

Excellent Integrated System Limited

Stocking Distributor

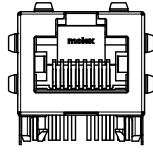
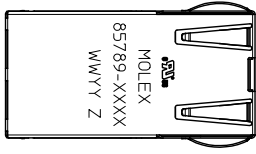
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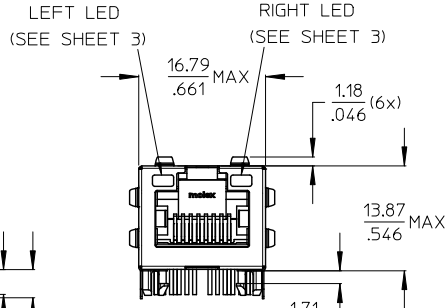
For any questions, you can email us directly:

sales@integrated-circuit.com

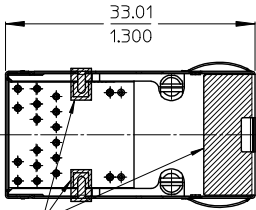
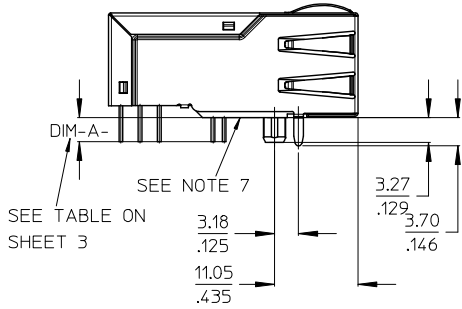
GIGABIT SINGLE PORT MAGNETIC JACK
PoE+ MAGNETICS ACC. TO IEEE802.3at
FOR PSE OR PD APPLICATIONS



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



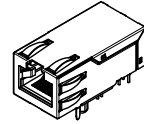
FRONT VIEW
LED VERSION
P/N SEE BOM ON SHEET 3



SEE NOTE 9

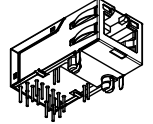
NOTES:

- 1 - SHIELD MATERIAL: STAINLESS STEEL
(GROUND PINS ARE SOLDER DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - TERMINALS MATERIAL: PHOSFOR 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

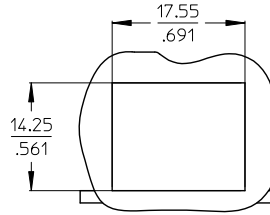
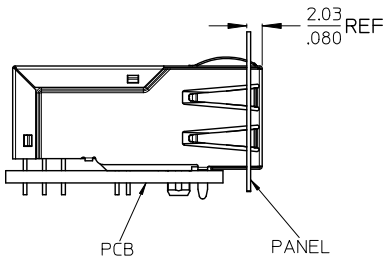


LED VERSION

SCALE 1:1

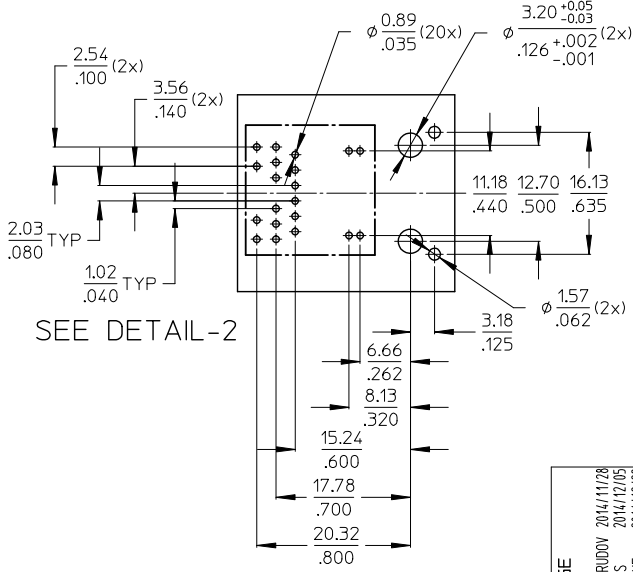
NOTES UPDATE EC NO. DRW:MANGARUDOV 2014/11/28 CHKD:BBYRNES 2014/12/05 APPR:SSSTEINKE 2014/12/22	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE		SCALE 2:1	DESIGN UNITS METRIC	THIRD ANGLE PROJECTION
	▽=0		mm	INCH			
	▽=0		DRAWN BY DATE				
			CHECKED BY DATE				
	4 PLACES ± --- ± ---	MMANGARUDOV 2014/05/05	TITLE		GIGABIT MAGNETIC JACK		
	3 PLACES ± --- ± .010	APPROVED BY DATE	MATERIAL NO.		SD-85789-401		
	2 PLACES ± 0.25 ± .020	SSSTEINKE 2014/06/11	SEE SHEET 3		DOCUMENT NO.		
	1 PLACE ± 0.5 ± ---		SIZE A3		SHEET NO. 1 OF 3		
	0 PLACE ± ±		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				

10 9 8 7 6 5 4 3 2 1



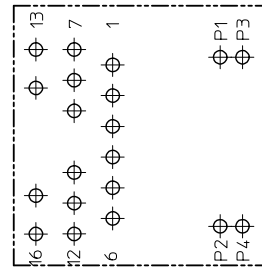
SUGGESTED PANEL CUTOUT

SUGGESTED BOARD LAYOUT - COMPONENT SIDE



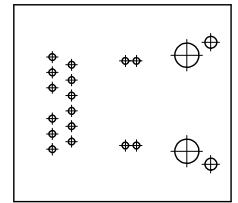
SEE DETAIL-2

PIN CONFIGURATION



DETAIL-2
SCALE 4:1

SUGGESTED BOARD LAYOUT
NON LED VERSION



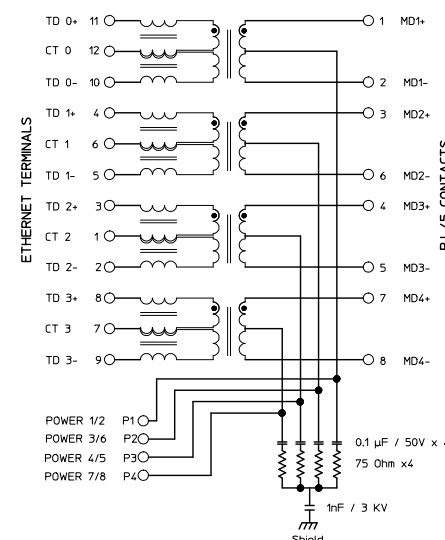
NO CHANGE EC NO. B DRAWN: MMANGARUDOV 2014/11/28 CHKD: BYRNES 2014/12/05 APPR: SSTEINKE 2014/12/22	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION STYLE	SCALE	DESIGN UNITS	THIRD ANGLE PROJECTION
	▽=0	mm INCH	MM/IN	2:1	METRIC	☉ □
	▽=0	4 PLACES ± --- ± ---	DRAWN BY DATE	TITLE	GIGABIT MAGNETIC JACK POE PLUS ENABLED 1X1	
		3 PLACES ± --- ± .010	CHECKED BY DATE			
	2 PLACES ± 0.25 ± .020	MMANGARUDOV 2014/05/05				
	1 PLACE ± 0.5 ± ---	APPROVED BY DATE		DOCUMENT NO.	SD-85789-401	
	0 PLACE ± ±	SSTEINKE 2014/06/11		MATERIAL NO.	SEE SHEET 3	
	ANGULAR ± .5 °			SIZE	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				SHEET NO. 2 OF 3	

9 8 7 6 5 4 3 2 1

10 9 8 7 6 5 4 3 2 1

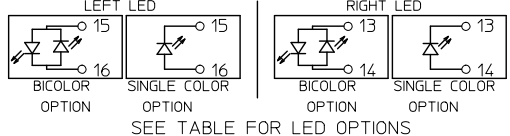
Electrical Specifications @25°C		
Operating temperature (-40°C to +85°C)		
Description	Value	
OCL POE+TRANSF. 20mA bias (-40°C to +85°C)	350MHz min.	
OCL NONPOE TRANSF. 8mA bias (-40°C to +85°C)	350MHz min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
10-9.9 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	PIN13	PIN14
85789-4008	2.50mm	-	+	GREEN	GREEN
85789-4020	2.50mm	+	-	YELLOW	YELLOW
NON LED					

ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST



SEE TABLE FOR LED OPTIONS

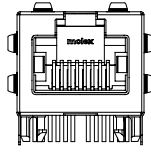
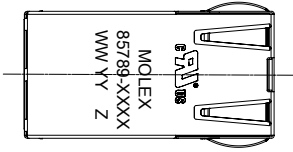
b_frame_A3_P_AM_T Rev E1 2012/01/25

BOM UPDATE EC NO: JDR/MANGARUDOV 2014/11/28 CHKD:BYRNES 2014/12/05 APPR: SSTEINKE 2014/12/22 REV DESCRIPTION	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	GIGABIT MAGNETIC JACK	
		3 PLACES ± --- ± .010	JBADER 2014/04/25		POE PLUS ENABLED 1X1	
	2 PLACES ± 0.25 ± .020	CHECKED BY DATE		molex		
	1 PLACE ± 0.5 ± ---	MMANGARUDOV 2014/05/05		DOCUMENT NO. SD-85789-401		
	0 PLACE ± ±	APPROVED BY DATE		SHEET NO. 3 OF 3		
	ANGULAR ± .5 °	SSTEINKE 2014/06/11		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	MATERIAL NO.	SEE BOM			

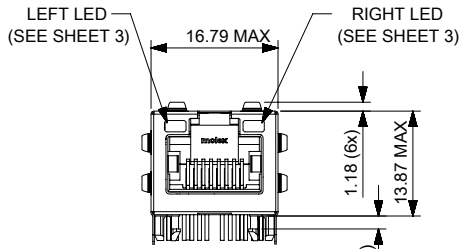
9 8 7 6 5 4 3 2 1

GIGABIT SINGLE PORT MAGNETIC JACK

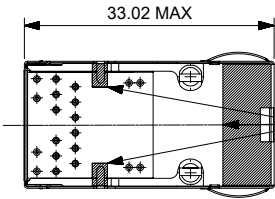
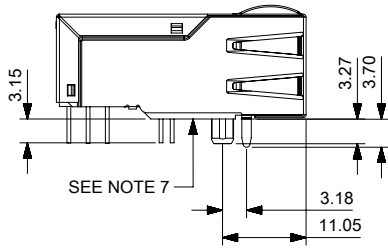
PoE+ MAGNETICS ACC. TO IEEE802.3at
FOR PSE OR PD APPLICATIONS



FRONT VIEW
NON LED VERSION
P/N 85789-1020



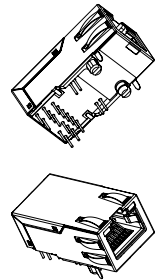
FRONT VIEW
LED VERSION
P/N SEE BOM ON SHEET 3



NOTES:

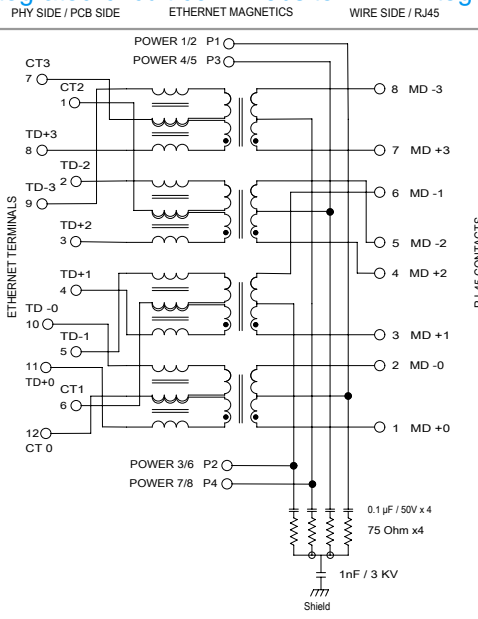
- 1 - SHIELD MATERIAL: STAINLESS STEEL (GROUND PINS ARE SOLDER DIPPED)
- 2 - PLASTIC MATERIAL: PBT, BLACK, UL 94V-0
- 3 - RJ45 TERMINALS MATERIAL: COPPER ALLOY CONTACT PLATING: 0.76 MICROMETER GOLD OVER 1.9 MICROMETER NICKEL PHY TERMINALS: TIN PLATED
- 4 - MATING INTERFACE ACCORDING TO IEC 60603-7
- 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 CHKD. RSILLER 2016/02/23 2015/09/28	QUALITY SYMBOLS	GENERAL TOLERANCES (UNLESS SPECIFIED)	DIMENSION UNITS	SCALE					
	∇ = 0 ∇ = 0 ∇ = 0 ∇ = 0 ∇ = 0 ∇ = 0 ∇ = 0 ∇ = 0	ANGULAR TOL ± 0.5 ° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±	MM	2:1					
	DRWN BY MFURKEL DATE 2015/06/15	CHKD BY DATE	PRODUCT CUSTOMER DRAWING						
	APPR BY DATE	DRAFT WHERE APPLICABLE MUST REMAIN WITHIN DIMENSIONS	DRAWING SIZE A3	THIRD ANGLE PROJECTION	SERIES 85789	MATERIAL NUMBER SEE BOM/SHEET 3/4	CUSTOMER	DOC TYPE PSD	DOC PART 000

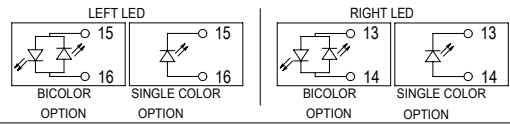
Electrical Specifications @25°C		
Operating temperature (0°C to +70°C)		
Description	VALUE	
OCL POE+TRANSF. 20mA bias (0°C to +70°C)	350µH min.	
OCL NONPOE TRANSF. 8mA bias (0°C to +70°C)	350µH min.	
Turns Ratio	1CT:1CT	
Insertion Loss		
Frequency (MHz)	Limits (dB max.)	Typical Values (dB max.)
1.0-9.9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

ADDITIONAL LED COLORS AND CONFIGURATIONS ARE AVAILABLE ON REQUEST

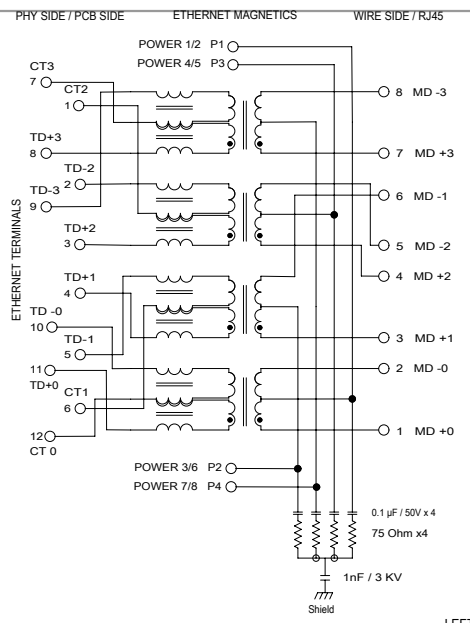
SEE TABLE FOR LED OPTIONS



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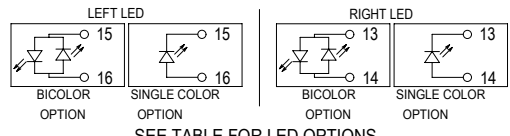
EC DESCRIPTION EC NO. 102890 DRWN: MFURKEL CHKD: APPR: RSLLR: REV: F	QUALITY SYMBOLS ▽ = 0 ▽ = 0 ▽ = 0 ▽ = 0 ▽ = 0 ▽ = 0 ▽ = 0 ▽ = 0	GENERAL TOLERANCES (UNLESS SPECIFIED) ANGULAR TOL ± 0.5° 4 PLACES ± 3 PLACES ± 2 PLACES ± 0.25 1 PLACE ± 0.5 0 PLACES ±	DIMENSION UNITS: MM SCALE: 5:1 DRWN BY: MFURKEL DATE: 2015/06/15 CHKD BY: DATE: APPR BY: DATE: 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
	MOLEX GIGABIT MAGNETIC JACK POE PLUS ENABLED			
	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			

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		
	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

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