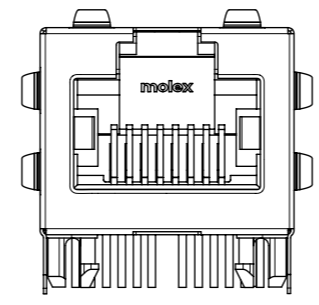
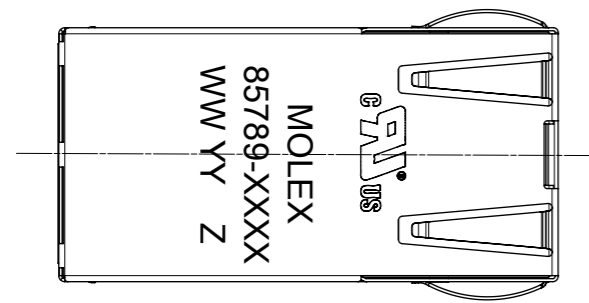
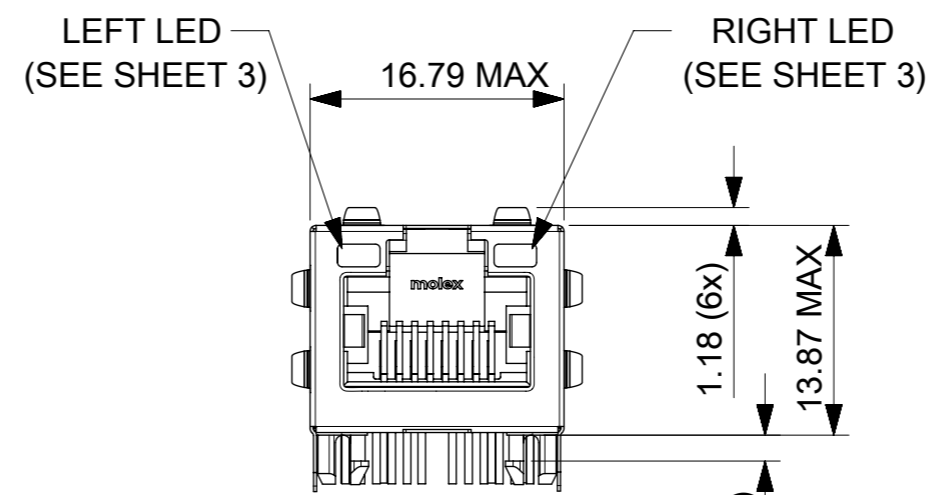
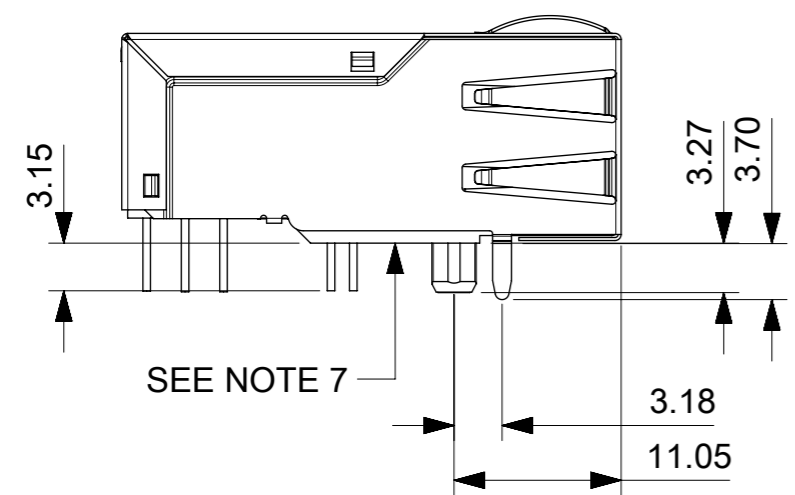


**GIGABIT SINGLE PORT MAGNETIC JACK**  
**PoE+ MAGNETICS ACC. TO IEEE802.3at**  
**FOR PSE OR PD APPLICATIONS**

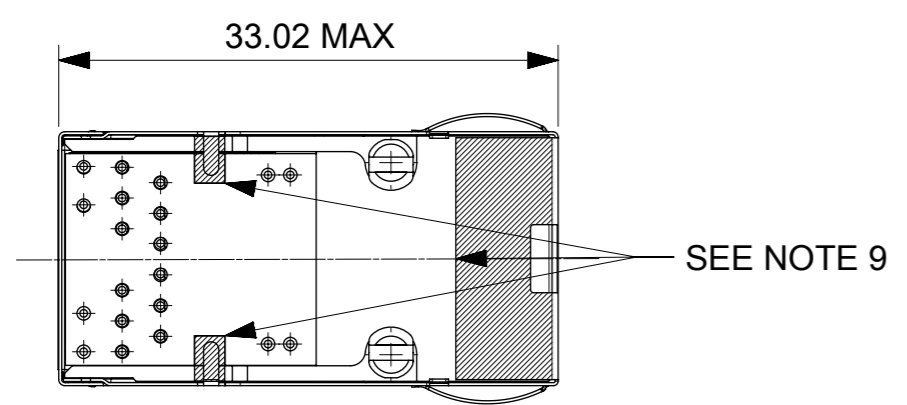
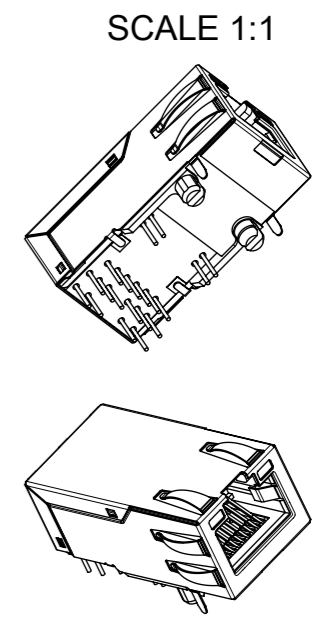
- NOTES:**
- 1 - SHIELD MATERIAL: STAINLESS STEEL  
(GROUND PINS ARE SOLDER DIPPED)
  - 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
  - 3 - RJ45 TERMINALS MATERIAL: COPPER ALLOY  
CONTACT PLATING: 0.76 MICROMETER GOLD  
PHY TERMINALS: TIN PLATED
  - 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
  - 5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



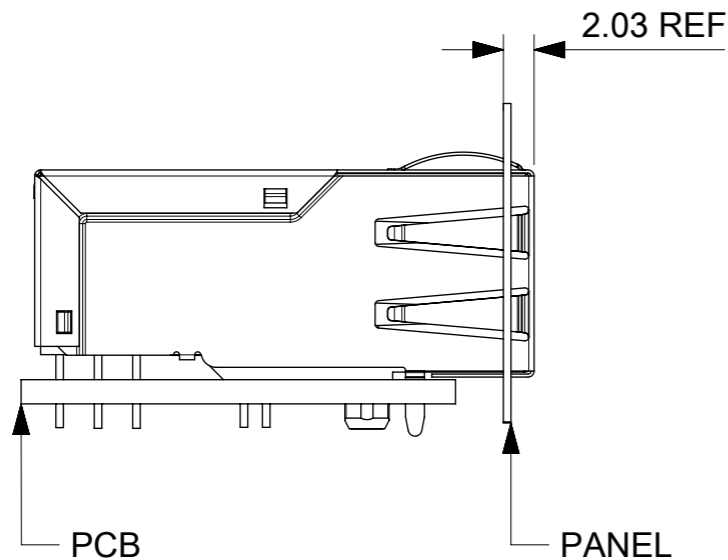
**FRONT VIEW**  
**NON LED VERSION**  
**P/N 85789-1020**



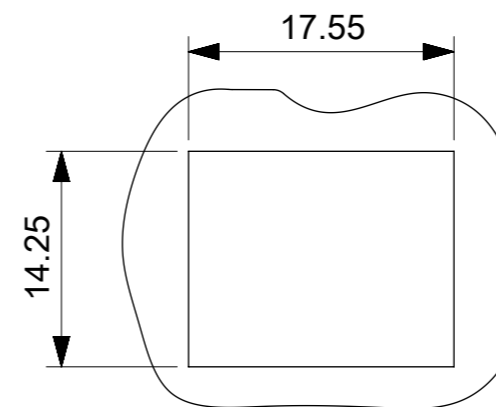
**FRONT VIEW**  
**LED VERSION**  
**P/N SEE BOM ON SHEET 3**



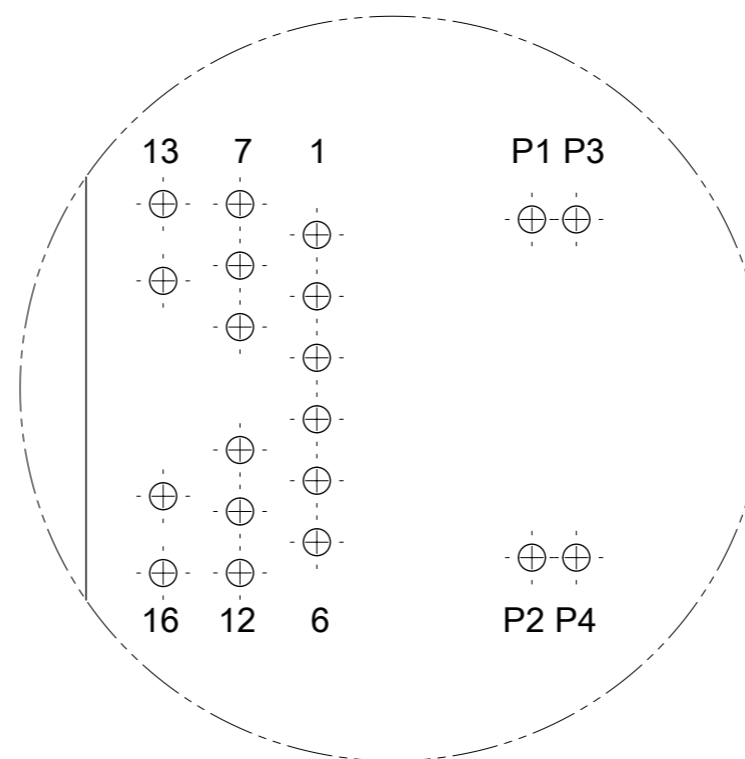
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION									
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER	2015/09/28	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ⊠ = 0 ■ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE			
	2016/02/23		ANGULAR TOL ± 0.5 °		mm	2:1			
	2016/02/23		4 PLACES ±	DRWN BY		DATE	GIGABIT MAGNETIC JACK POE PLUS ENABLED		
			3 PLACES ±	MFURKEL	2015/06/15				
	2 PLACES ± 0.25	CHK'D BY		DATE	PRODUCT CUSTOMER DRAWING				
	1 PLACE ± 0.5	RSILLER	2016/02/23						
	0 PLACES ±	APPR BY		DATE	SERIES	MATERIAL NUMBER	CUSTOMER		
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE		THIRD ANGLE PROJECTION	85789	SEE BOM/SHEET 3/4			
F	REV	A3			DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER	
					857891001	PSD	000	1 OF 4	



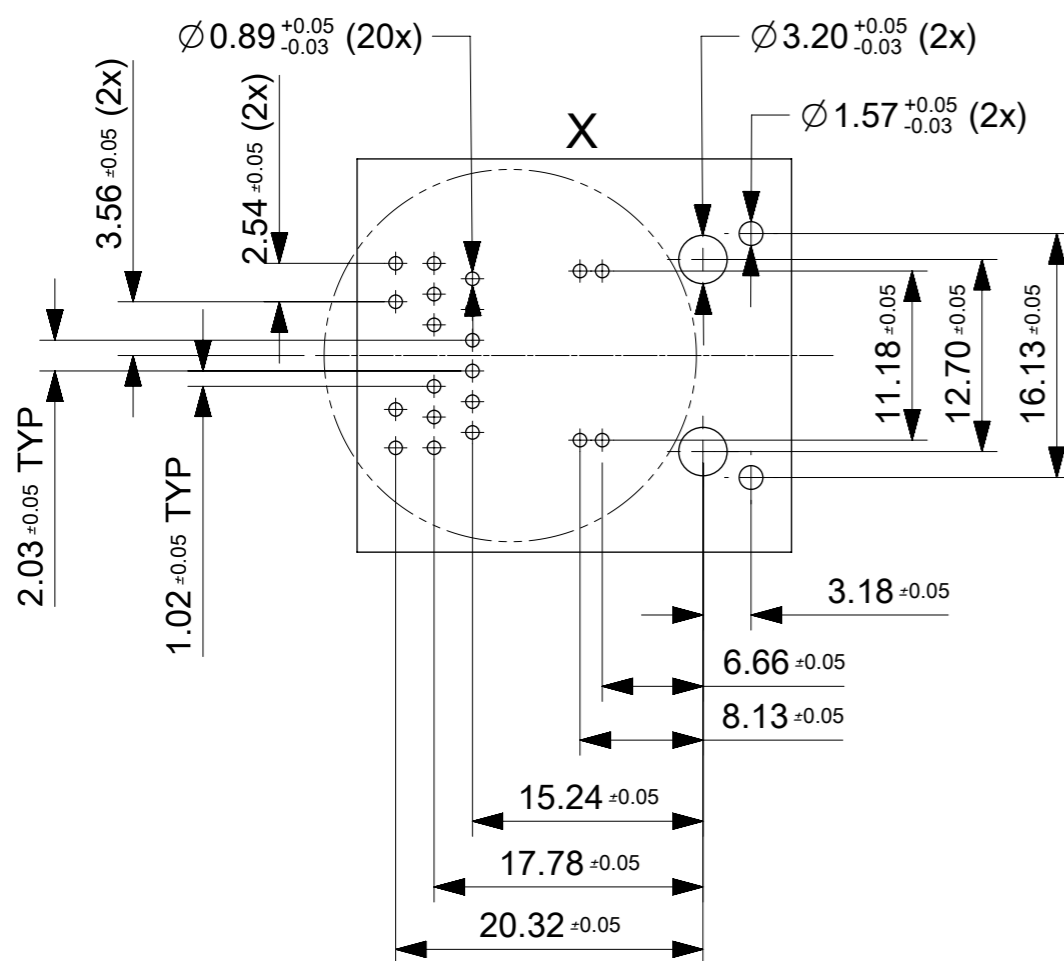
SUGGESTED PANEL CUTOUT



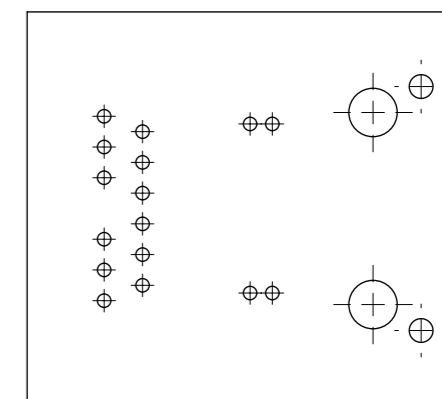
DETAIL X  
SCALE 4:1  
PIN CONFIGURATION



SUGGESTED BOARD LAYOUT- COMPONENT SIDE

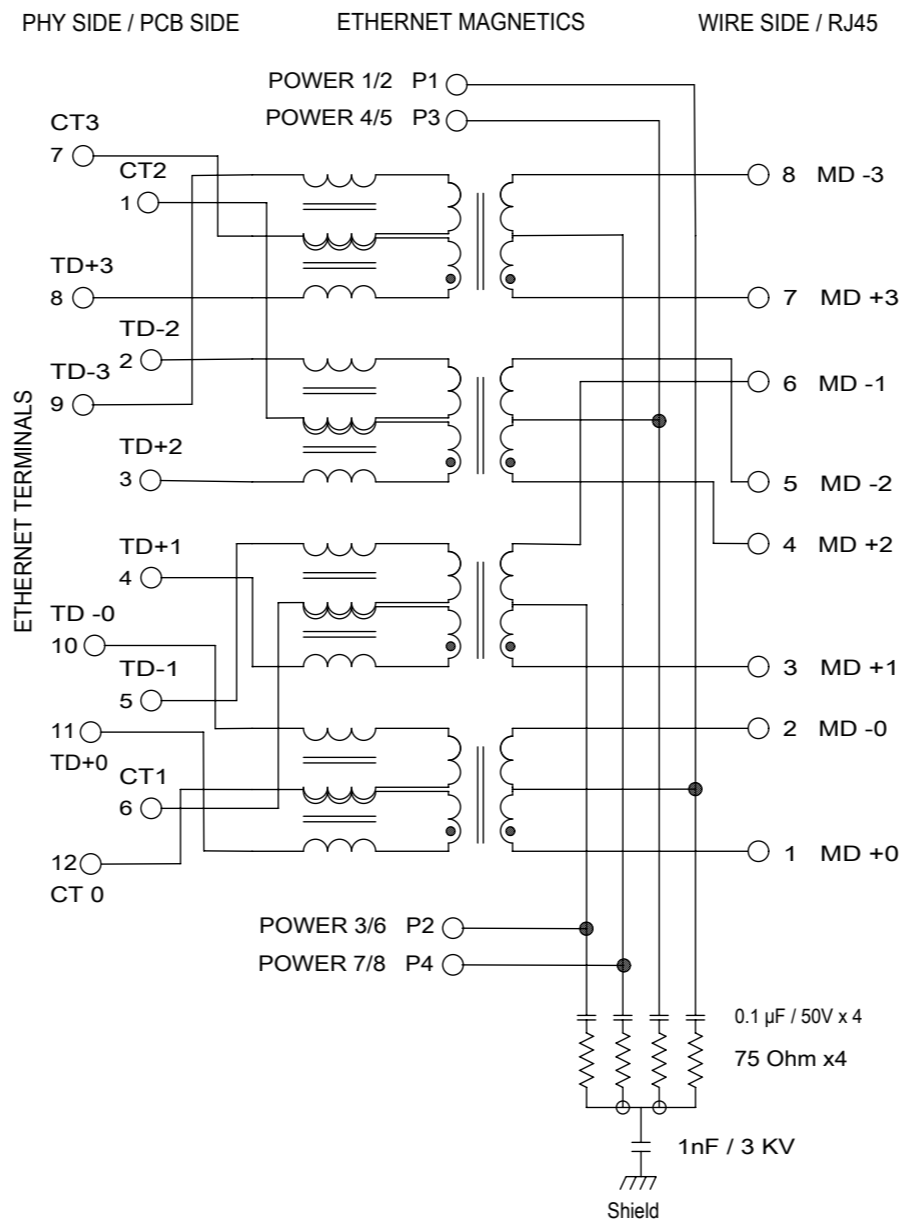


SUGGESTED BOARD LAYOUT FOR NON LED VERSION



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 APP: RSILLER	2015/09/28	2016/02/23	2016/02/23	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE		
					ANGULAR TOL ± 0.5 °		mm	2:1		
					4 PLACES ±	DRWN BY		DATE		
					3 PLACES ±	MFURKEL	2015/06/15			
			2 PLACES ± 0.25	CHK'D BY		DATE	GIGABIT MAGNETIC JACK POE PLUS ENABLED			
			1 PLACE ± 0.5	APPR BY		DATE				
			0 PLACES ±	RSILLER		2016/02/23	PRODUCT CUSTOMER DRAWING			
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	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	2 OF 4

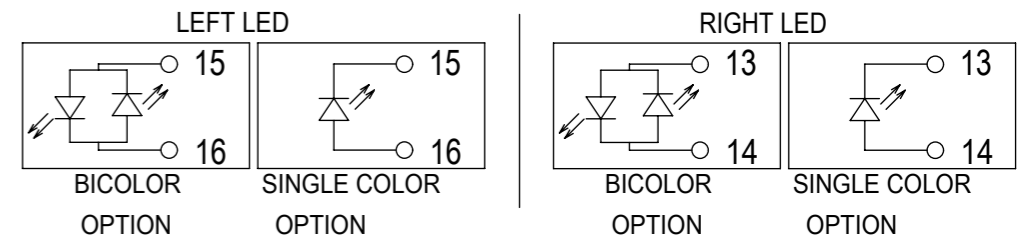
Electrical Specifications @25°C		
Operating temperature (0°C to +70°C)		
Description	VALUE	
OCL POE+TRANSF. 20mA bias (0°C to +70°C)	350µH min.	
OCL NONPOE TRANSF. 8mA bias (0°C to +70°C)	350µH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9 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	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	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	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		COLOR	
	PIN15	PIN16	PIN13	PIN14		
857891001	-	+	GRN	-	+	GRN
857891003	-	+	GRN	-	+	GRN
857891006	-	+	GRN	-	+	YW
857891007	-	+	GRN	-	+	GRN
857891012	-	+	YW	-	+	GRN
857891013	-	+	YW	-	+	YW
857891014	-	+	GRN	-	+	GRN
857891015	-	+	GRN	-	+	GRN
857891017	-	+	GRN	-	+	YW
857891020	NON LED					

ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST

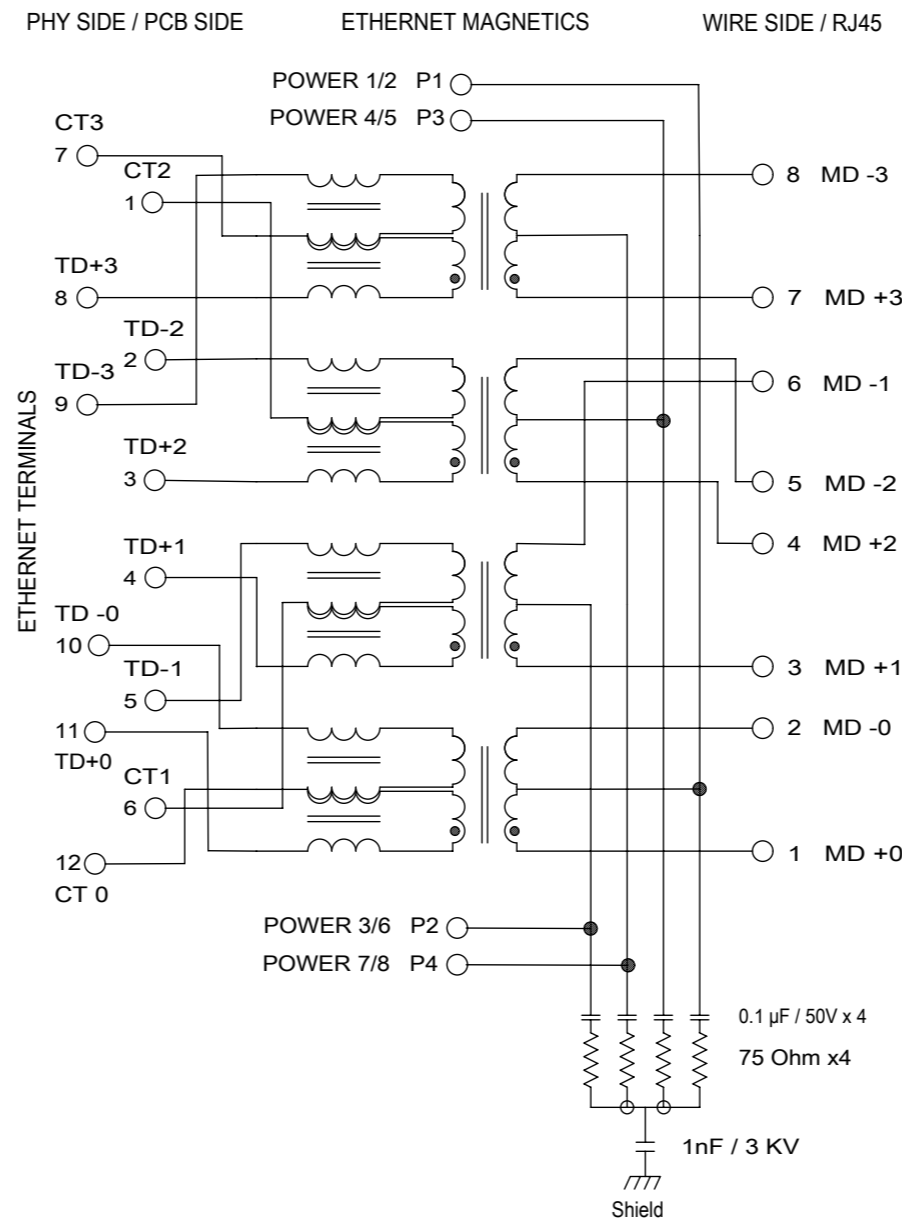
SEE TABLE FOR LED OPTIONS



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

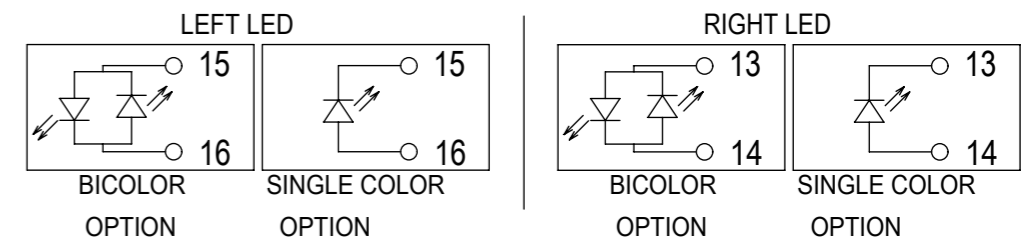
EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER	2015/09/28 2016/02/23 2016/02/23	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ± DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DIMENSION UNITS: mm SCALE: 5:1 DRWN BY: MFURKEL DATE: 2015/06/15 CHK'D BY: DATE: APPR BY: RSILLER DATE: 2016/02/23 DRAWING SIZE: A3 THIRD ANGLE PROJECTION	
	PRODUCT CUSTOMER DRAWING			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	Limits (dB min.)	TYPICAL Values (dB min.)
Frequency (MHz)		
1-9.9 MHz	27dB min.	27 @ 10MHz
10-100 MHz	27-17*log(F/10)	10 @ 100MHz
CMR	Limits (dB min.)	TYPICAL Values (dB min.)
Frequency (MHz)		
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	Limits (dB min.)	TYPICAL Values (dB min.)
Frequency (MHz)		
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

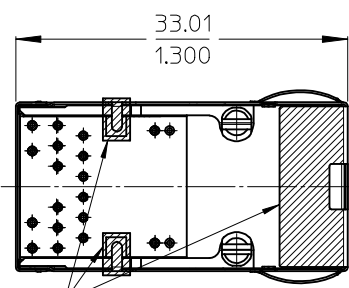
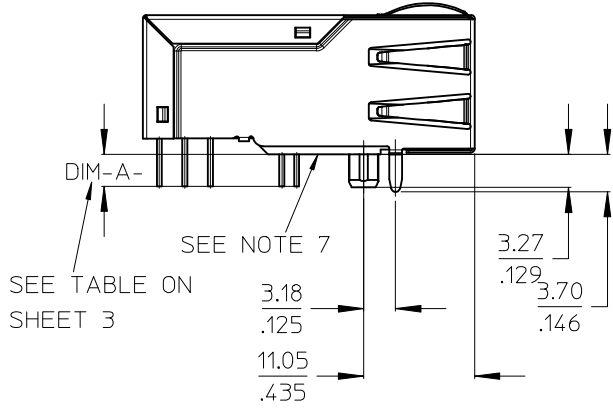
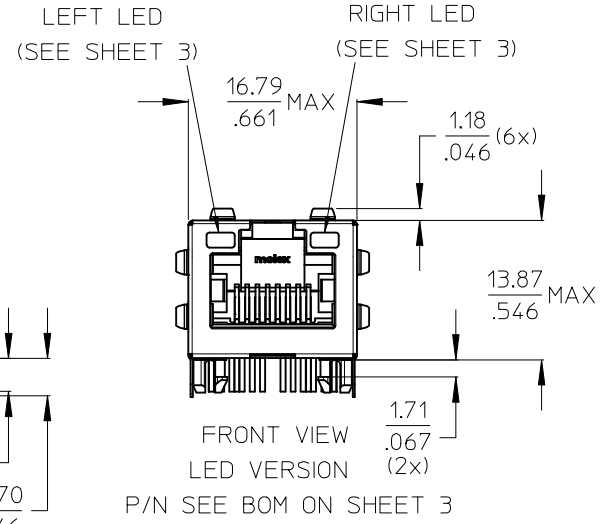
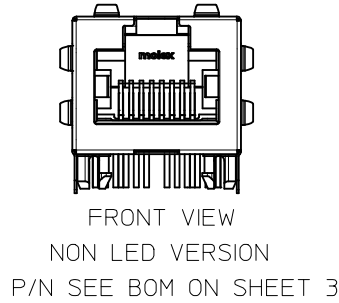
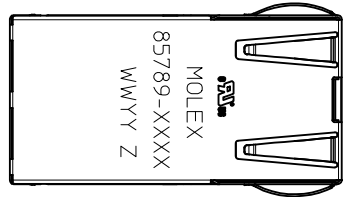


SEE TABLE FOR LED OPTIONS

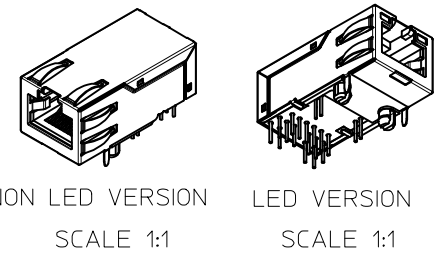
THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION

EC DESCRIPTION EC NO: 102890 DRWN: MFURKEL CHK'D: RSILLER APPR: RSILLER	2015/09/28	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▼ = 0 ▽ = 0 ☒ = 0 ■ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION UNITS	SCALE		
	2016/02/23		ANGULAR TOL ± 0.5 °		mm	5:1		
	2016/02/23		4 PLACES ±	DRWN BY		DATE		
			3 PLACES ±	MFURKEL	2015/06/15			
	2 PLACES ± 0.25	CHK'D BY		DATE	GIGABIT MAGNETIC JACK POE PLUS ENABLED			
	1 PLACE ± 0.5	APPR BY		DATE	PRODUCT CUSTOMER DRAWING			
	0 PLACES ±	RSILLER		2016/02/23	SERIES	MATERIAL NUMBER	CUSTOMER	
	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE		THIRD ANGLE PROJECTION	85789	SEE BOM/SHEET 3/4		
F	REV	A3			DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER
					857891001	PSD	000	4 OF 4

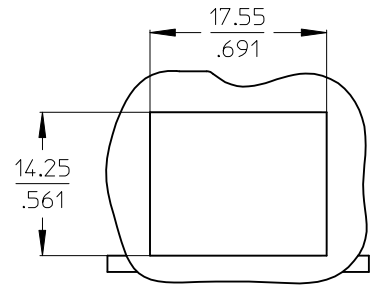
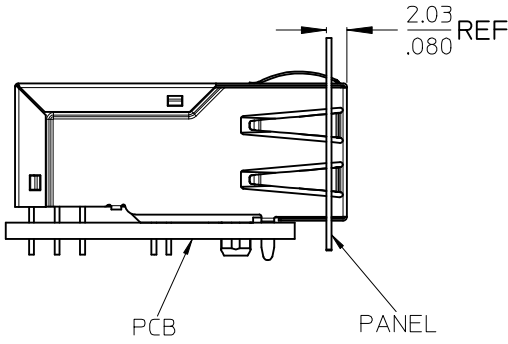
**GIGABIT SINGLE PORT MAGNETIC JACK**  
**PoE+ MAGNETICS ACC. TO IEEE802.3at**  
**FOR PSE OR PD APPLICATIONS**



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

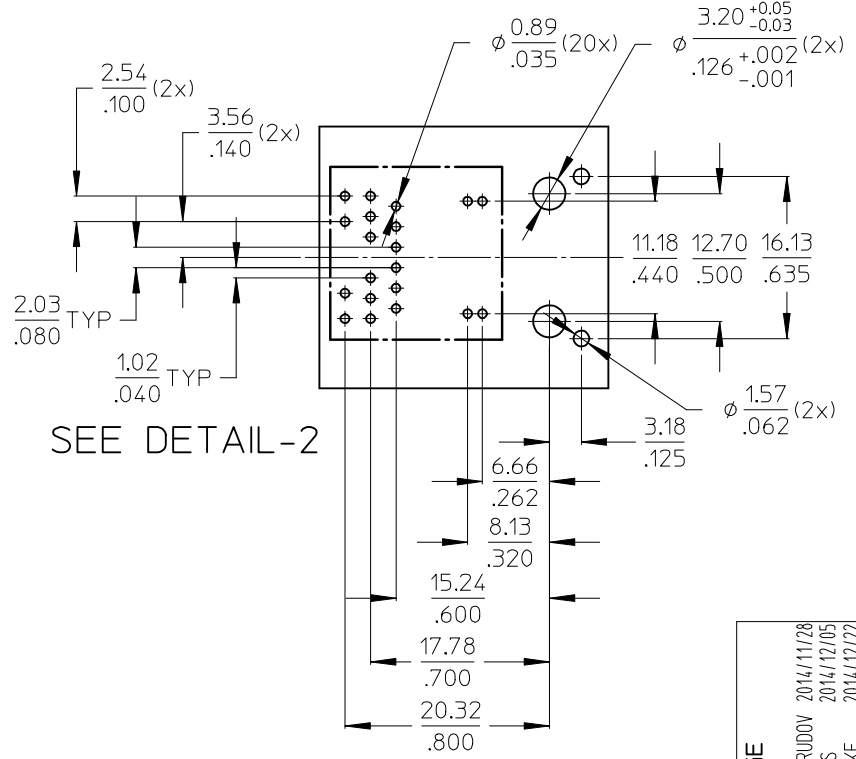


NOTES UPDATE IEC NO: DRWN:MMANGARUDOV 2014/11/28 CH'KD:DBYRNES 2014/12/05 APPR:SSSTE INKE 2014/12/22	QUALITY SYMBOLS ▽=0 ◻=0	GENERAL TOLERANCES (UNLESS SPECIFIED)		DIMENSION STYLE MM/IN	SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION		
		4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25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

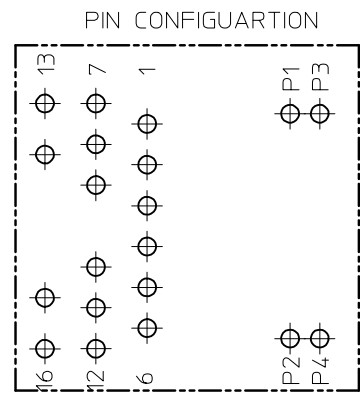


SUGGESTED PANEL CUTOUT

SUGGESTED BOARD LAYOUT - COMPONENT SIDE

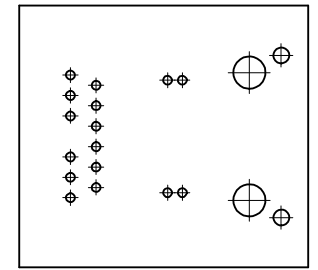


SEE DETAIL-2



DETAIL-2  
SCALE 4:1

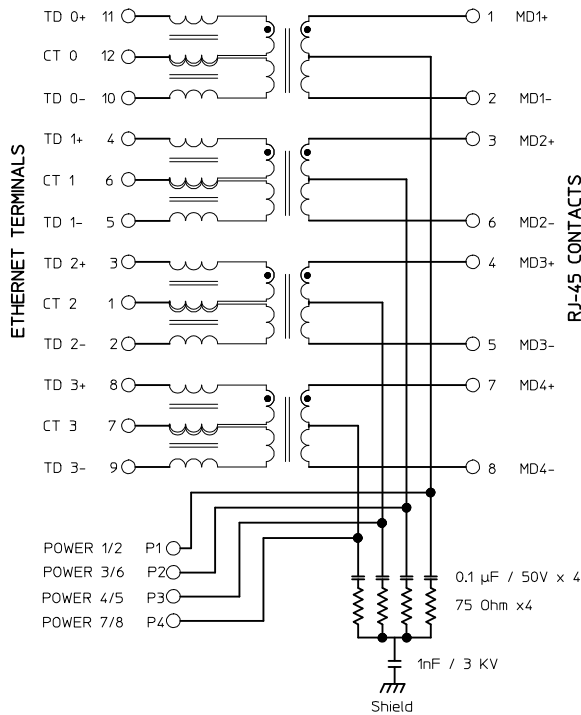
SUGGESTED BOARD LAYOUT  
NON LED VERSION



NO CHANGE EC NO: DRW:MMANGARUDOV 2014/11/28 CHKD:DBYRNES 2014/12/05 APPR:SSSTEINKE 2014/12/22	DESCRIPTION GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION	
		▼=0 ▽=0	mm    INCH 4 PLACES ± --- ± --- 3 PLACES ± --- ± .010 2 PLACES ± 0.25 ± .020 1 PLACE ± 0.5 ± --- 0 PLACE ±     ±	MM/IN	2:1	METRIC	DRAWN BY: JBADER    DATE: 2014/04/25 CHECKED BY:            DATE: MMANGARUDOV    2014/05/05 APPROVED BY:         DATE: SSTEINKE            2014/06/11	TITLE
		ANGULAR ± .5 ° DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	SEE SHEET 3	MATERIAL NO. DOCUMENT NO.	GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1	<b>molex</b>		
		SIZE: A3 THIS DRAWING CONTAINS INFORMATION THAT IS PROPRIETARY TO MOLEX INCORPORATED AND SHOULD NOT BE USED WITHOUT WRITTEN PERMISSION	SD-85789-401	SHEET NO. 2 OF 3				

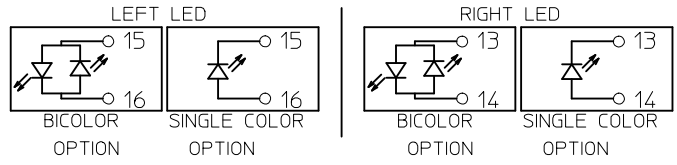
Electrical Specifications @25°C		
Operating temperature (-40°C to +85°C)		
Description	Value	
OCL POE+TRANSF. 20mA bias (-40°C to +85°C)	350μH min.	
OCL NONPOE TRANSF. 8mA bias (-40°C to +85°C)	350μH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
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



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

ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST



SEE TABLE FOR LED OPTIONS

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