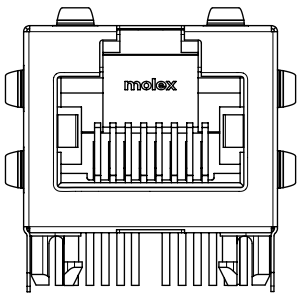
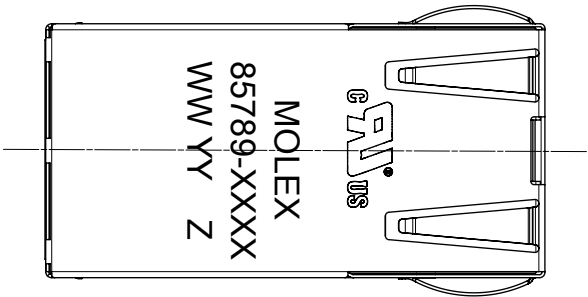
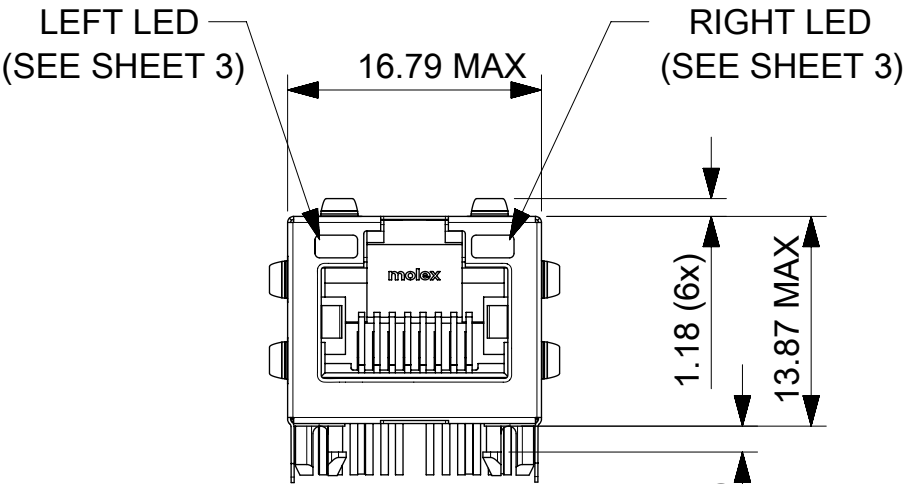
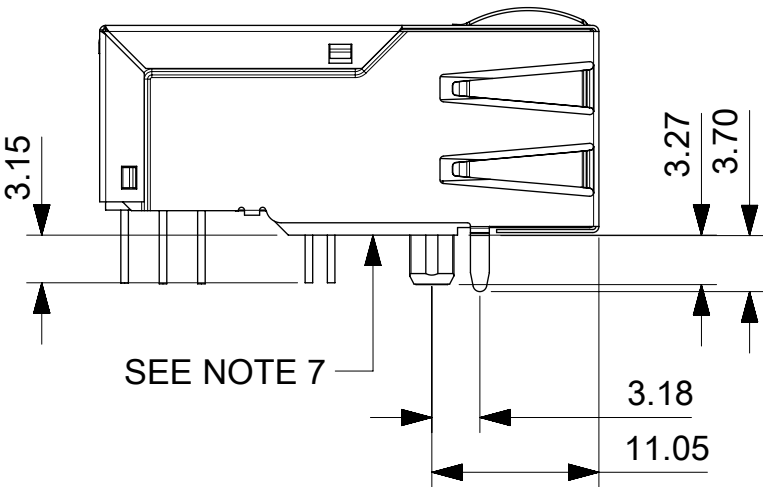


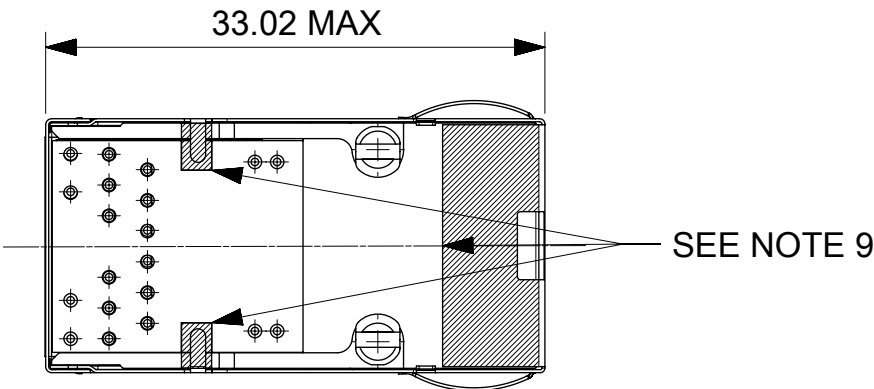
GIGABIT SINGLE PORT MAGNETIC JACK
PoE+ MAGNETICS ACC. TO IEEE802.3at
FOR PSE OR PD APPLICATIONS



FRONT VIEW
NON LED VERSION
P/N 85789-1020

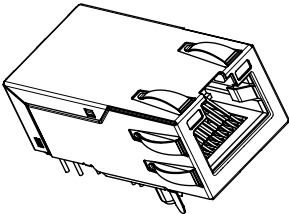
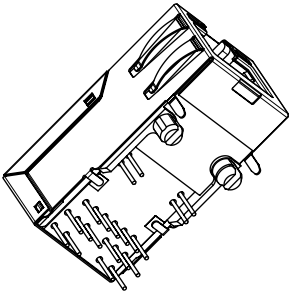


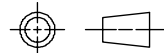
FRONT VIEW
LED VERSION
P/N SEE BOM ON SHEET 3

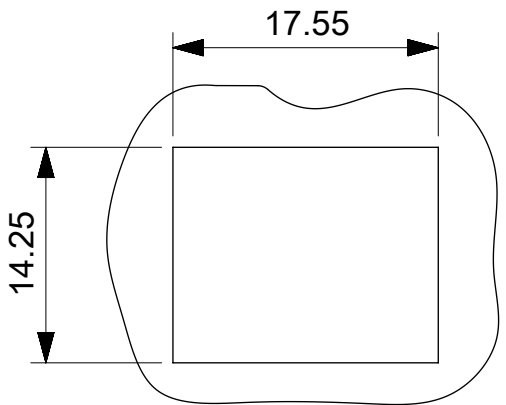


- NOTES:
- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE SOLDER DIPPED)
 - 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
 - 3 - RJ45 TERMINALS MATERIAL: COPPER ALLOY
CONTACT PLATING: 0.76 MICROMETER GOLD
OVER 1.9 MICROMETER NICKEL
PHY TERMINALS: TIN PLATED
 - 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
 - 5 - PRODUCT SPECIFICATION: PS-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

SCALE 1:1

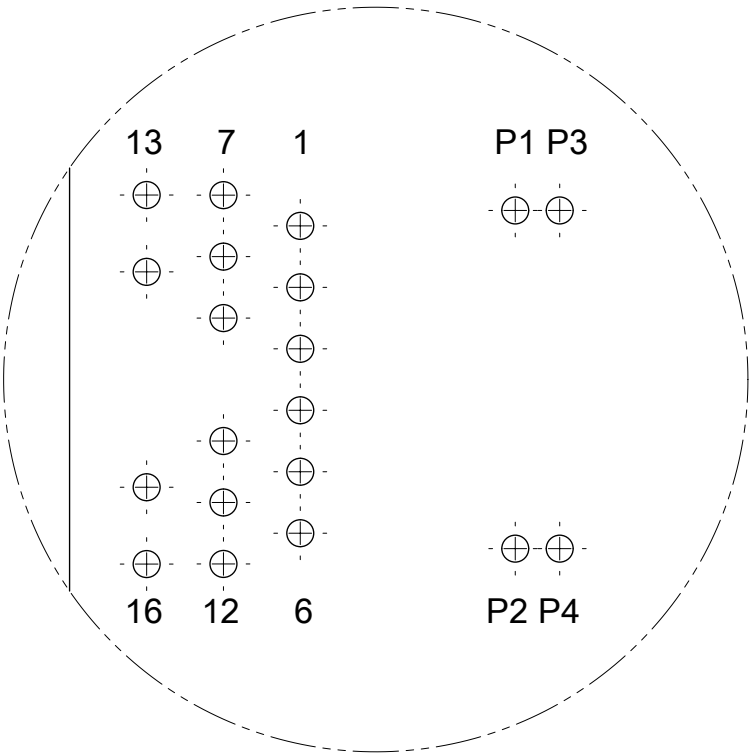
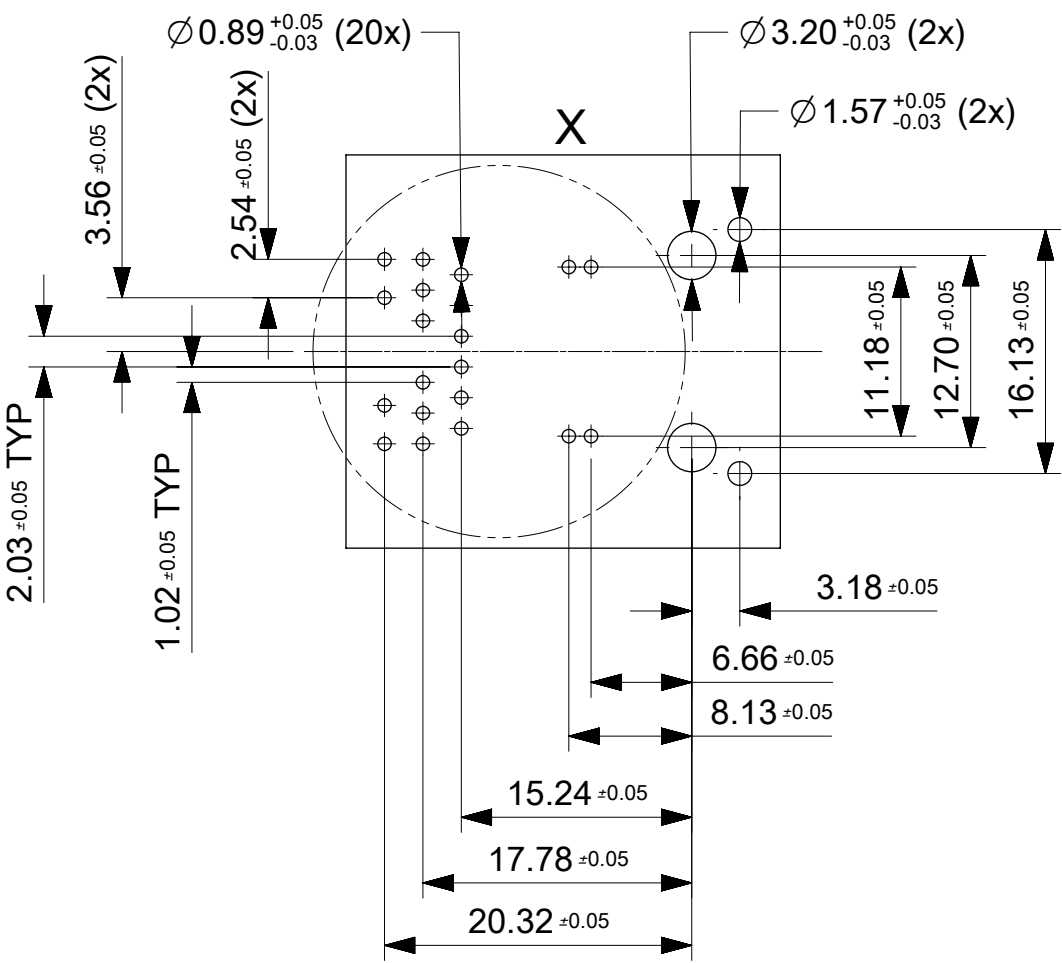


THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																		
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER	2015/09/28 2016/02/23 2016/02/23	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 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		SCALE		molex									
					mm		2:1											
									DRWN BY		DATE		GIGABIT MAGNETIC JACK POE PLUS ENABLED					
									MFURKEL		2015/06/15							
									CHK'D BY		DATE							
									APPR BY		DATE		PRODUCT CUSTOMER DRAWING					
									RSILLER		2016/02/23							
									DRAWING SIZE		THIRD ANGLE PROJECTION		SERIES		MATERIAL NUMBER		CUSTOMER	
									A3				85789		SEE BOM/SHEET 3/4			
								DOCUMENT NUMBER		DOC TYPE		DOC PART		SHEET NUMBER				
								857891001		PSD		000		1 OF 4				

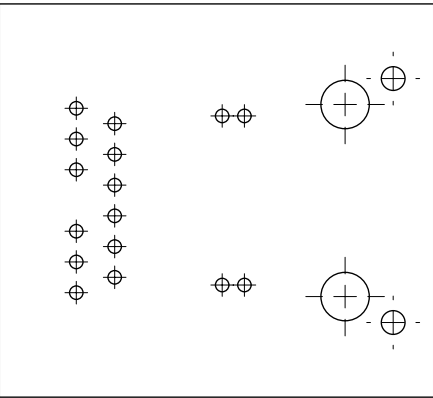


DETAIL X
SCALE 4:1
PIN CONFIGURATION

SUGGESTED BOARD LAYOUT- COMPONENT SIDE

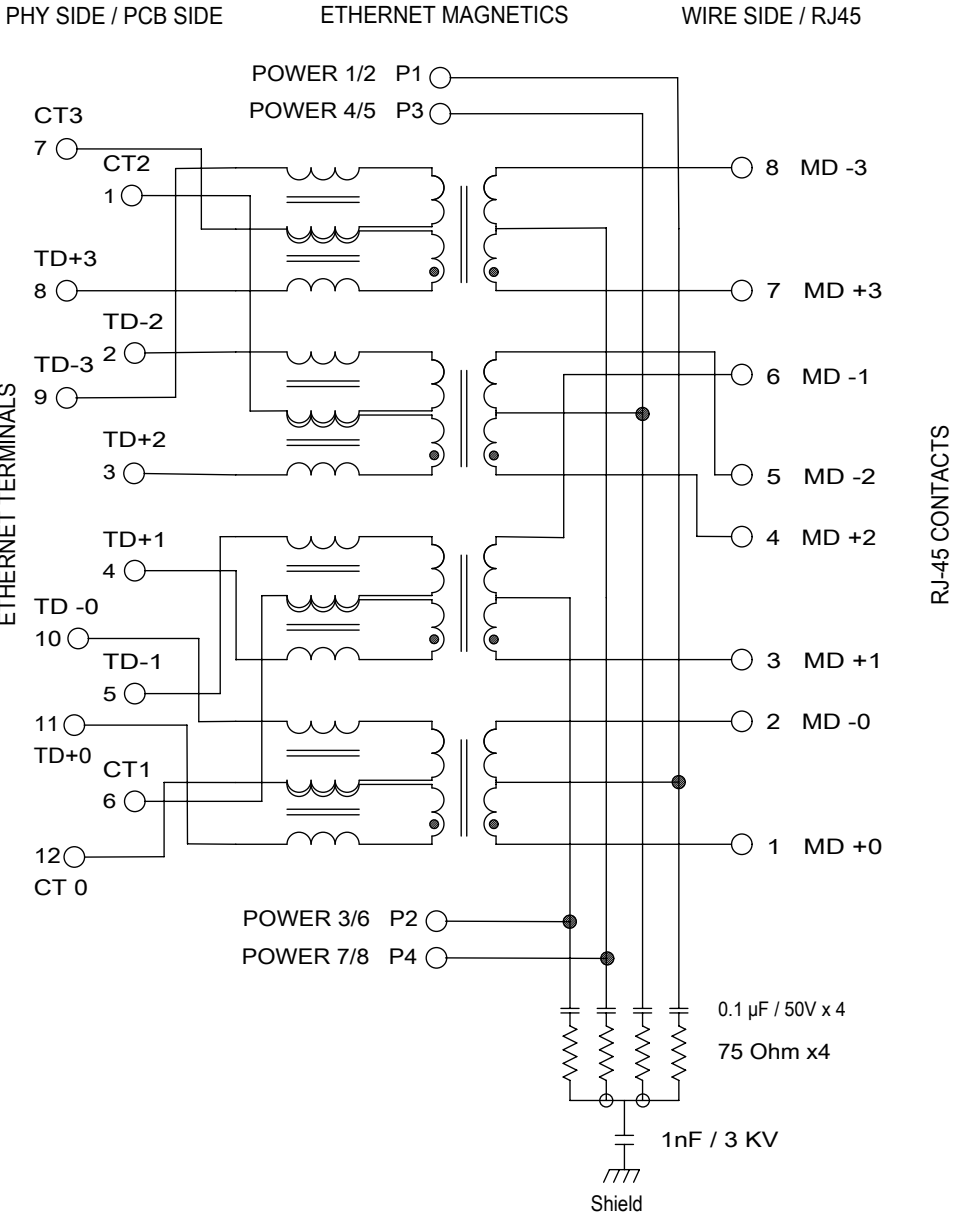


SUGGESTED BOARD LAYOUT FOR NON LED VERSION



THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																				
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER		QUALITY SYMBOLS		GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS		SCALE		molex										
						mm		2:1												
		= 0		ANGULAR TOL ± 0.5 °		DRWN BY				DATE				GIGABIT MAGNETIC JACK POE PLUS ENABLED						
		= 0				MFURKEL				2015/06/15										
		= 0		4 PLACES		±		CHK'D BY				DATE								
		= 0		3 PLACES		±		APPR BY				DATE								
		= 0		2 PLACES		± 0.25														
		= 0		1 PLACE		± 0.5		RSILLER				2016/02/23				PRODUCT CUSTOMER DRAWING				
		= 0		0 PLACES		±														
		= 0		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				DRAWING SIZE		THIRD ANGLE PROJECTION		SERIES		MATERIAL NUMBER			CUSTOMER			
= 0						A3				85789		SEE BOM/SHEET 3/4								
= 0										DOCUMENT NUMBER			DOC TYPE		DOC PART		SHEET NUMBER			
										857891001			PSD		000		2 OF 4			

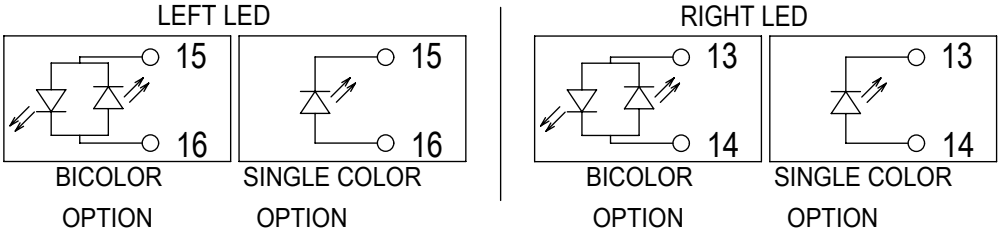
Electrical Specifications @25°C		
Operating temperature (0°C to +70°C)		
Description	VALUE	
OCL POE+TRANSF. 20mA bias (0°C to +70°C)	350µH min.	
OCL NONPOE TRANSF. 8mA bias (0°C to +70°C)	350µH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9 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	



PART NUMBER	LED1 POLARITY			LED2 POLARITY		
	LEFT LED			RIGHT LED		
	PIN15	PIN16	COLOR	PIN13	PIN14	COLOR
857891001	-	+	GRN	-	+	GRN
857891003	-	+	GRN	-	+	GRN
857891006	-	+	GRN	-	+	YW
857891007	-	+	GRN	-	+	GRN
857891012	-	+	YW	-	+	GRN
857891013	-	+	YW	-	+	YW
857891014	-	+	YW	-	+	GRN
857891015	-	+	YW	-	+	GRN
857891017	-	+	GRN	-	+	YW
857891020	NON LED					

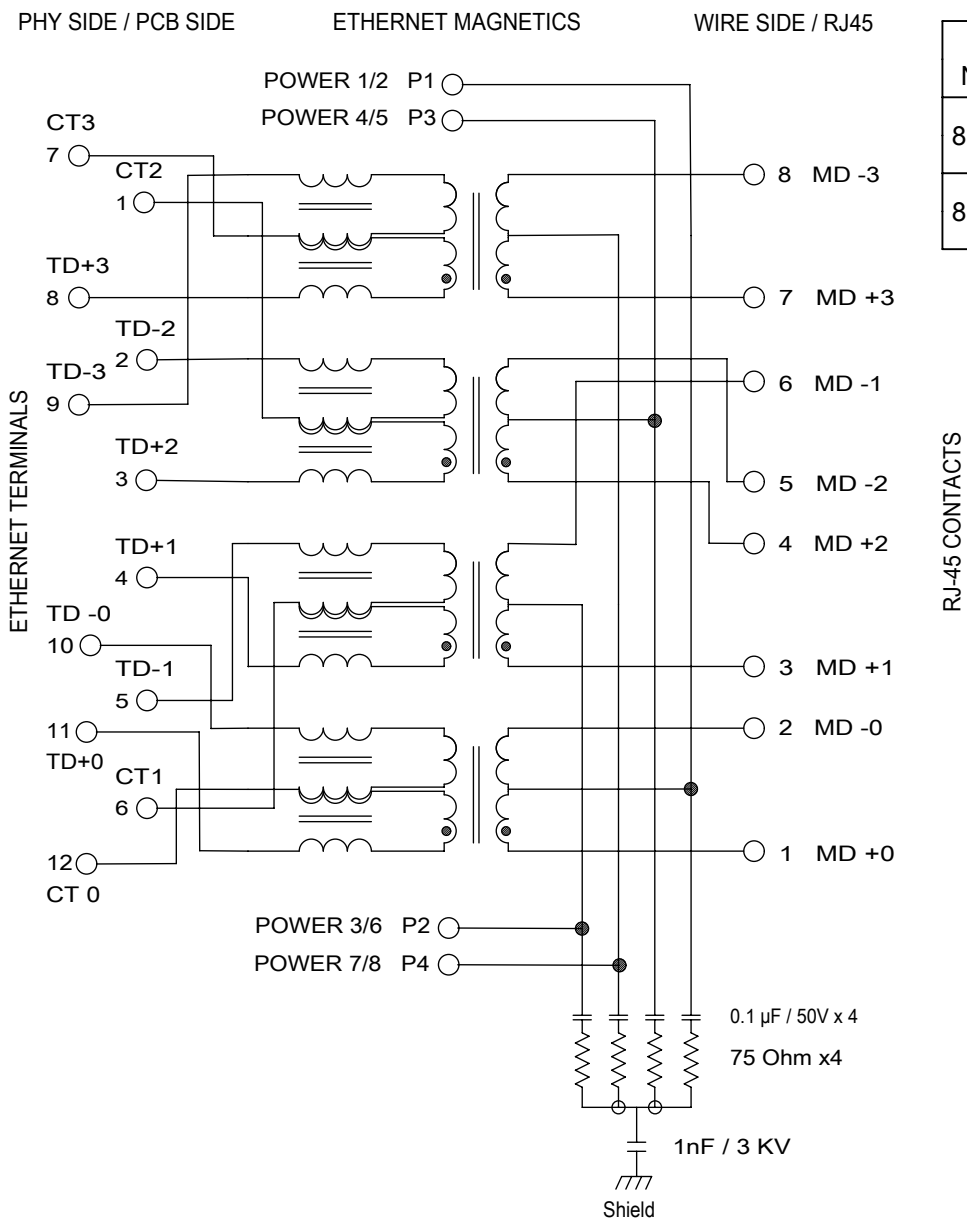
ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST

SEE TABLE FOR LED OPTIONS



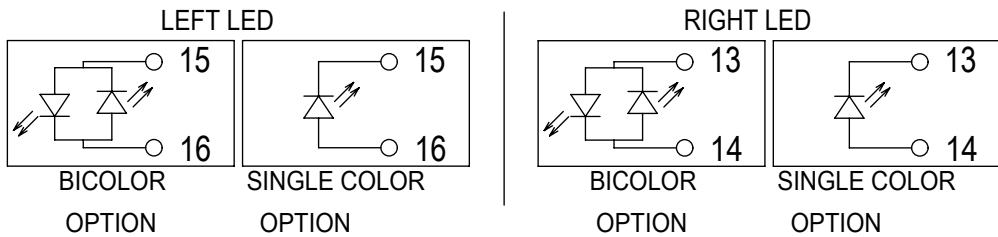
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION											
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER	QUALITY SYMBOLS = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0 = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±		DIMENSION UNITS mm	SCALE 5:1	molex GIGABIT MAGNETIC JACK POE PLUS ENABLED					
				DRWN BY MFURKEL	DATE 2015/06/15						
				CHK'D BY RSILLER	DATE 2016/02/23						
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		APPR BY RSILLER	DATE 2016/02/23	PRODUCT CUSTOMER DRAWING					
				DRAWING SIZE A3	THIRD ANGLE PROJECTION	SERIES 85789	MATERIAL NUMBER SEE BOM/SHEET 3/4	CUSTOMER			
						DOCUMENT NUMBER 857891001	DOC TYPE PSD	DOC PART 000	SHEET NUMBER 3 OF 4		

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	



PART NUMBER	LED1 POLARITY			LED2 POLARITY		
	LEFT LED			RIGHT LED		
	PIN15	PIN16	COLOR	PIN13	PIN14	COLOR
857893006	-	+	GRN	-	+	YW
857893016	-	+	GRN	-	+	GRN
	+	-	YW			

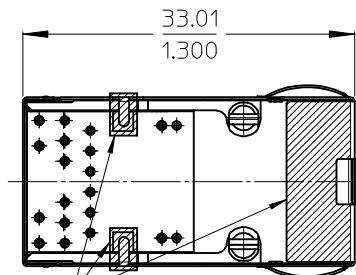
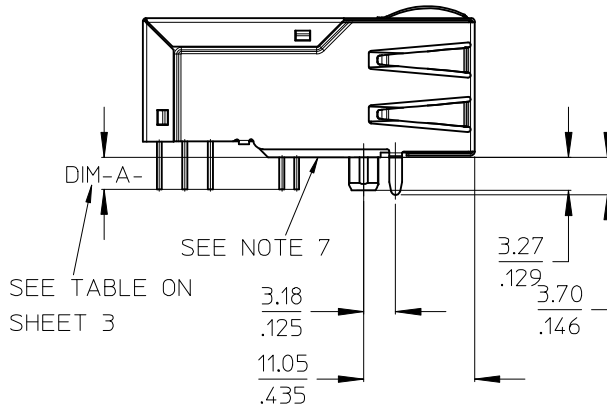
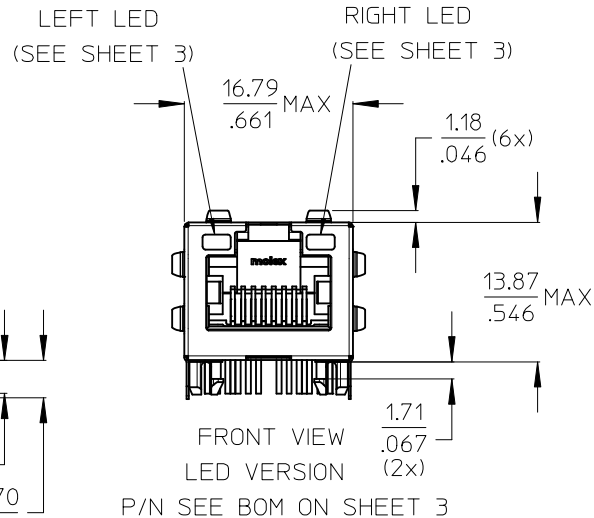
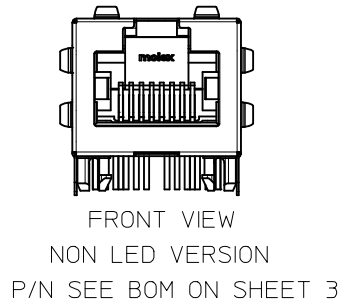
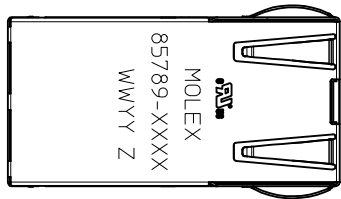
ADDITIONAL LED COLORS AND CONFIGURATIONS
ARE AVAILABLE ON REQUEST



SEE TABLE FOR LED OPTIONS

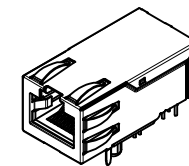
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION																		
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER		QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE	molex											
					mm	5:1												
			ANGULAR TOL ± 0.5 °		DRWN BY		DATE		GIGABIT MAGNETIC JACK POE PLUS ENABLED									
					MFURKEL		2015/06/15											
			4 PLACES ±		CHK'D BY		DATE		PRODUCT CUSTOMER DRAWING									
															3 PLACES ±			
			2 PLACES ± 0.25		SERIES						MATERIAL NUMBER		CUSTOMER					
															1 PLACE ± 0.5			
			0 PLACES ±		APPR BY		DATE		85789						SEE BOM/SHEET 3/4			
DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE		THIRD ANGLE PROJECTION		DOCUMENT NUMBER		DOC TYPE		DOC PART		SHEET NUMBER						
														A3				
F		REV	QUALITY SYMBOLS	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		DRAWING SIZE		THIRD ANGLE PROJECTION		DOCUMENT NUMBER		DOC TYPE		DOC PART		SHEET NUMBER		
			▽ = 0							857891001		PSD		000		4 OF 4		

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



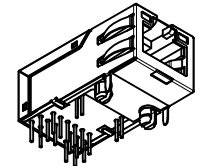
NOTES:

- 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

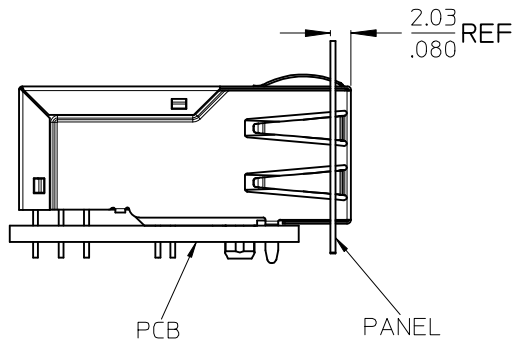
SCALE 1:1



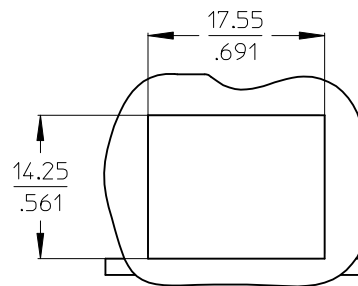
LED VERSION

SCALE 1:1

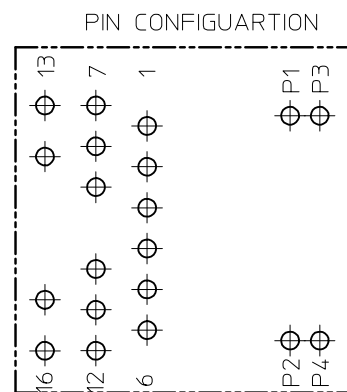
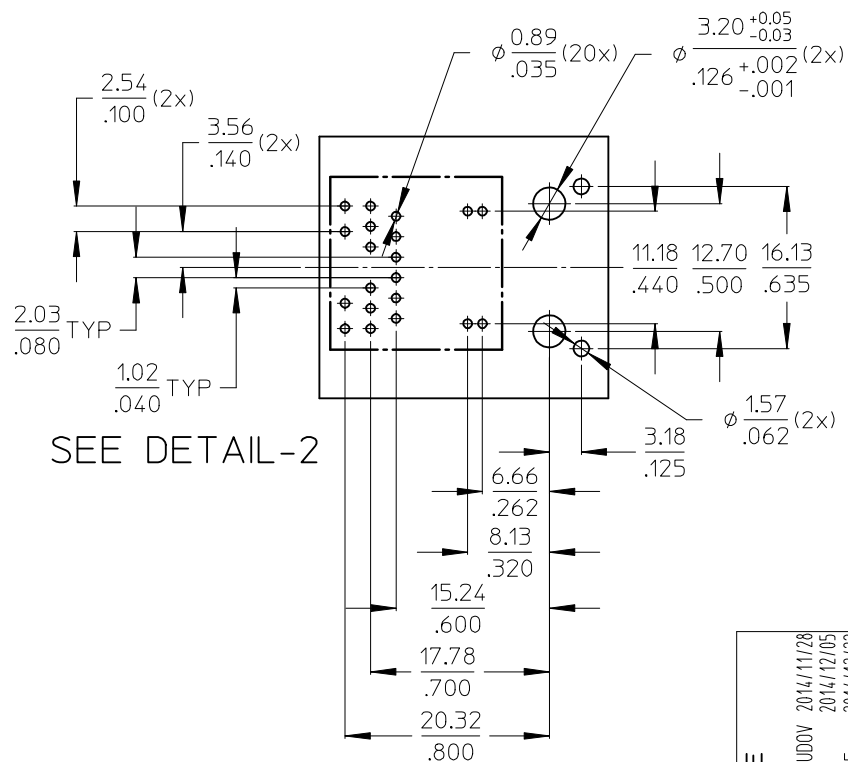
NOTES UPDATE				QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE MM/IN	SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION	TITLE
REV	DESCRIPTION	DATE	BY							
B	NOTES UPDATE	2014/11/28	DRWN:MMANGARUDOV	▽=0	4 PLACES ± --- ± ---	DRAWN BY DATE				GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1
		2014/12/05	CHKD:DBYRNES	▽=0	3 PLACES ± --- ± .010	CHECKED BY DATE				
		2014/12/22	APPR:SSTEINKE		2 PLACES ± 0.25 ± .020	MMANGARUDOV 2014/05/05				moLEX
					1 PLACE ± 0.5 ± ---	APPROVED BY DATE				
					0 PLACE ± ±	SSTEINKE 2014/06/11				SD-85789-401
					ANGULAR ± .5 °	MATERIAL NO.				
					DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE SHEET 3				DOCUMENT NO.
						SIZE A3				SHEET NO.
										1 OF 3



SUGGESTED BOARD LAYOUT - COMPONENT SIDE

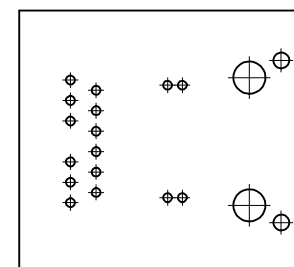


SUGGESTED PANEL CUTOUT



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		
					DRAWN BY JBADER	DATE 2014/04/25	TITLE GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1				
					CHECKED BY MMANGARUDOV	DATE 2014/05/05					
					APPROVED BY SSTEINKE	DATE 2014/06/11					
			ANGULAR ± .5 °		MATERIAL NO.		DOCUMENT NO.		SHEET NO.		
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		SEE SHEET 3		SD-85789-401		2 OF 3		
					SIZE A3		THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION				

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1

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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