

KRH-IPI SERIES



FEATURES & BENEFITS

- Available 1G , 2.5G , 5G , 10G Ethernet PHY
- Optional Built-in LED as Power/Activity indicators
- Optional 1G , 2.5G , 5G , 10G Magnetics
- Low profile mechanism design
- Allows engineers the ease of Ethernet with a single device
- Guarantee IEEE Compliance
- Support the applications where the physical layer is not included in the base chipset

ADVANTAGES

- Integrate Analog to Digital PHY to easy for digital design
- Auto negotiation for differential signal transmission
- Reduce analog signal interference
- Save the main board design space

DESCRIPTION

Low Profile tab-up single port highly integrated RJ45 IPI designed for applications that need IEEE compliant on 1Gigabit to 10 Gigabit Ethernet. The KinnexA-IPI (Integrated PHY ICM) Series RJ45 features the first tier physical layer supporting applications where the physical layer is not included in the base chipset.

APPLICATIONS

- Mother Board
- Laptops
- Set-Top Box
- Cloud Server PC
- VOIP
- LAN Switch HUB
- Switch Router
- POS equipment
- AV system





ELECTRICAL SPECIFICATIONS:

ELECTRICAL SPECIFICATIONS @ 25 \pm 5 $^{\circ}$ C --- OPERATING TEMPERATURE -40 $^{\circ}$ C ~ +85 $^{\circ}$ C					
PART NUMBER	INSERTION LOSS	RETURN LOSS	CROSS TALK	CM TO CM MODE REJECTION	HI-POT
KRH-IPI-001-XXX	- 0.6dB MAX. (1 ~ 100MHz) - 1.0dB MAX. (100 ~ 200MHz) - 1.5dB MAX. (200 ~ 300MHz) - 2.0dB MAX. (300 ~ 400MHz)	- 20dB MIN. (1 ~ 100MHz) - 17dB MIN. (100 ~ 200MHz) - 14dB MIN. (200 ~ 300MHz) - 13dB MIN. (300 ~ 400MHz) - 12dB MIN. (400 ~ 500MHz)	- 25dB MIN. (1 ~ 500MHz)	- 22dB MIN.(1 ~ 100MHz) - 21dB MIN.(100 ~ 300MHz) - 20dB MIN.(300 ~ 800MHz)	INPUT TO SHIELDING 2250 VDC / 60 SEC

DURABILITY TESTING RATING:

RJ45 DURABILITY TESTING RATING				
PART NUMBER	MATING FORCE	UMMATING FORCE	DURABILITY	SUGGESTED PEAK WAVE
KRH-IPI-001-XXX	4 POUNDS MAX.	4 POUNDS MAX.	750 MATING CYCLED MIN.	SOLDERING CONDITION IS 260 $^{\circ}$ C MAX. / 10 SEC MAX.

MATERIAL SPECIFICATION:

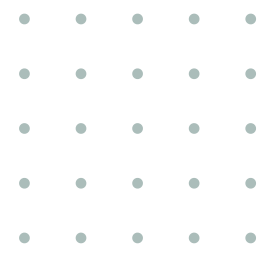
RJ45 MATERIAL SPECIFICATION						
PART NUMBER	SHIELD		CONTACT		HOUSING	
	MATERIAL	FINISH	MATERIAL	PLATING	MATERIAL	SPECIFICATION
KRH-IPI-001-XXX	COPPER ALLOY	NICKEL PLATING	PHOS-BRONZE	GOLD PLATING ON CONTACT AREA NICKEL UNDERPLATING OVERALL	HIGH THERMOPLASTIC	UL 94V-0

ORDERING INFORMATION:

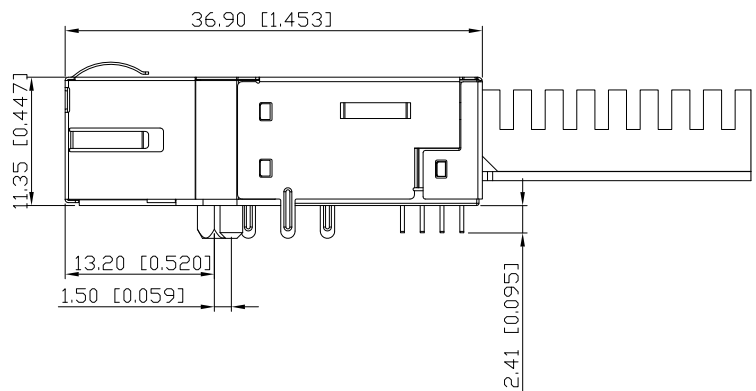
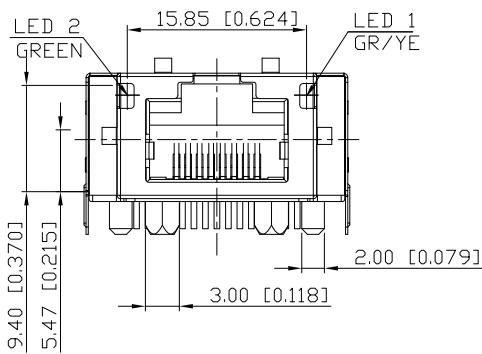
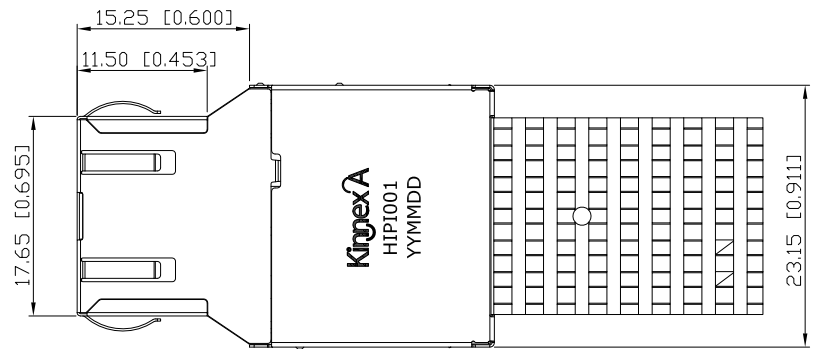
PART NUMBER	DESCRIPTION
KRH-IPI-001-XXX	RJ45, W/10G PHY ICM + 4PPoE, FLASH MEMORY AND REGULATORS, W/LED, SHIELDED

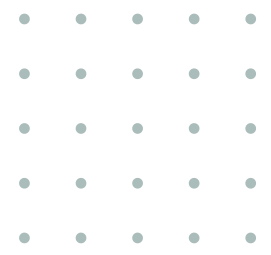
***FOR 1G, 2.5G, AND 5G, PLEASE CONTACT YOUR SALES REP. AT KinnexA.



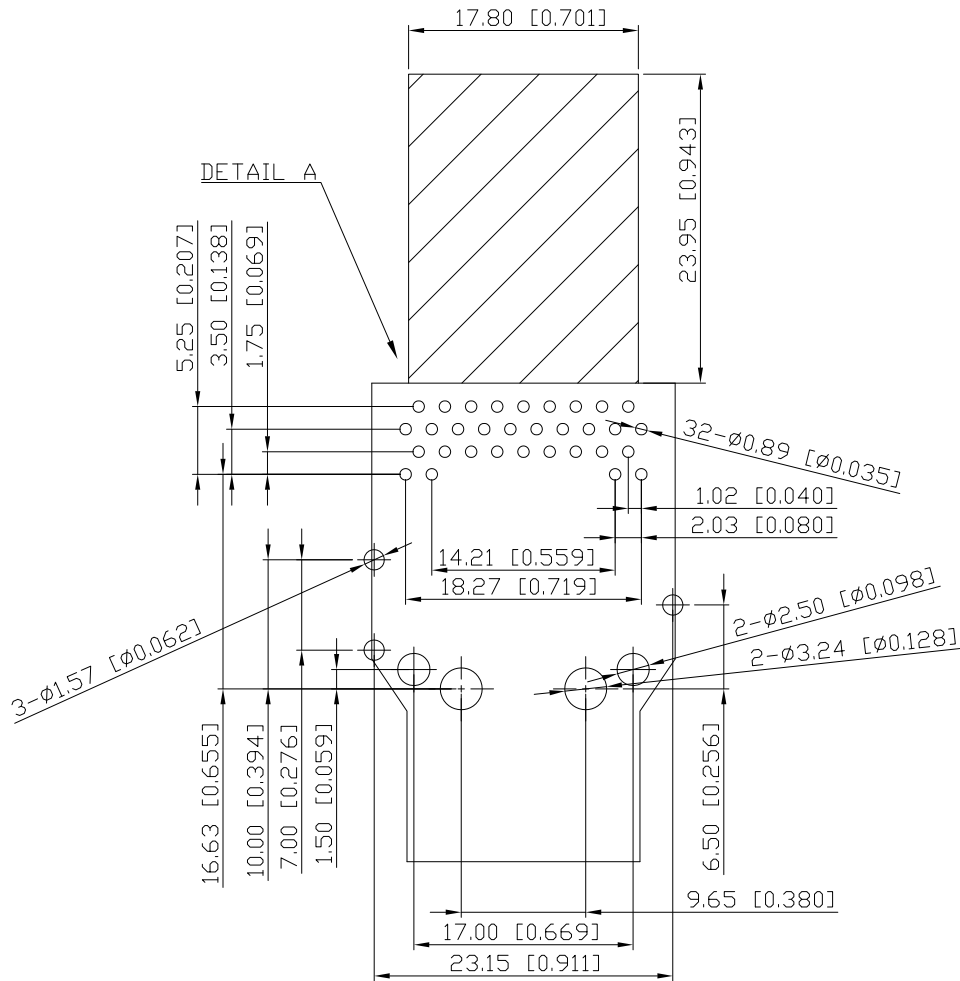


MECHANICAL





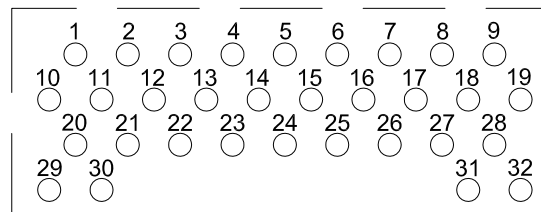
PCB LAYOUT



SUGGESTED PCB LAYOUT

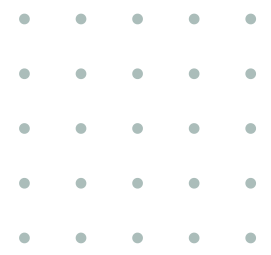
(TOP VIEW)

DIMENSIONAL TOLERANCE: .XX \pm 0.08[0.003]

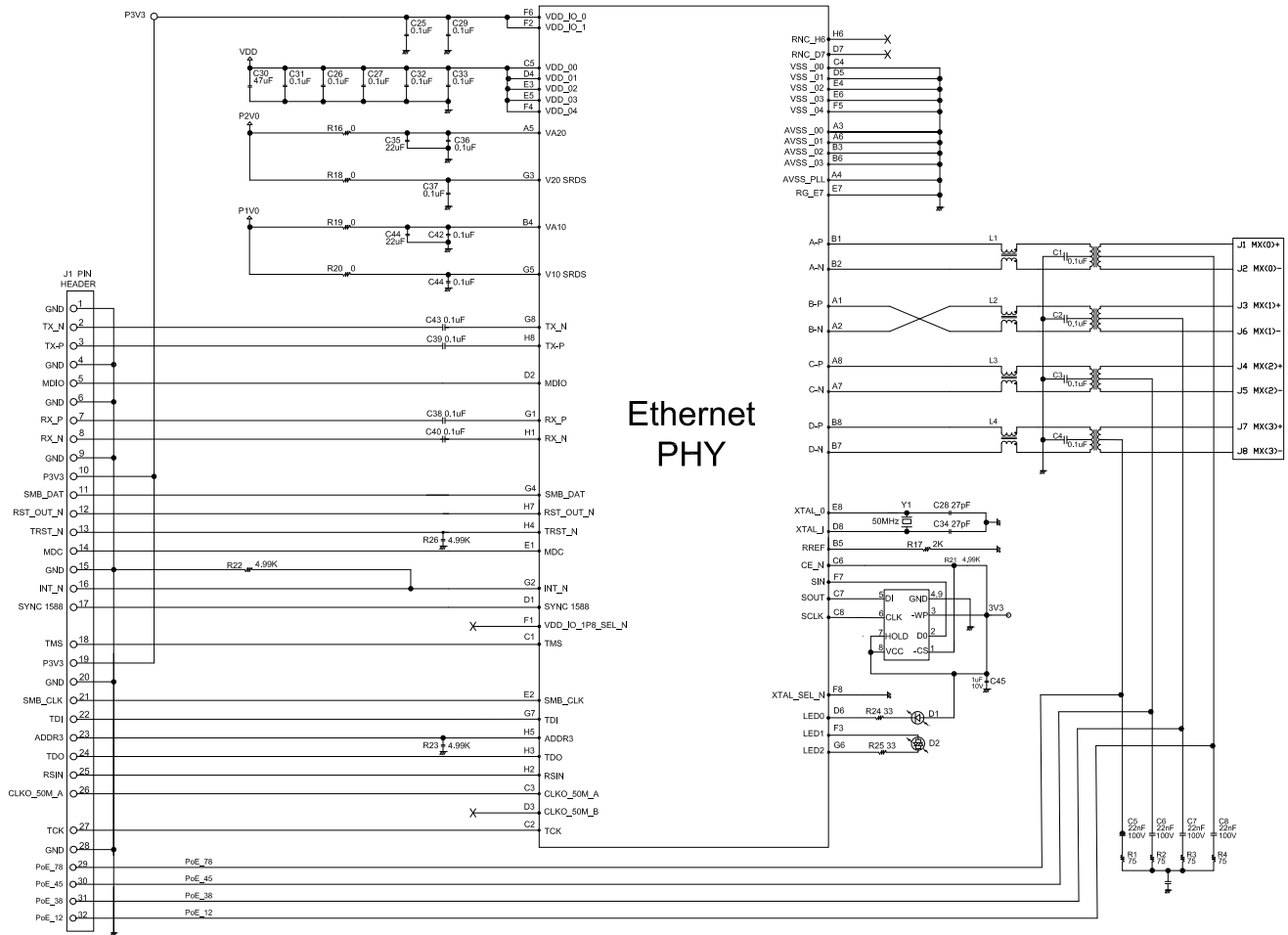


DETAIL A
SCALE: 2:1



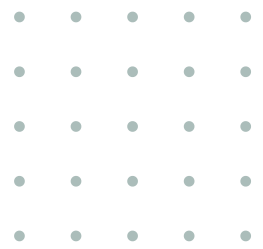


SCHEMATIC



*** The above schematic is designed based on AQR113C.
 This schematic is subject to change on different speed Physical Layers.





ELECTRICAL CHARACTERISTICS

TEST NOTES:($25^{\circ}\pm 5^{\circ}\text{C}$)

1. TR:
INPUT TO OUTPUT=1:1 \pm 3%
2. OCL: (<100KHz, 100mV, 8mA, DC Bias)
120 μ H MINIMUM
3. DCR:
EVERY RJ PAIR=1.2 Ω MAXIMUM
4. INSERTION LOSS:
-0.6dB MAXIMUM AT 1MHz TO 100MHz
-1.0dB MAXIMUM AT 100MHz TO 200MHz
-1.5dB MAXIMUM AT 200MHz TO 300MHz
-2.0dB MAXIMUM AT 300MHz TO 400MHz
5. RETURN LOSS:
-20dB MINIMUM AT 1MHz TO 100MHz
-17dB MINIMUM AT 100MHz TO 200MHz
-14dB MINIMUM AT 200MHz TO 300MHz
-13dB MINIMUM AT 300MHz TO 400MHz
-12dB MINIMUM AT 400MHz TO 500MHz
6. CROSS TALK:
-25dB MINIMUM AT 1MHz TO 500MHz
7. CM TO CM REJECTION:
-22dB MINIMUM AT 1MHz TO 100MHz
-21dB MINIMUM AT 100MHz TO 300MHz
-20dB MINIMUM AT 300MHz TO 800MHz
8. HIPOT:
INPUT(RJ SIDE) TO SHIELDING:
2250 VDC/60SEC
9. WORKING CURRENT FOR 4PPoE: 1A DC MAX.

