSTEINKE	2010/03/09			
				ANGULAR ± .5 °		MATERIAL NO.					
				DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE SHEET 3/4					
REV	D				SIZE A3	THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

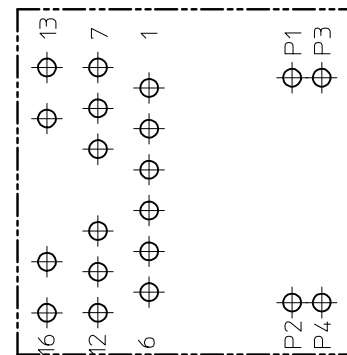


SUGGESTED PANEL CUTOUT

SUGGESTED BOARD LAYOUT - COMPONENT SIDE

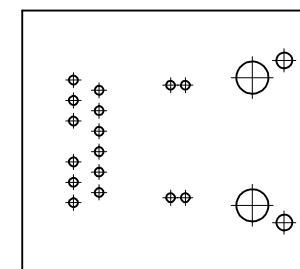


PIN CONFIGURATION



DETAIL-2
SCALE 4:1

SUGGESTED BOARD LAYOUT
NON LED VERSION



NO CHANGES	EC NO: D	DESCRIPTION REV	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION 			
						DRAWN BY JBADER		DATE 2010/01/14		TITLE GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1			
						CHECKED BY MMANGARUDOV		DATE 2010/01/14					
						APPROVED BY SSTEINKE		DATE 2010/03/09					
				ANGULAR ± .5 °		MATERIAL NO.		DOCUMENT NO.			SHEET NO.		
				DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE SHEET 3/4		SD-85789-001			2 OF 4		
						SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION					

F

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D

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D

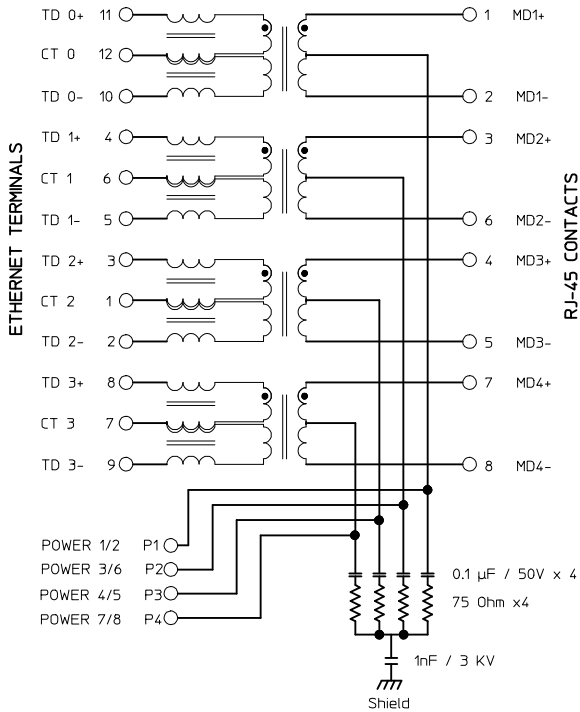
C

B

A

Electrical Specifications @25°C		
Operating temperature (0°C to +70°C)		
Description	Value	
OCL POE+TRANSF. 20mA bias (0°C to +70°C)	350μH min.	
OCL NONPOE TRANSF. 8mA bias (0°C to +70°C)	350μH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9 MHz	0.4+0.1*log(F)	0.5 @ 10MHz
10-49.9 MHz	0.5+0.3*log(F/10)	0.7 @ 50MHz
50-79.9 MHz	1+1.4*log(F/80)	1.0 @ 80MHz
80-100 MHz	1.3+3*log(F/100)	1.3 @ 100MHz
Return Loss		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	27dB min.	27 @ 10MHz
10-100 MHz	27-17*log(F/10)	10 @ 100MHz
CMR		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	34dB min.	34 @ 10MHz
10-79.9 MHz	27dB min.	27 @ 80MHz
80-199.9 MHz	27-14.5*log(F/80)	21.5 @ 200MHz
200-399.9 MHz	21.5-39*log(F/200)	10 @ 400MHz
400-1000 MHz	10	10 @ 1000MHz
NEXT		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-5.9 MHz	50	50 @ 6MHz
6-49.9 MHz	45-16*log(F/10)	34 @ 50MHz
50-100 MHz	25-30*log(F/100)	25 @ 100MHz
Isolation PHY to Wire side	2.25kVDC/60sec	

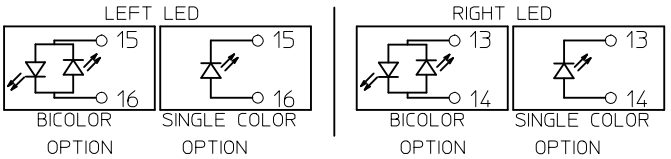
PHY SIDE / PCB SIDE ETHERNET MAGNETICS WIRE SIDE / RJ45



PART NUMBER	LED1 POLARITY			LED2 POLARITY		
	LEFT LED			RIGHT LED		
	PIN15	PIN16	COLOR	PIN13	PIN14	COLOR
85789-1001	-	+	GREEN	-	+	GREEN
85789-1003	-	+	GREEN	-	+	GREEN
85789-1006	-	+	GREEN	-	+	YELLOW
85789-1007	-	+	GREEN	-	+	GREEN
85789-1012	-	+	YELLOW	-	+	GREEN
85789-1013	-	+	YELLOW	-	+	YELLOW
85789-1014	-	+	YELLOW	-	+	GREEN
85789-1015	-	+	YELLOW	-	+	GREEN
85789-1017	-	+	GREEN	-	+	YELLOW
85789-1020	NON LED					

ADDITIONAL LED COLORS AND CONFIGURATIONS
AVAILABLE ON REQUEST

SEE TABLE FOR
LED OPTIONS



NO CHANGES	EC NO: D	DESCRIPTION DRWN:MANGARUDOV 2014/11/28 CHKD:DBYRNES 2014/12/05 APPR:SSTEINKE 2014/12/22	REV	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE 5:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1 molex SD-85789-001 3 OF 4	
							DRAWN BY JBADER		DATE 2010/01/14	TITLE		
							CHECKED BY MMANGARUDOV		DATE 2010/01/14			
							APPROVED BY SSTEINKE		DATE 2010/03/09			
							MATERIAL NO.		DOCUMENT NO.			
							SIZE A3		SEE BOM			

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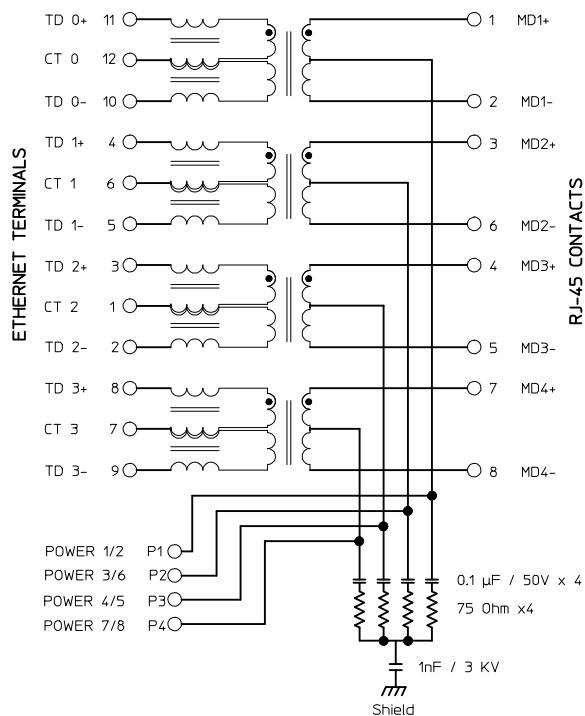
C

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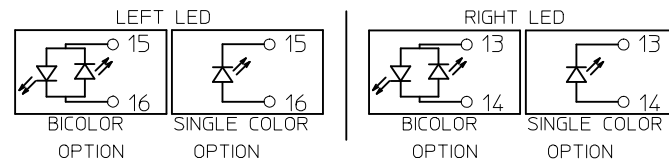
Electrical Specifications @25°C		
Operating temperature (-40°C to +85°C)		
Description	Value	
OCL POE+TRANSF. 20mA bias (-40°C to +85°C)	350uH min.	
OCL NONPOE TRANSF. 8mA bias (-40°C to +85°C)	350uH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9 MHz	0.4+0.1*log(F)	0.5 @ 10MHz
10-49.9 MHz	0.5+0.3*log(F/10)	0.7 @ 50MHz
50-79.9 MHz	1+1.4*log(F/80)	1.0 @ 80MHz
80-100 MHz	1.3+3*log(F/100)	1.3 @ 100MHz
Return Loss		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	27dB min.	27 @ 10MHz
10-100 MHz	27-17*log(F/10)	10 @ 100MHz
CMR		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	34dB min.	34 @ 10MHz
10-79.9 MHz	27dB min.	27 @ 80MHz
80-199.9 MHz	27-14.5*log(F/80)	21.5 @ 200MHz
200-399.9 MHz	21.5-39*log(F/200)	10 @ 400MHz
400-1000 MHz	10	10 @ 1000MHz
NEXT		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-5.9 MHz	50	50 @ 6MHz
6-49.9 MHz	45-16*log(F/10)	34 @ 50MHz
50-100 MHz	25-30*log(F/100)	25 @ 100MHz
Isolation PHY to Wire side	2.25kVDC/60sec	

PHY SIDE / PCB SIDE ETHERNET MAGNETICS WIRE SIDE / RJ45



PART NUMBER	LED1 POLARITY			LED2 POLARITY		
	LEFT LED			RIGHT LED		
	PIN15	PIN16	COLOR	PIN13	PIN14	COLOR
85789-3006	-	+	GREEN	-	+	YELLOW
85789-3016	-	+	GREEN	+	-	GREEN
	+	-	YELLOW			

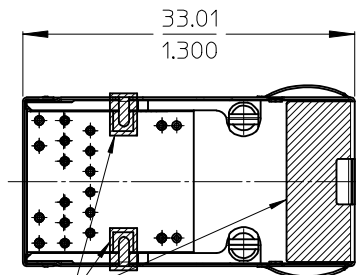
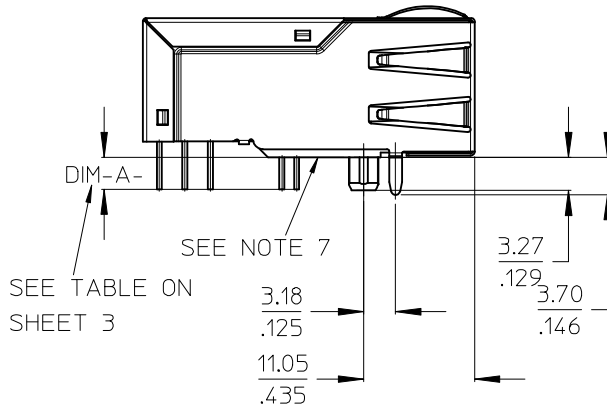
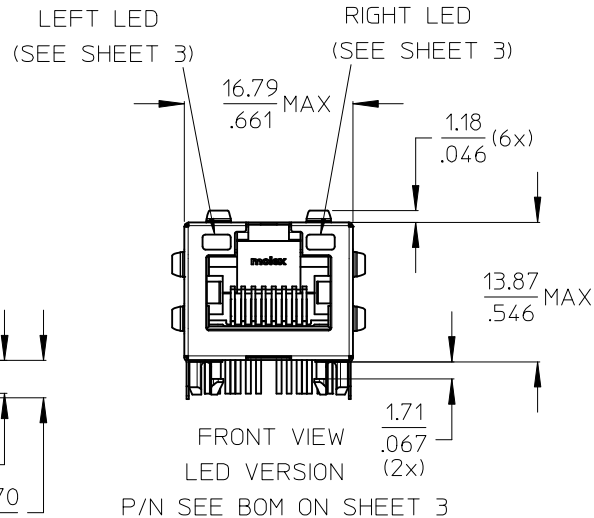
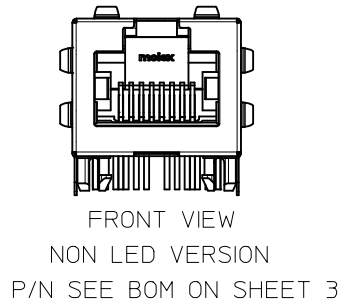
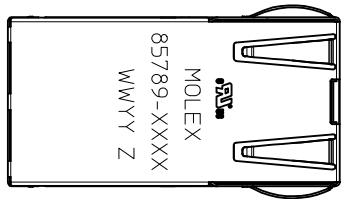
ADDITIONAL LED COLORS AND CONFIGURATIONS
AVAILABLE ON REQUEST



SEE TABLE FOR LED OPTIONS

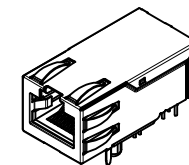
BOM CHANGED EC NO: 0 DRAWN:MANGARUDOV 2014/11/28 CHKD:DBYRNES 2014/12/05 APPR:SSTEINKE 2014/12/22		QUALITY SYMBOLS ▽=0 ◇=0	DESCRIPTION	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE 5:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	
REV				mm INCH		DRAWN BY DATE		TITLE GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1			
				4 PLACES ± --- ± ---		JBADER 2010/01/14					
				3 PLACES ± --- ± .010		CHECKED BY DATE		DOCUMENT NO. SD-85789-001			
				2 PLACES ± 0.25 ± .020		MMANGARUDOV 2010/01/14					
1 PLACE ± 0.5 ± ---		APPROVED BY DATE		SHEET NO. 4 OF 4							
0 PLACE ± ±		SSTEINKE 2010/03/09									
				ANGULAR ± .5 °		MATERIAL NO.					
				DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE BOM					
						SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION			

GIGABIT SINGLE PORT MAGNETIC JACK
PoE+ MAGNETICS ACC. TO IEEE802.3at
FOR PSE OR PD APPLICATIONS



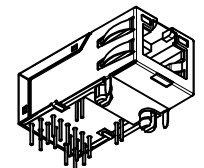
NOTES:

- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE SOLDER DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - TERMINALS MATERIAL: PHOSPOR BRONZE
RJ45 CONTACTS PLATING: 0.76 MICROMETER GOLD
OVER 1.9 MICROMETER NICKEL ON MATING AREA
SOLDER TERMINALS: 3 MICROMETER TIN
- 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
- 5 - PRODUCT SPECIFICATION: PS-85789-001
- 6 - PACKAGING SPECIFICATION: PK-85759-001
- 7 - STAND OFF TO SYSTEM BOARD
- 8 - RECOMMENDED PCB THICKNESS: 1.6mm / 0.067inch
- 9 - SHIELD AND SHIELD LATCHES: AVOID TO ROUTE
TRACES OR TO PLACE ANY VIAS OR PADS IN THIS AREA.
- 10 - INSCRIPTION MARKED BY LASER:
UL LOGO
1st : MOLEX
2st : P/N (SEE BOM)
3rd : DATE CODE(WEEK/YEAR)
Z=> MANUFACTURER CODE



NON LED VERSION

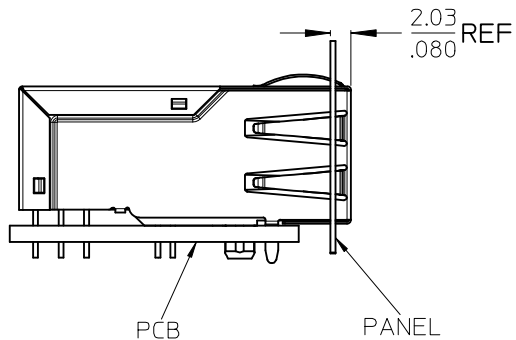
SCALE 1:1



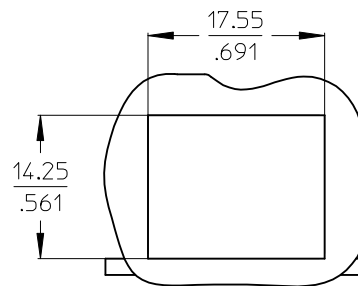
LED VERSION

SCALE 1:1

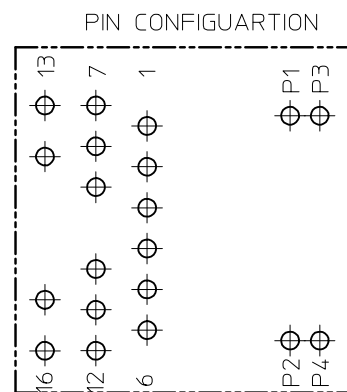
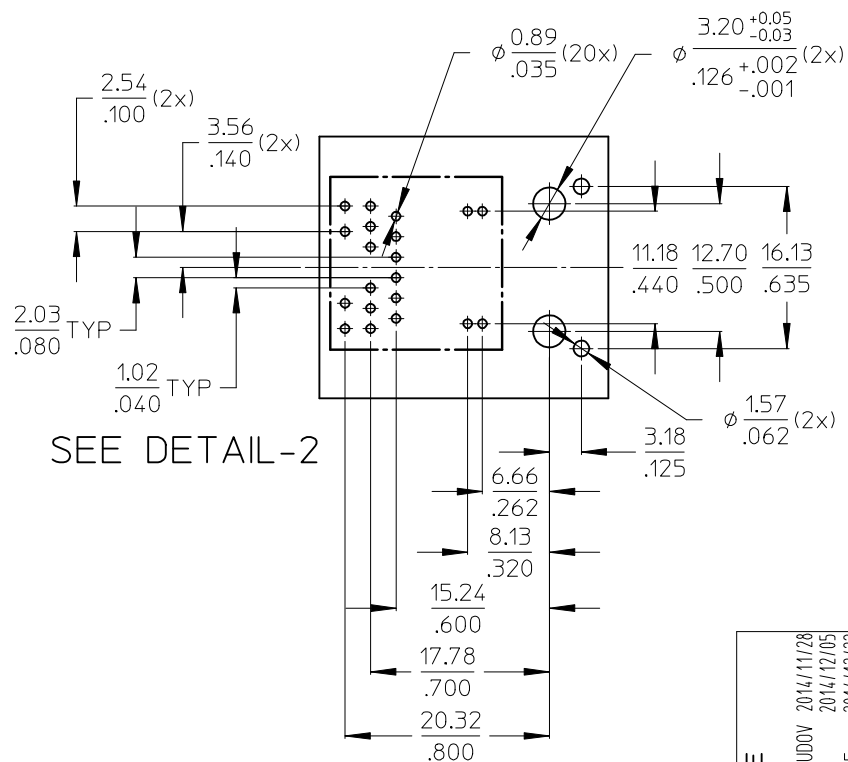
NOTES UPDATE		QUALITY SYMBOLS		GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
EC NO:	REV	DESCRIPTION		mm	INCH	MM/IN	DATE	2:1	METRIC		
DRWN:MMANGARUDOV	2014/11/28	▽=0 ◇=0	4 PLACES	± ---	± ---	JBADER	2014/04/25	TITLE	GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1	molex	SHEET NO. 1 OF 3
CHKD:DBYRNES	2014/12/05		3 PLACES	± ---	± .010	CHECKED BY	DATE				
APPR:SSTE INKE	2014/12/22		2 PLACES	± 0.25	± .020	MMANGARUDOV	2014/05/05	APPROVED BY DATE			
			1 PLACE	± 0.5	± ---	SSTE INKE	2014/06/11				
			0 PLACE	±	±						
			ANGULAR ± .5 °		MATERIAL NO.		DOCUMENT NO.				
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE SHEET 3		SD-85789-401				
					SIZE A 3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				



SUGGESTED BOARD LAYOUT - COMPONENT SIDE

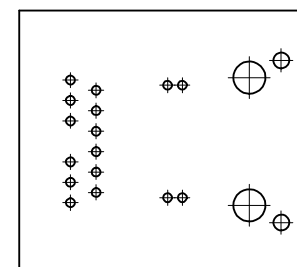


SUGGESTED PANEL CUTOUT



DETAIL-2
SCALE 4:1

SUGGESTED BOARD LAYOUT
NON LED VERSION



NO CHANGE EC NO: B	DESCRIPTION REV	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION 			
				mm	INCH	DRAWN BY JBADER	DATE 2014/04/25	TITLE GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1				
			4 PLACES	± ---	± ---	CHECKED BY MMANGARUDOV	DATE 2014/05/05					
			3 PLACES	± ---	± .010	APPROVED BY SSTEINKE	DATE 2014/06/11					
			2 PLACES	± 0.25	± .020	molex						
			1 PLACE	± 0.5	± ---							
			0 PLACE	±	±							
ANGULAR ± .5 °			MATERIAL NO.		DOCUMENT NO.		SHEET NO.					
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			SEE SHEET 3		SD-85789-401		2 OF 3					
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION												

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Electrical Specifications @25°C

Operating temperature (-40°C to +85°C)

Description	Value	
OCL POE+TRANSF. 20mA bias (-40°C to +85°C)	350μH min.	
OCL NONPOE TRANSF. 8mA bias (-40°C to +85°C)	350μH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9 MHz	0.4+0.1*log(F)	0.5 @ 10MHz
10-49.9 MHz	0.5+0.3*log(F/10)	0.7 @ 50MHz
50-79.9 MHz	1+1.4*log(F/80)	1.0 @ 80MHz
80-100 MHz	1.3+3*log(F/100)	1.3 @ 100MHz
Return Loss		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	27dB min.	27 @ 10MHz
10-100 MHz	27-17*log(F/10)	10 @ 100MHz
CMR		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-9.9 MHz	34dB min.	34 @ 10MHz
10-79.9 MHz	27dB min.	27 @ 80MHz
80-199.9 MHz	27-14.5*log(F/80)	21.5 @ 200MHz
200-399.9 MHz	21.5-39*log(F/200)	10 @ 400MHz
400-1000 MHz	10	10 @ 1000MHz
NEXT		
Frequency (MHz)	Limits (dB min.)	TYPICAL Values (dB min.)
1-5.9 MHz	50	50 @ 6MHz
6-49.9 MHz	45-16*log(F/10)	34 @ 50MHz
50-100 MHz	25-30*log(F/100)	25 @ 100MHz
Isolation PHY to Wire side	2.25kVDC/60sec	

PHY SIDE / PCB SIDE ETHERNET MAGNETICS

WIRE SIDE / RJ45

ETHERNET TERMINALS

TD 0+ 11

CT 0 12

TD 0- 10

TD 1+ 4

CT 1 6

TD 1- 5

TD 2+ 3

CT 2 1

TD 2- 2

TD 3+ 8

CT 3 7

TD 3- 9

1 MD1+

2 MD1-

3 MD2+

6 MD2-

4 MD3+

5 MD3-

7 MD4+

8 MD4-

POWER 1/2 P1

POWER 3/6 P2

POWER 4/5 P3

POWER 7/8 P4

0.1 μF / 50V x 4

75 Ohm x4

1nF / 3 KV

Shield

PART NUMBER	DIM-A-SHEET 1	LED1 POLARITY			LED2 POLARITY		
		PIN15	PIN16	COLOR	PIN13	PIN14	COLOR
85789-4008	2.50mm	-	+	GREEN	-	+	GREEN
85789-4020	2.50mm	+	-	YELLOW	+	-	YELLOW
NON LED							

ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST

LEFT LED

BICOLOR OPTION

SINGLE COLOR OPTION

RIGHT LED

BICOLOR OPTION

SINGLE COLOR OPTION

SEE TABLE FOR LED OPTIONS

BOM UPDATE

EC NO: DRVN:MANGARUDOV 2014/11/28

CHKD:DBYRNES 2014/12/05

APPR:SSTEINKE 2014/12/22

REV DESCRIPTION

QUALITY SYMBOLS

▽=0

◻=0

GENERAL TOLERANCES (UNLESS SPECIFIED)

	mm	INCH
4 PLACES	± ---	± ---
3 PLACES	± ---	± .010
2 PLACES	± 0.25	± .020
1 PLACE	± 0.5	± ---
0 PLACE	±	±

ANGULAR ± .5 °

DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS

DIMENSION STYLE

MM/IN

DRAWN BY

DATE

JBADER 2014/04/25

CHECKED BY

DATE

MMANGARUDOV 2014/05/05

APPROVED BY

DATE

SSTEINKE 2014/06/11

MATERIAL NO.

SEE BOM

SCALE

5:1

DESIGN UNITS

METRIC

THIRD ANGLE PROJECTION

TITLE

GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1

molex

SD-85789-401

3 OF 3

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Rev E1 2012/01/25

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