

INTEgrated TRANSformer JACK

Advanced Assembly of Magnetics (AAM)

Technology of Inelco:

Special arrangement of the coils and their protection, as well as the unique PCB-design for high packaging density.

Features

- Isolation Transformer
- Common Mode Choke
- Resistors
- Capacitors
- Grounding to pin or shield

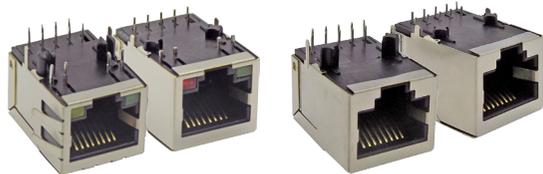
Specifications

- 100M/ 1G/ 10G/ PoE+(+)
- with or w/o EMI Tabs
- with or w/o LEDs
- THT/ THR/ PiP/ SMT/ EDGE
- 6 ... 50 μ " gold plating, std 30 μ "



Side Entry - Latch Down

THT/ THR/ PiP



IS33

IS11

Top Entry

THT/ THR/ PiP



IS36

IS31

SMT or Card-Edge



IS34

IS43

IS53, IS56

Side Entry - Latch Up

THT/ THR/ PiP



IS23

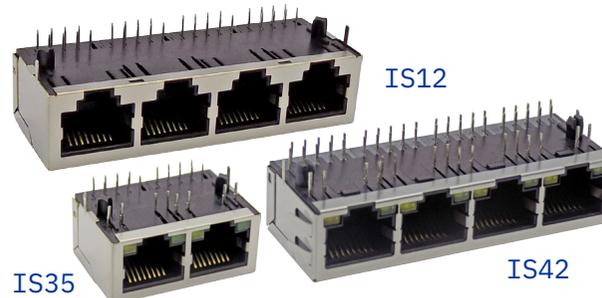
IS30

IS47

IS51

Harmonica 1xN

THT/ THR/ PiP



IS12

IS35

IS42

Doublestack NxN & Combo USB



IS3A

IS1A

ISC2

Questionnaire

Name E-Mail
Company Telephone
Address
City ZIP Code
Country

What is your final product/ application?

What transceiver chip are you using ?
Manufacturer and chip number

Are you using a Jack with integrated magnetics already?

Manufacturer Type (p/n)

What type of filtering is desired? common-mode-choke
 magnetic package (without isolation capacitor)
 full magnetic package (with isolation capacitor)

Network?

- 10/100 Base-T
- 1000 Base-Tx
- 10 Giga Base-T
- PoE
- PoE+
- PoE++
- T1/E1
- other:

Connector Type?

- single port top entry
- single port side entry tab down
- single port side entry tab up
- multi port side entry tab down
- multi port side entry tab up
- multi port 2 level
- combination RJ45 with USB
- multi port configuration?

Do you need LEDs?

- No
- Yes L1 LED Color
- L2 LED Color

Shield type?

- no shield
- standard shield
- enhanced shield
- other shield

Solder type?

- THT
- THR
- SMT
- PiP

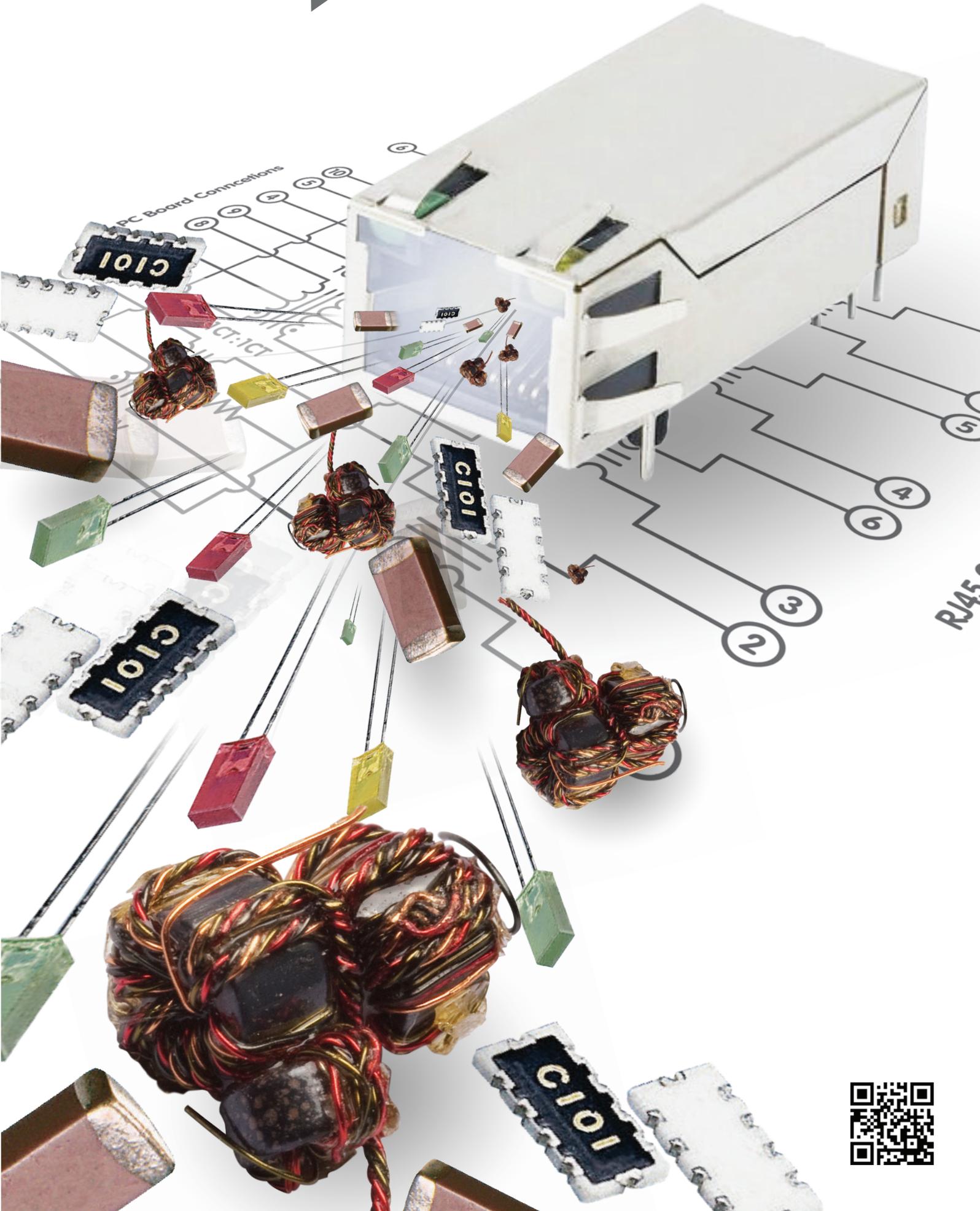
Comment?

What is the annual estimated usage and over how many years?



intrajack®

INtegrated TRAnsformer JACKs





intrajack[®] Product-Line Questionnaire

Name E-Mail
Company Telephone
Address
City ZIP Code
Country

What is your final product/ application?

What transceiver chip are you using ?
Manufacturer and chip number

Are you using a Jack with integrated magnetics already? Manufacturer Type (p/n)

What type of filtering is desired? common-mode-choke
 magnetic package (without isolation capacitor)
 full magnetic package (with isolation capacitor)

Network? 10/100 Base-T
 1000 Base-T
 10 Giga Base-T
 PoE
 PoE+
 T1/E1

Connector type? single port top entry
 single port side entry tab down
 single port side entry tab up
 combination RJ45 with USB
 multi port side entry tab up
 multi port side entry tab down
 multi port 2 level
multi port configuration?

Do you need LEDs? No Yes
L1 LED Color
L2 LED Color

Shield type? no shield standard shield enhanced shield other shield
Solder type? THR SMT PIP

Comment?

What is the annual estimated usage and over how many years?

Contents

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INELCO the home of unparalleled quality and service in INterconnection and ELectronic COmponents is a European driven company, manufacturing European ideas, solutions and quality in Asia. INELCO's mission is to fulfill the requirements of their partners and customers and remains the best choice for cost-effective solutions. INELCO is the supplier of interconnection and electronic components and systems for networking, telecommunications and industrial applications. INELCO's product range includes modular (Western) plugs and jacks (modcon[®]), with and without integrated transformers (intrajack[®]), shielded and unshielded as well as terminals (voice services[®]), SFPs (compu-shield[®]), M12 (circon[®]), discrete components (discom[®] transformers, coils and inductors), USBs and other additional products and services.



intrajack® - transformer jacks

Specification

Characteristics Description

- RJ45 10/ 100/ 1000 Base-Tx Transformer Jack with Transformer Impedance Resistor/ High Voltage Capacitor
- Size same as RJ45 Modular Jack to save PCB Space
- Reduce EMI Radiation, improve EMI Performance
- Designed for Network Interface Card Application
- 10/ 100 Base-Tx Designed to meet IEEE 802.3u Requirement
- 1000 Base-T Designed to meet IEEE 802.3ab Requirement
- Designed for Transmission over UTP-5 Cable

Electrical

- Current Rating 8 mA DC
- Voltage Rating 30 V DC
- Isolation Voltage 1,500 V RMS (Input to Output) 60 s @ 60 Hz
- Inductance 350 µH min. @ 100 kHz, 100 mV, 8 mA DC Bias
- Leakage Inductance 0.4 µH max. @ 100 kHz, 100 mV
- Insertion Loss 1.1 dB max. @ (1 - 100) MHz
- Return Loss 18 dB min. @ (1 - 30) MHz
16 dB min. @ (30 - 60) MHz
12 dB min. @ (60 - 80) MHz
- Cross Talk 30 dB min. @ (1 - 100) MHz
- Common Mode Rejection 30 dB min. @ (1 - 100) MHz

Mechanical

- Operating Life 750 Cycles min.
- PCB Retention Pre-Solder 1 Lb min.
- PCB Retention Post-Solder 10 Lbs min.
- Housing Material PBT / PA66 / PA9T, UL94V-0, Black
- Insert Material PBT / PA66 / PA9T, UL94V-0, Black
- Contact Material Phosphor Bronze, QSn 6.5 - 0.1 T = 0.35 mm
- Contact Plating Selective Gold Plating over 30µ"-80µ" Nickel T = 0.20 mm
- Shield Material Brass C2680 T = 0.20 mm
- Shield Plating Nickel 30µ"-80µ"

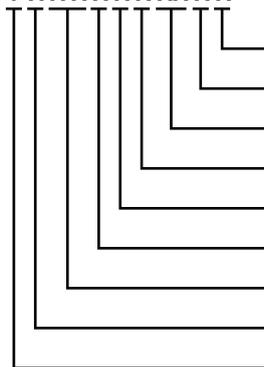
Environmental

- Operation Temperature -40 °C to +85 °C
- Storage Temperature -40 °C to +85 °C
- PA66: Wave Soldering 255 °C to 265 °C for 5 to 10 Seconds
- PA9T: IR Reflow Soldering 255 °C to 265 °C for 9 to 11 Seconds

Mates with Modular Plug Conforming to TIA-1096-A

Part Numbers

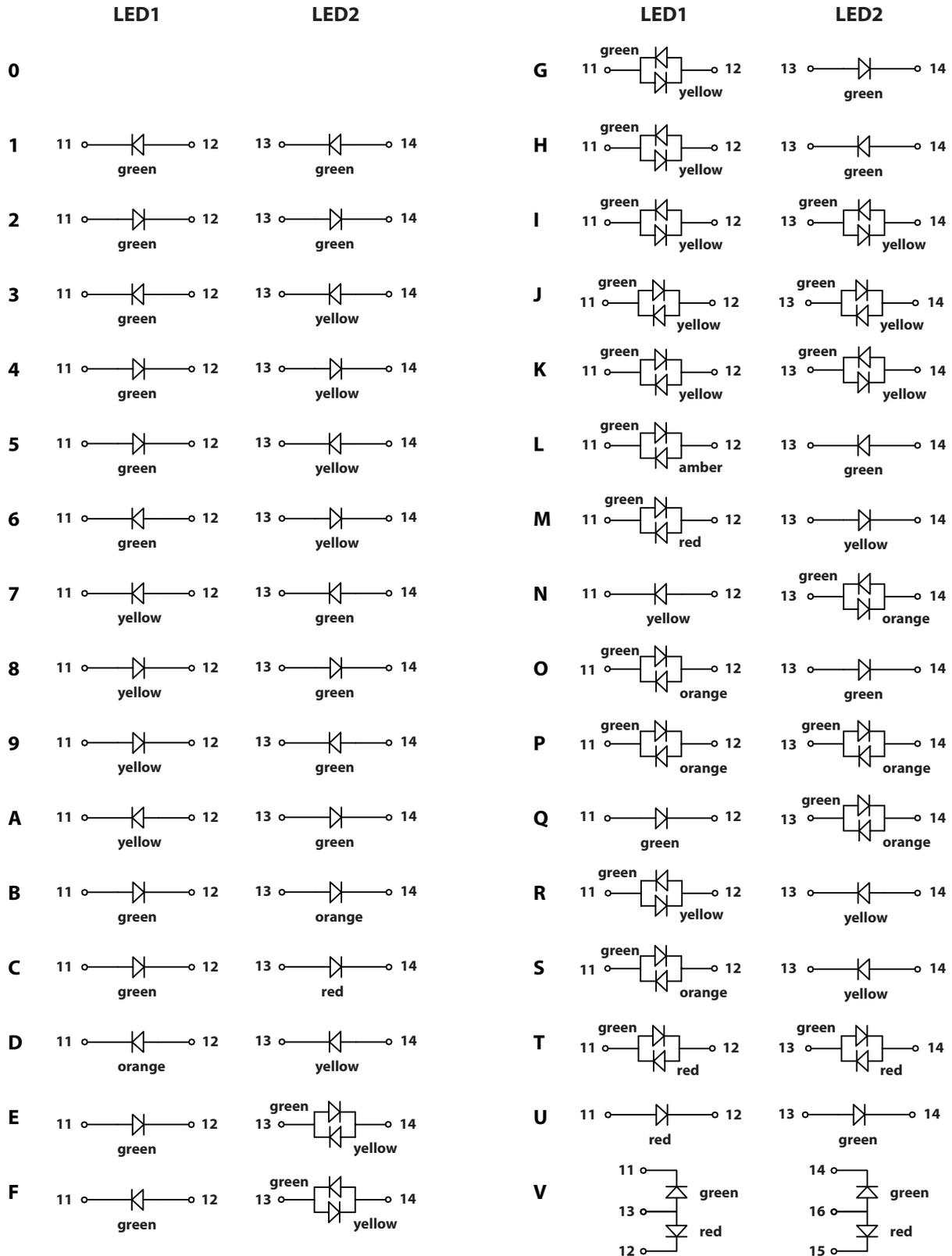
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- For Specials only: e.g. Packaging, Print D/C (MM WW (D): Month Week (Day))
- LED Configuration: 0 - 9, A - Z
- Circuit Type: 01 - 99
- Shielding Type: W = With EMI Tabs, N = W/O EMI Tabs
- Housing Material: L = Low Temp., F = Mid Temp., G = High Temp.
- Gold Plating: 1 = 3 µ", 2 = 6 µ", 3 = 15 µ", 4 = 30 µ", 5 = 50 µ"
- Serial Number: 00 - 99 for 1x1 Port, Multiport and Combo USB defined else
- Shielding: U: Unshielded, S: Shielded
- Jack Type: I: Intrajack

intrajack[®] - transformer jacks

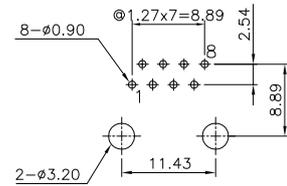
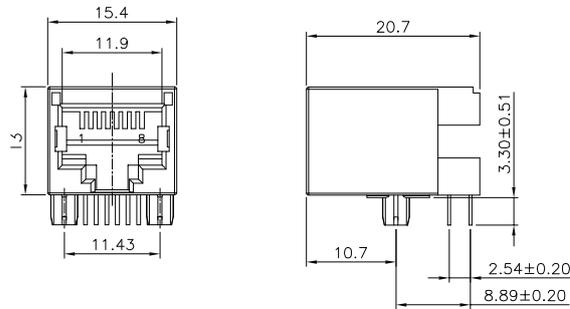
LED Configurations



intrajack® - transformer jacks

1*1 Unshielded Jacks

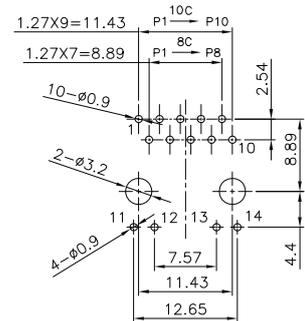
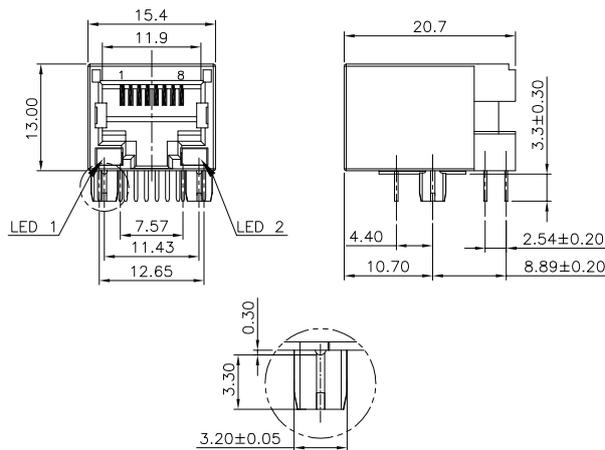
IU13XXXXXXX



PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

IU24XXXXXXX

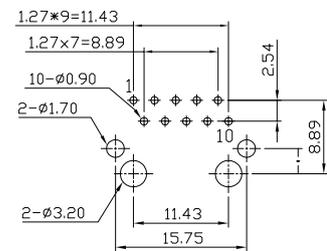
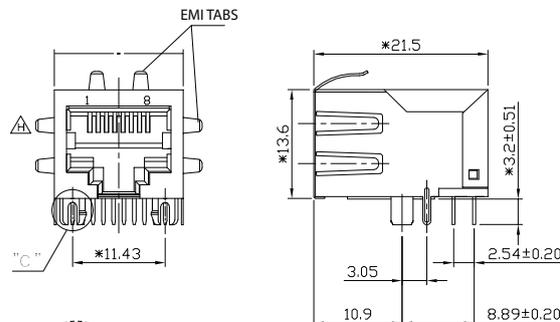


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

1*1 Shielded Jacks without LEDs

IS11XXXXXXX



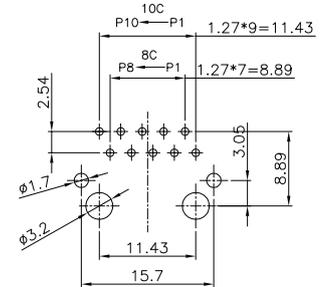
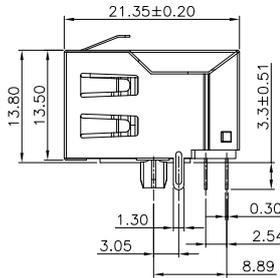
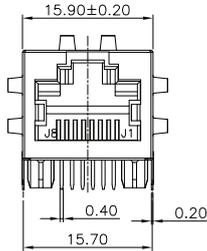
PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
100 Mbit/s & PoE
1 Gbit/s

intrajack[®] - transformer jacks

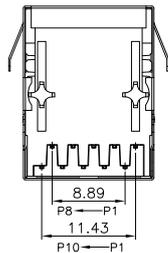
1*1 Shielded Jacks without LEDs

IS23XXXXXXX

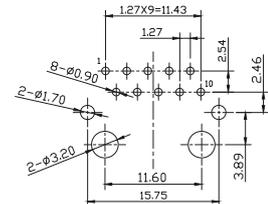
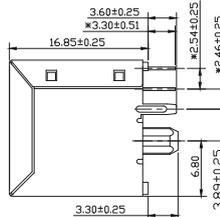
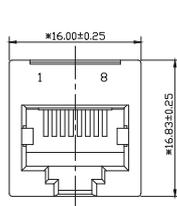


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

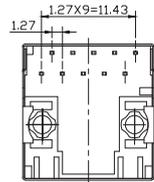


IS31XXXXXXX

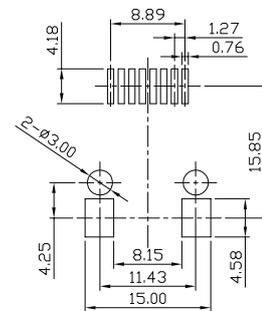
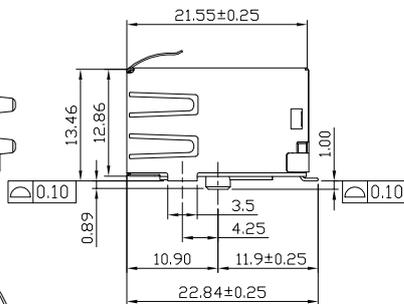
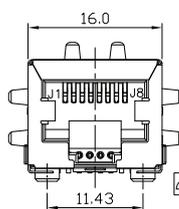


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

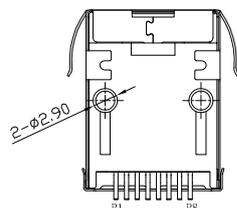


IS34XXXXXXX



PC Board Layout
Component Side Shown

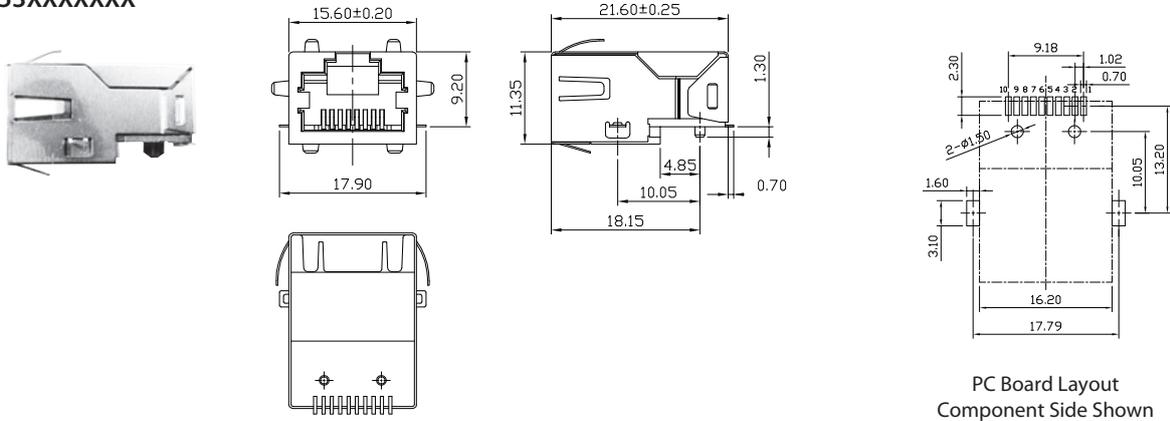
Circuits 100 Mbit/s



intrajack[®] - transformer jacks

1*1 Shielded Jacks without LEDs

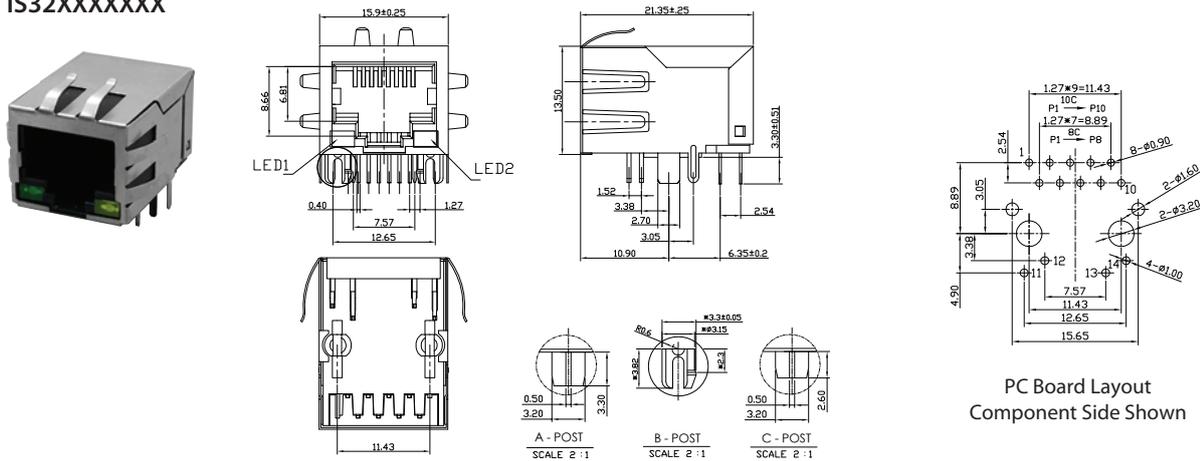
IS53XXXXXXX



Circuits 100 Mbit/s
1 Gbit/s

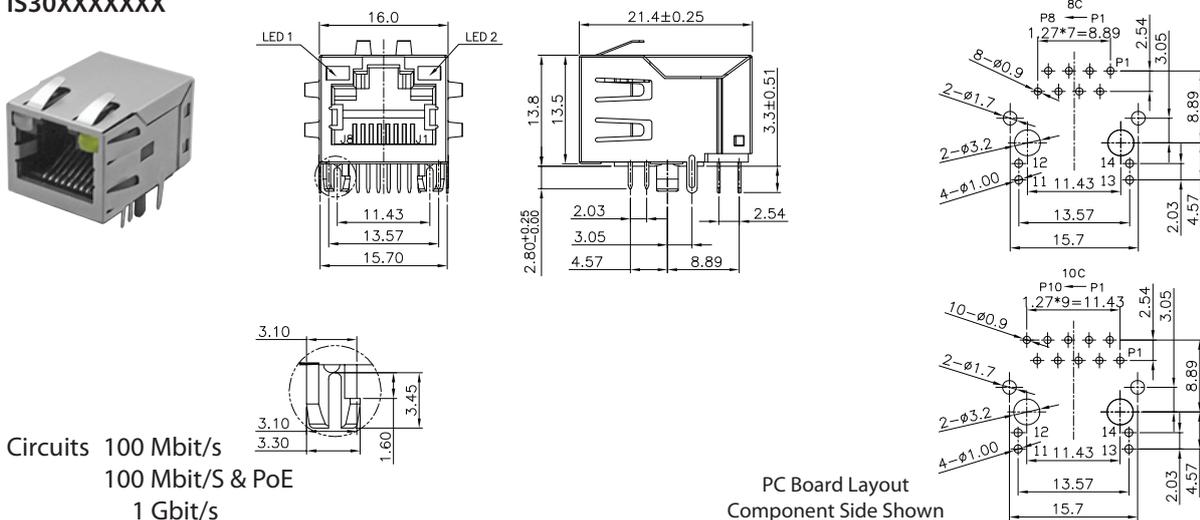
1*1 Shielded Jacks with LEDs

IS32XXXXXXX



Circuits 100 Mbit/s
1 Gbit/s

IS30XXXXXXX

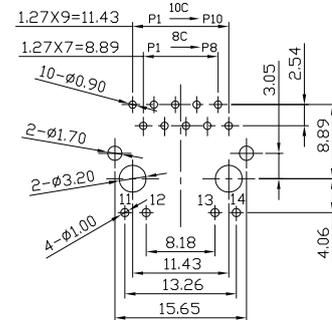
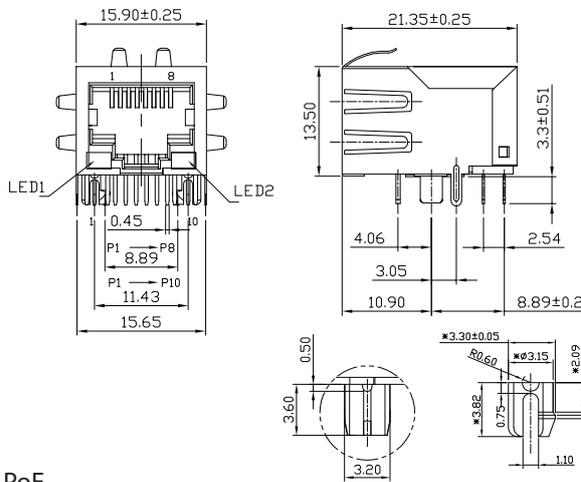


Circuits 100 Mbit/s
100 Mbit/s & PoE
1 Gbit/s

intrajack[®] - transformer jacks

1*1 Shielded Jacks with LEDs

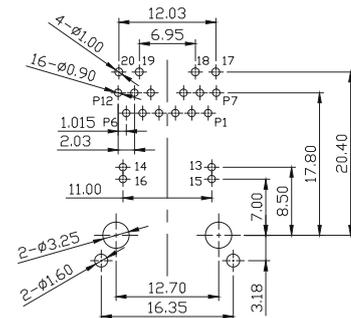
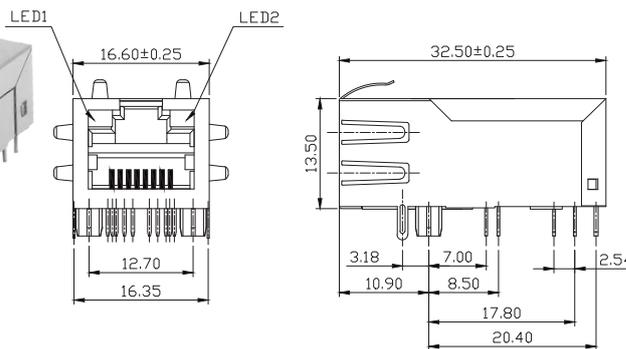
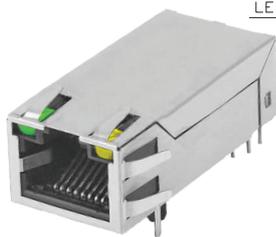
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PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
100 Mbit/s & PoE
1 Gbit/s

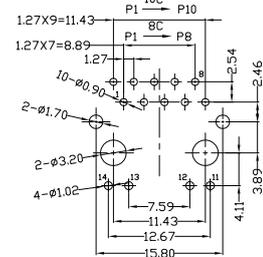
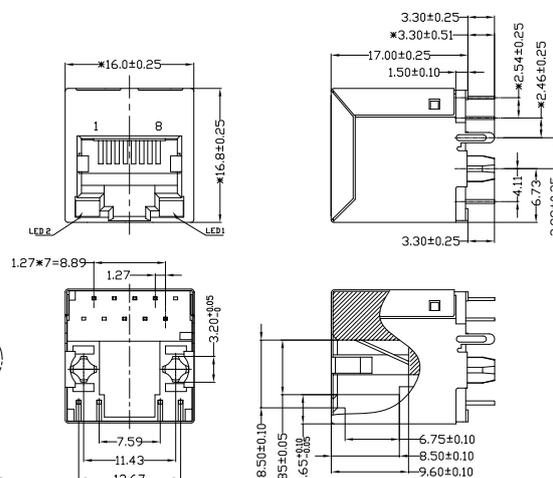
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PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s
10 Gbit/s

IS36XXXXXXX



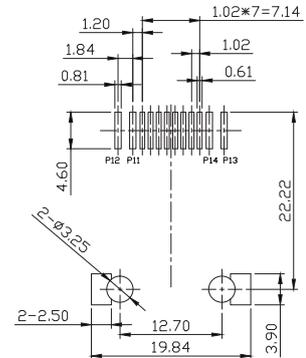
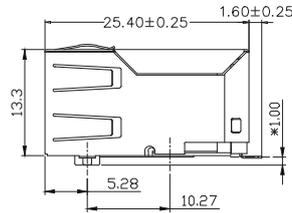
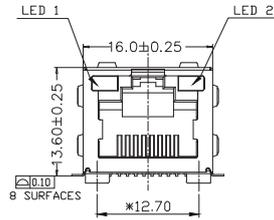
PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
100 Mbit/s & PoE
1 Gbit/s

intrajack[®] - transformer jacks

1*1 Shielded Jack with LEDs

IS43XXXXXXX

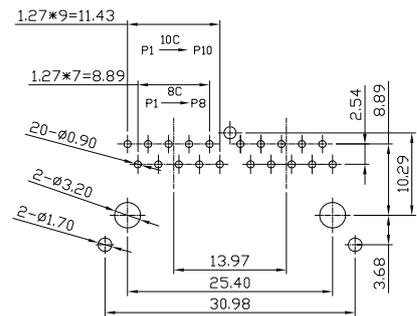
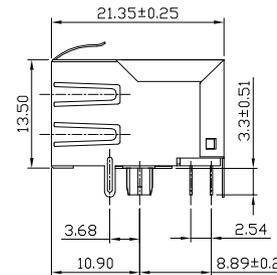
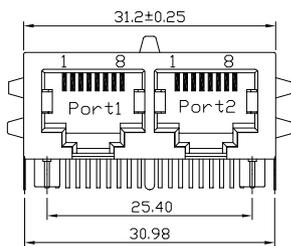
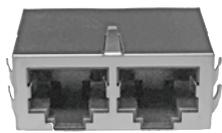


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

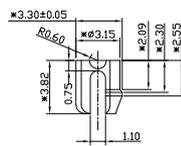
1*2 Shielded Jack without LEDs

IS44XXXXXXX



PC Board Layout
Component Side Shown

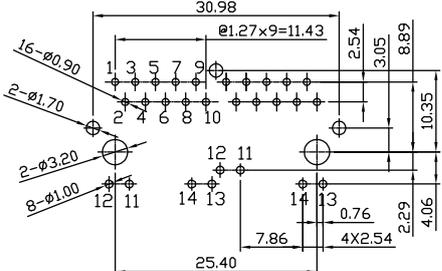
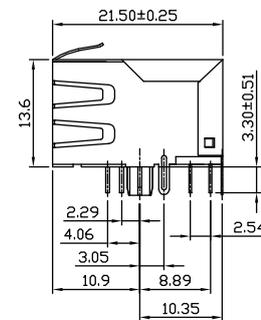
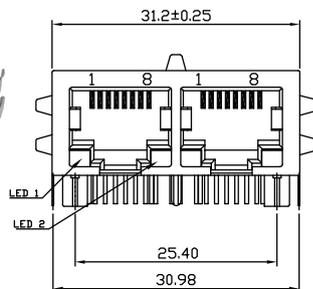
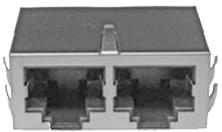
Circuits 100 Mbit/s
1 Gbit/s



DETAIL "C"
SCALE: 2:1

1*2 Shielded Jack with LEDs

IS35XXXXXXX



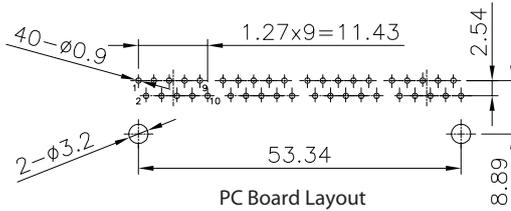
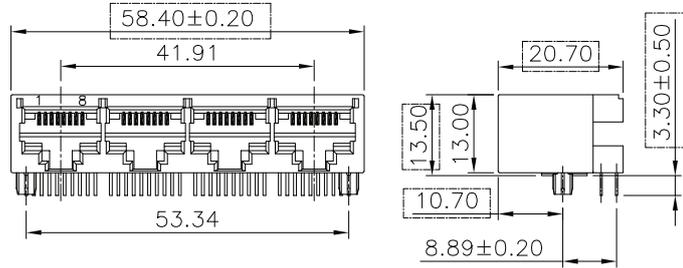
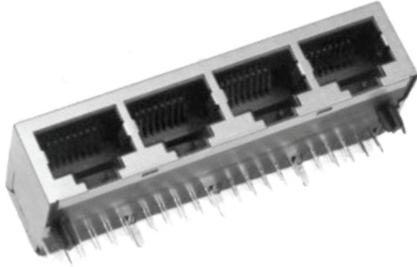
PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
100 Mbit/s & PoE
1 Gbit/s

intrajack[®] - transformer jacks

1*4 Shielded Jack without LEDs

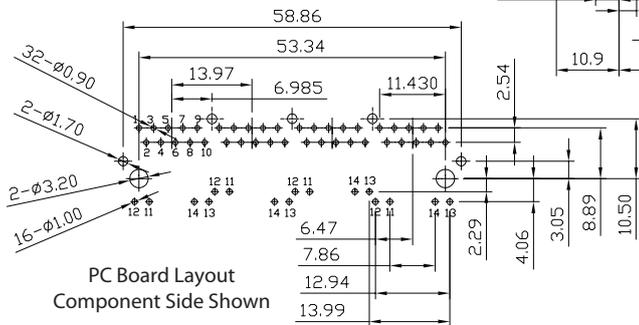
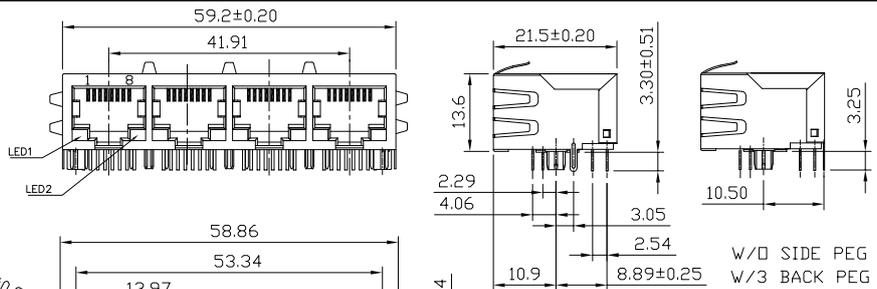
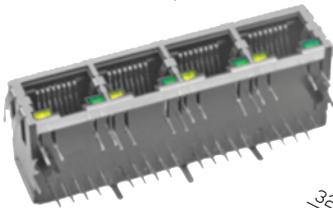
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Circuits 100 Mbit/s
1 Gbit/s

1*4 Shielded Jack with LEDs

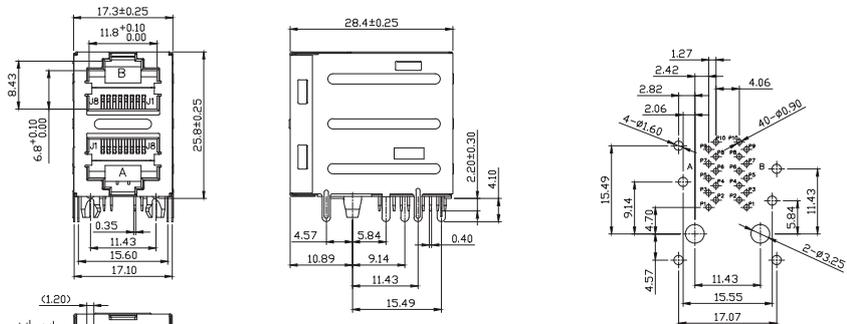
IS42XXXXXXX



Circuits 100 Mbit/s
1 Gbit/s

2*1 Shielded Doublestack without LEDs

IS1BXXXXXXX



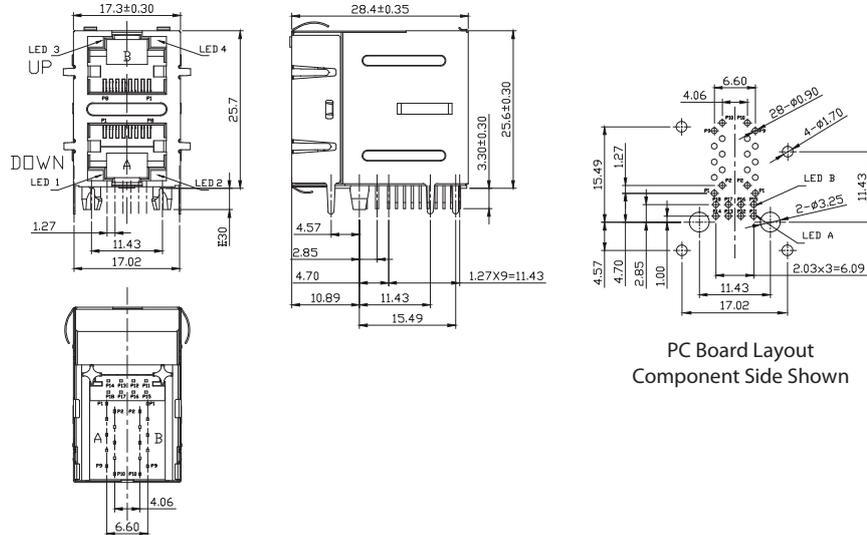
PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

intrajack[®] - transformer jacks

2*1 Shielded Doublestack with LEDs

IS1AXXXXXXX

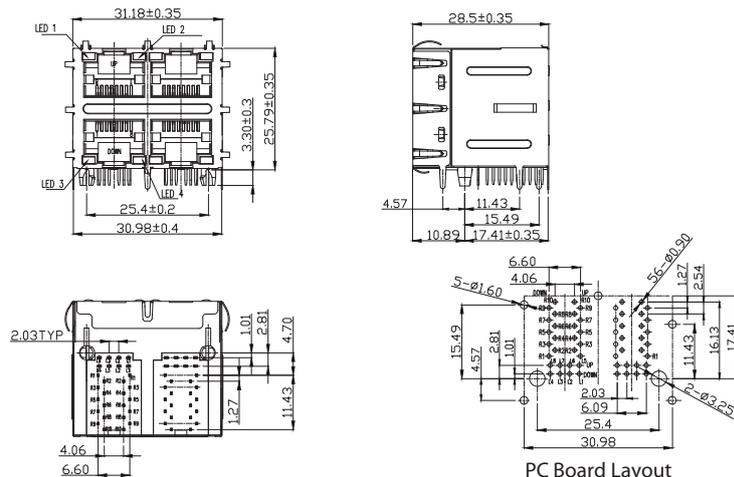


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

2*2 Shielded Doublestack with LEDs

IS2AXXXXXXX

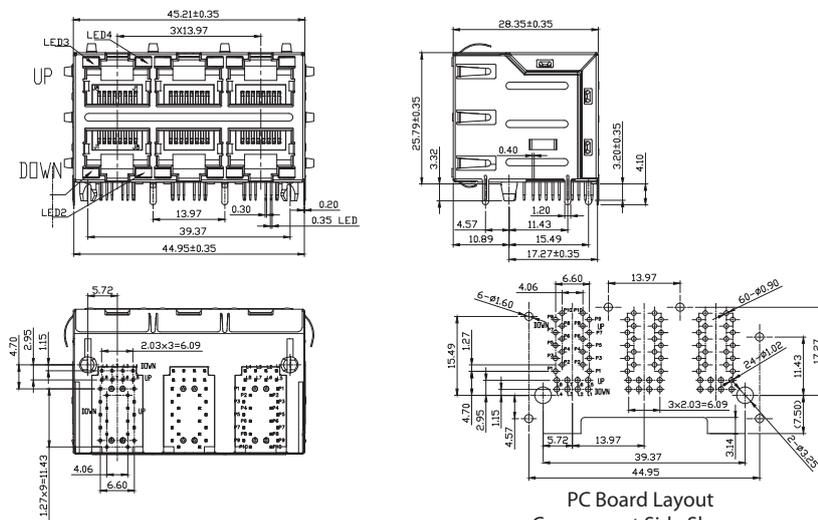


PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

2*3 Shielded Doublestacks with LEDs

IS3AXXXXXXX



PC Board Layout
Component Side Shown

Circuits 100 Mbit/s
1 Gbit/s

