

10 9 8 7 6 5 4 3 2 1

F

E

D

C

B

A

F

E

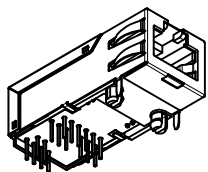
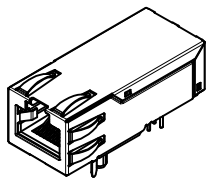
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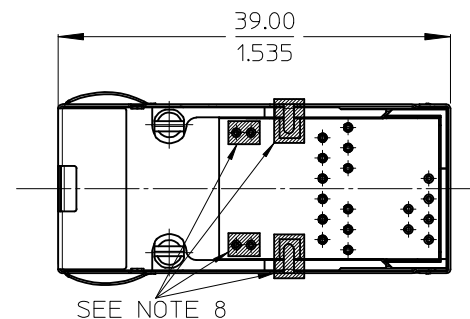
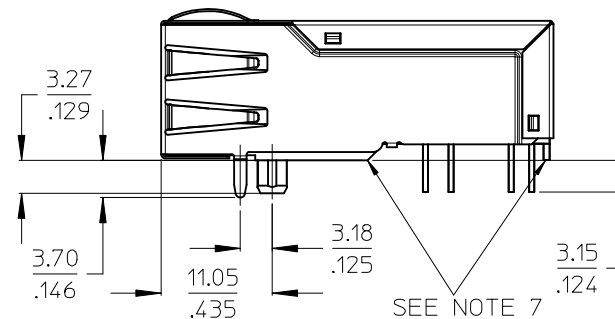
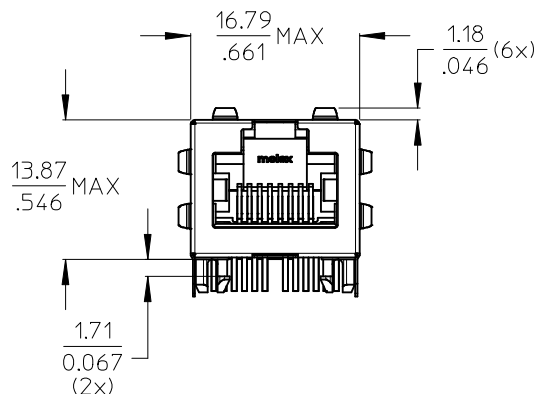
B

A

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



SCALE 1:1



NOTES:

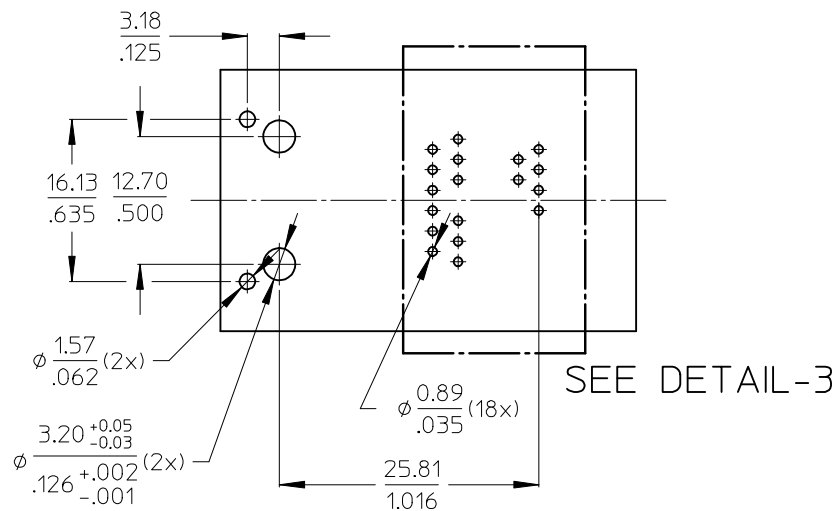
- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE TIN DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - EXCEEDS PRODUCT REQUIREMENTS BASED ON
PRODUCT SPECIFICATION PS-85791-001
CONTACTS MATERIAL: PHOSPHOR BRONZE
CONTACT PLATING: GOLD OR GOLD FLASH
OVER PALLADIUM NICKEL
- 4 - MATING INTERFACE 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	DESCRIPTION	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						
			1 PLACE	± 0.50	± ---	APPROVED BY DATE	MOLEX INCORPORATED						
			ANGULAR ± .5 °		SSTEINKE	2012/06/18							
			DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS		MATERIAL NO.		DOCUMENT NO.		SHEET 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						

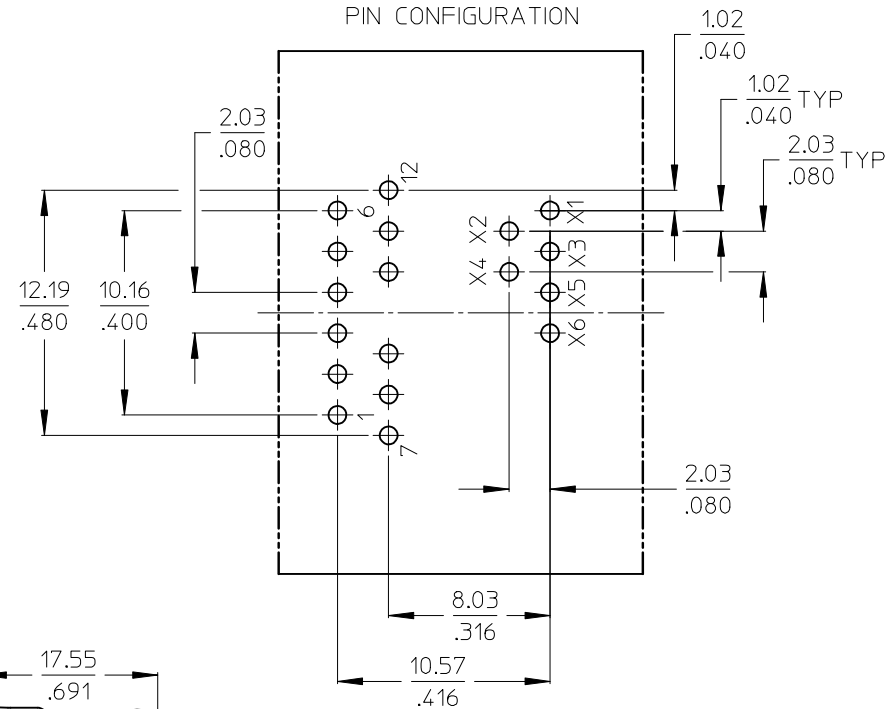
9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

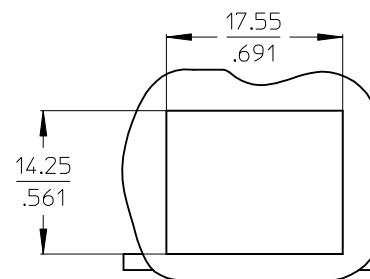
SUGGESTED BOARD LAYOUT - COMPONENT SIDE



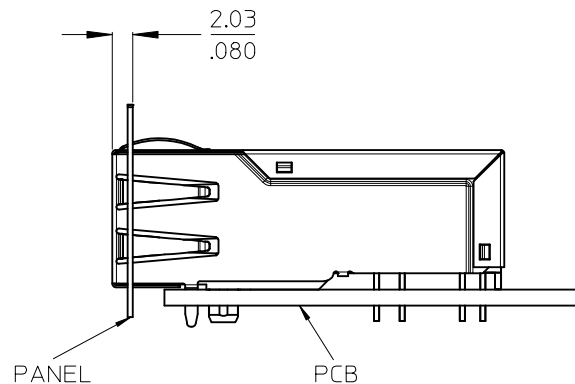
PIN CONFIGURATION



DETAIL-3
SCALE 4:1

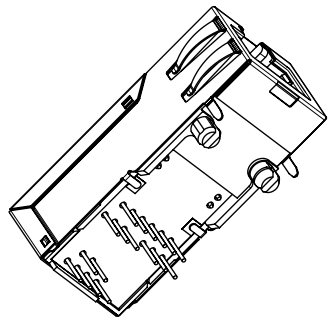
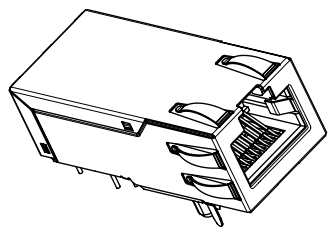


SUGGESTED PANEL CUTOUT



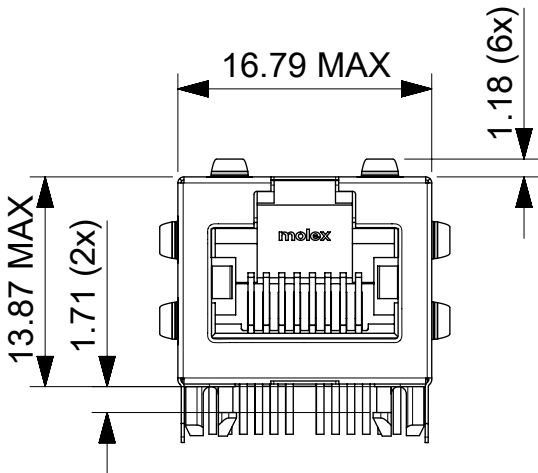
ENTER DESCRIPTION EC NO: MG2011-0056 DRWN: JBADER 2013/02/08 CHKD:MMANGARUDOV 2013/04/05 APPR: SSTEINKE 2014/04/25 REV D	QUALITY SYMBOLS ▽=0 ▽=0	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE		SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION			
			MM ONLY		2:1	METRIC				
			mm	INCH	DRAWN BY		DATE		TITLE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

9 8 7 6 5 4 3 2 1

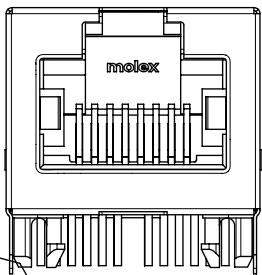


SCALE 1:1

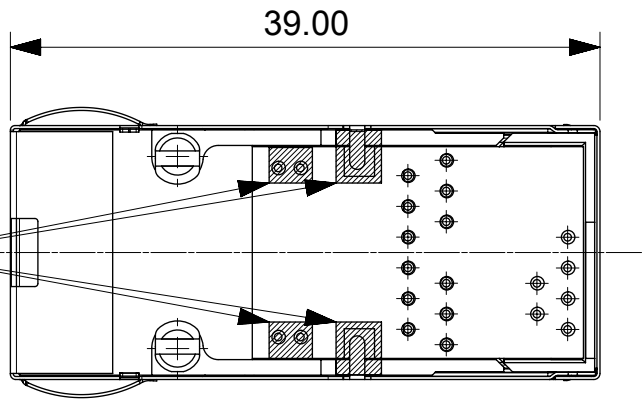
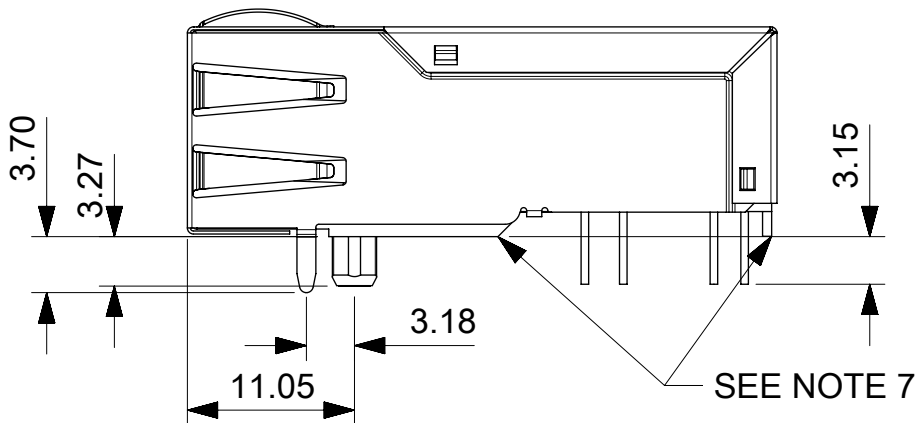
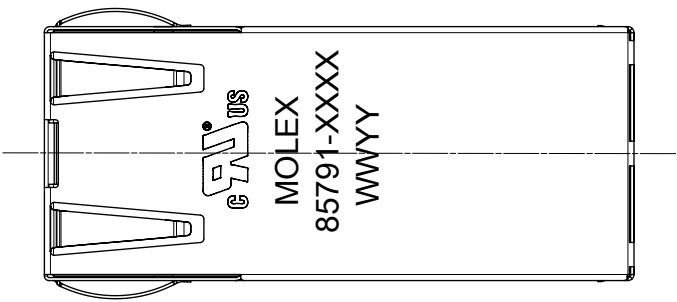
PDJack™ GIGABIT SINGLE PORT MAGNETIC JACK WITH
INTEGRATED POWER OVER ETHERNET PLUS POWERED
DEVICE (PD) CONTROLLER AND BRIDGE RECTIFIERS



NO SHIELD
SPRING VERSION
85791-4420



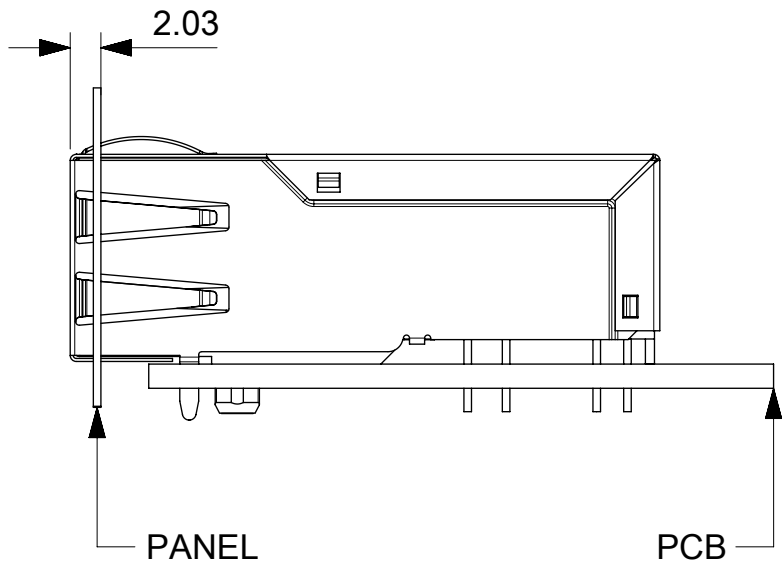
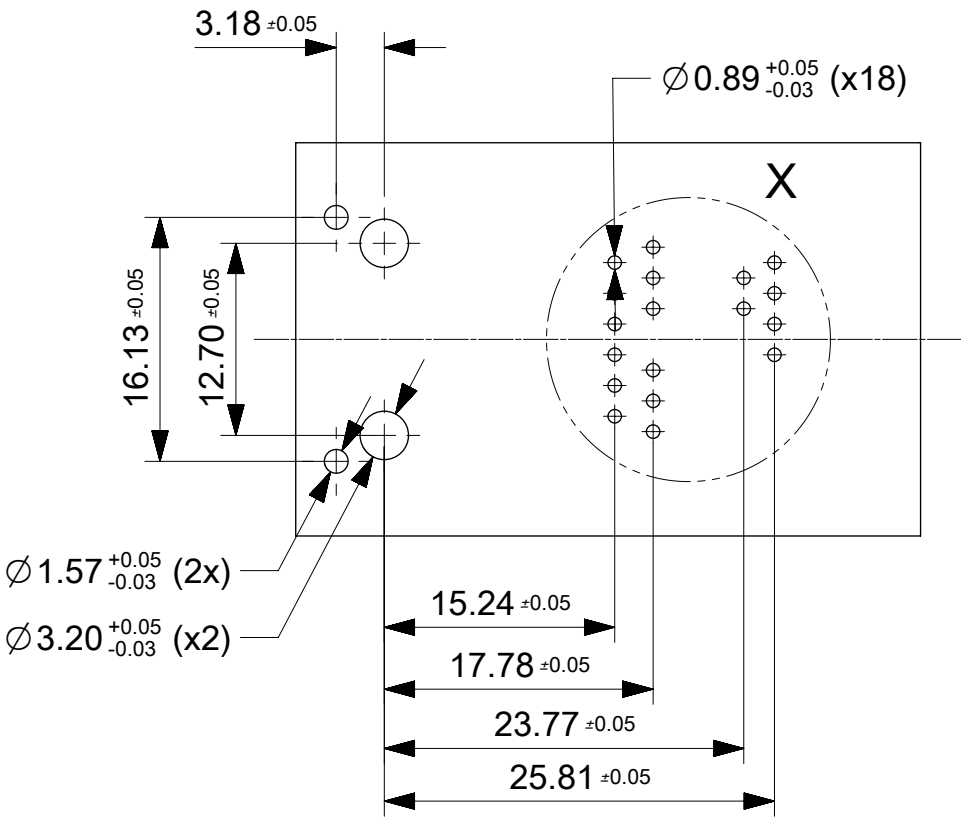
PRE-RELEASE
REFERENCE
USE ONLY



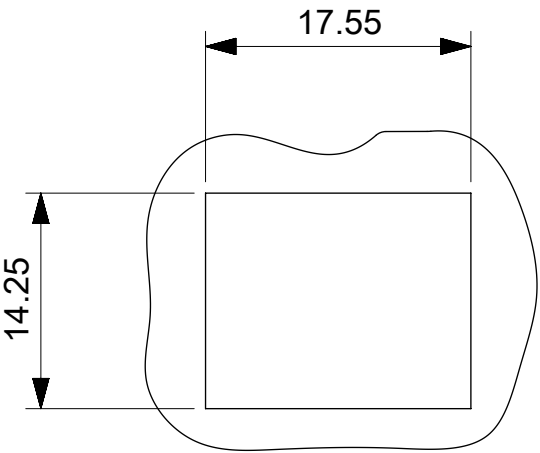
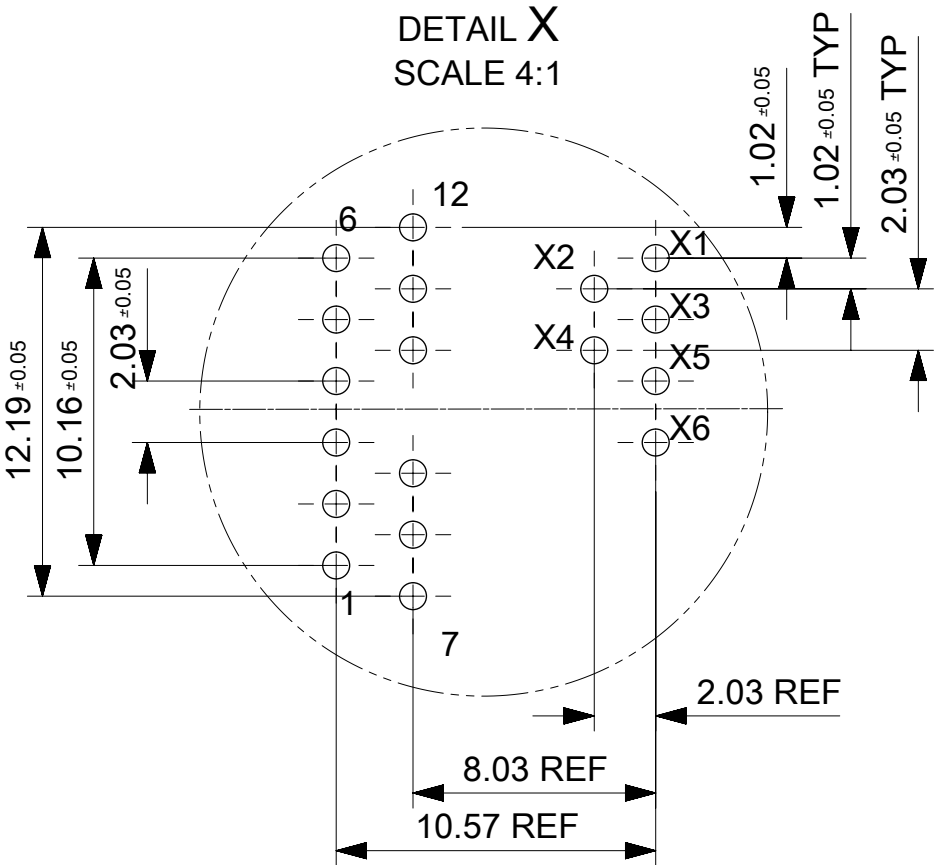
- NOTES:
- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE TIN DIPPED)
 - 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
 - 3 - RJ45 TERMINALS MATERIAL: COPPER ALLOY
CONTACT PLATING: 0.76 MICROMETER GOLD
OVER 1.9 MICROMETER NICKEL
PHY TERMINALS: TIN PLATED
 - 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
 - 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: APPR:	2015/09/28	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±		DIMENSION UNITS		SCALE		molex GIGABIT POE PLUS PDJACK (TM) 1X1						
		MM			2:1										
		DRWN BY MFURKEL DATE 2015/06/10													
		CHK'D BY			DATE		PRODUCT CUSTOMER DRAWING								
		APPR BY DATE													
		DRAWING SIZE		THIRD ANGLE PROJECTION		SERIES		MATERIAL NUMBER		CUSTOMER					
		A3				85791		SEE BOM / SHEET 3							
		DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS				DOCUMENT NUMBER				DOC TYPE		DOC PART		SHEET NUMBER	
						857910020				PSD		000		1 OF 3	

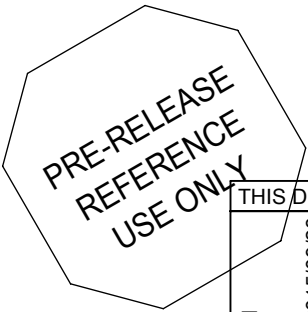
SUGGESTED BOARD LAYOUT - COMPONENT SIDE



PIN CONFIGURATION

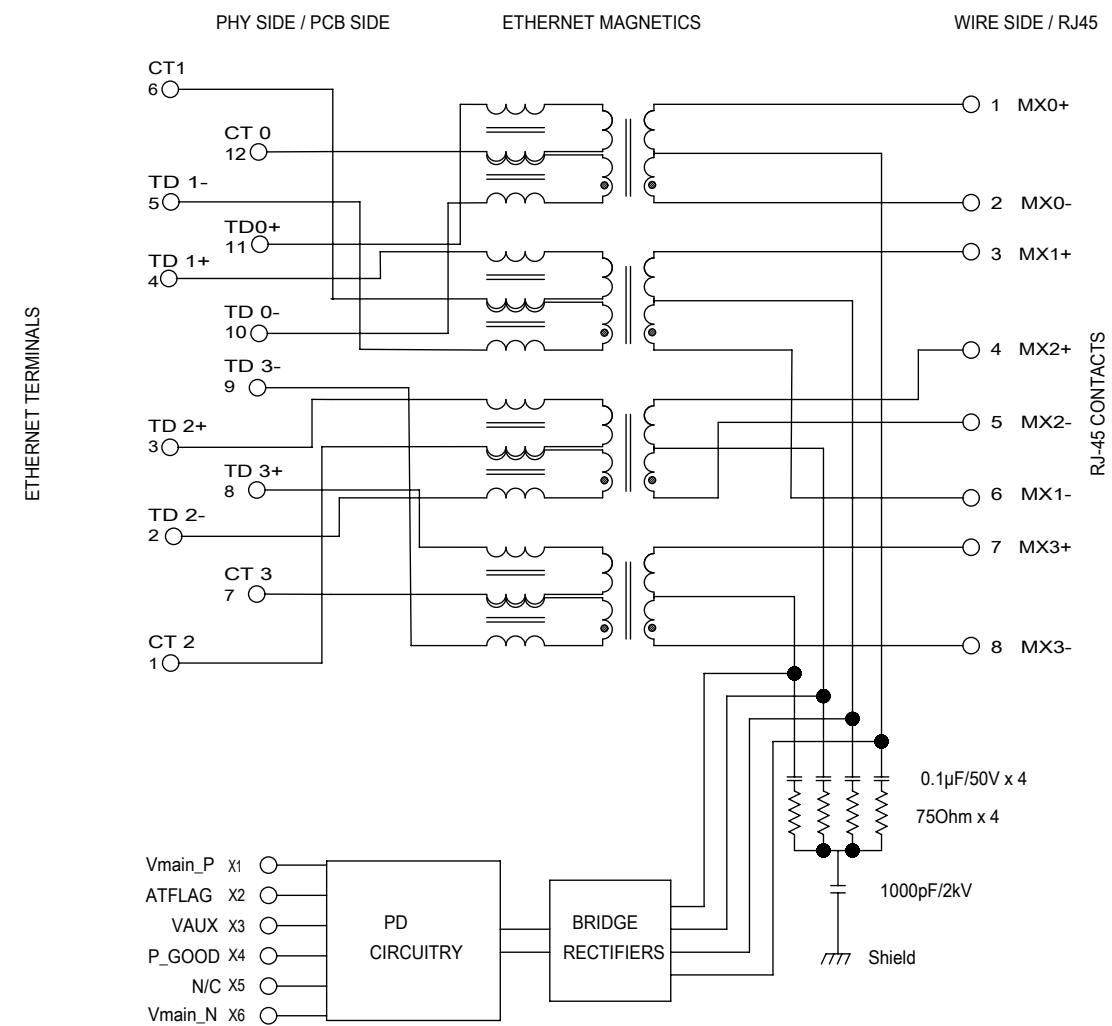


SUGGESTED PANEL CUTOUT



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:		2015/09/28		QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)			DIMENSION UNITS		SCALE		molex							
								MM		2:1									
					=	0	ANGULAR TOL ± 0.5 °			DRWN BY		DATE		GIGABIT POE PLUS PDJACK (TM) 1X1					
										MFURKEL		2015/06/10							
					=	0	4 PLACES		±		CHK'D BY		DATE						
							3 PLACES		±										
					=	0	2 PLACES		± 0.25		APPR BY		DATE		PRODUCT CUSTOMER DRAWING				
							1 PLACE		± 0.5										
					=	0	0 PLACES		±		DRAWING SIZE		THIRD ANGLE PROJECTION		SERIES	MATERIAL NUMBER		CUSTOMER	
	=	0	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS			A3				85791		SEE BOM / SHEET 3							
	=	0								DOCUMENT NUMBER		DOC TYPE	DOC PART	SHEET NUMBER					
										857910020		PSD	000	2 OF 3					

	9	8	7	6
E	Electrical Specifications @25°C			
	Operating temperature (SEE PART NUMBER)			
	Description	VALUE		
	OCL 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	
D	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	
C	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

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EC DESCRIPTION EC NO: 102944 DRWN: MFURKEL CHK'D: APPR:	2015/09/28	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION UNITS	SCALE	molex GIGABIT POE PLUS PDJACK (TM) 1X1							
		= 0	ANGULAR TOL ± 0.5 °	MM	5:1								
		= 0	4 PLACES ±	DRWN BY	DATE								
		= 0	3 PLACES ±	MFURKEL	2015/06/10								
		= 0	2 PLACES ± 0.25	CHK'D BY	DATE								
		= 0	1 PLACE ± 0.5	APPR BY	DATE								
		= 0	0 PLACES ±			PRODUCT CUSTOMER DRAWING							
		= 0	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE	THIRD ANGLE PROJECTION	SERIES	MATERIAL NUMBER	CUSTOMER					
		= 0		A3		85791	SEE BOM / SHEET 3						
		= 0				DOCUMENT NUMBER	DOC TYPE	DOC PART	SHEET NUMBER				
= 0				857910020	PSD	000	3 OF 3						