

Stacked 2x4 RJ45 Connector
with Integrated Magnetics and LED
for 10/100Base-T PoE application

HR872412HE

Electrical Specification @25°C

RoHS Compliant (PB Free)

Isolation: 2250VDC 0.5mA 60sec (UTP Side to Chip Side)

OCL: 350uH Minimum @100KHz 100mV with 8mADC

Insertion Loss: -1.0dB Maximum @1MHz ~ 100MHz

Return Loss: -18dB Minimum @1MHz ~ 30MHz / -13.5dB Minimum @30MHz ~ 60MHz
-12dB Minimum @60MHz ~ 80MHz / -10dB Minimum @80MHz ~ 100MHz

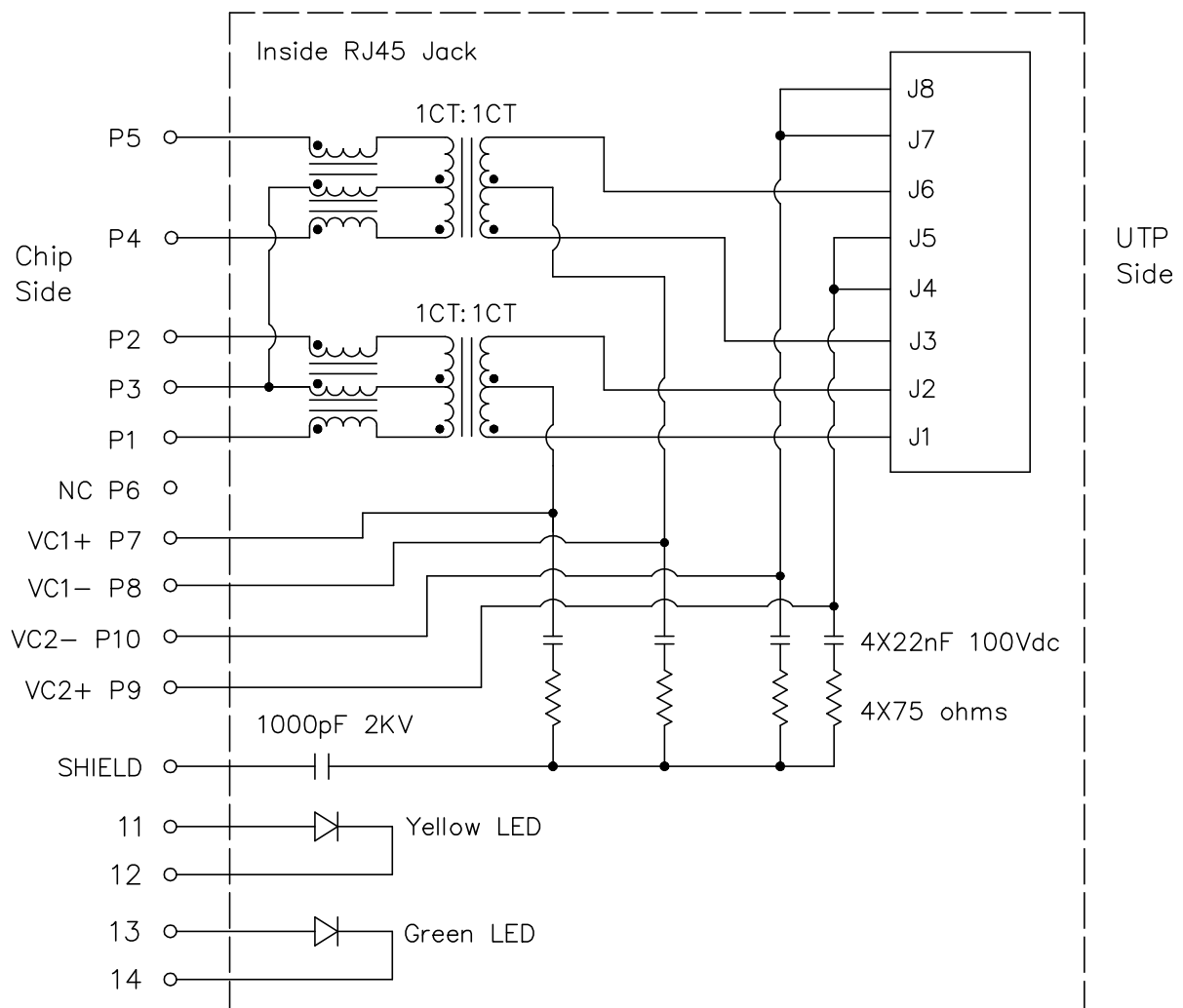
Common Mode Rejection: -30dB Minimum @1MHz ~ 100MHz

Crosstalk: -30dB Minimum @1MHz ~ 100MHz

Designed To Support 57VDC, 350mA per centre taps

(17.5W when using 2 centre taps; 35W when using 4 centre taps)

Schematics



HR872412HE

Commercial standards, specifications and Summary:

RoHS Compliant (Pb Free)
Meets or Exceeds IEEE802.3af standards including 350uH Min OCL with 8mADC
High performance for EMI suppression, Crosstalk, Return Loss and Consistent Electrical
Minimum 2250VDC isolation per IEEE802.3 requirement
Minimize PCB space and Simplify PCB Layout
Less magnetic components to place on PCB, Higher reliability and yields
UL Recognized Component: File # E330599

Material Specification:

Housing: PBT GF Black UL94V-0
Shield: 50u" Nickel over 0.20mm Thickness Brass
Insert: PA66 GF Black UL94V-0
 Phosphor Bronze 0.35mm Thickness
 Plating Area, 30u" gold over 50u" nickel
 Solder Area, 100u" tin over 50u" nickel
RJ45 Contact pin: PA66 GF Black UL94V-0
 Brass; 100u" Tinning
LED Conductor: PC Transparent UL94V-0

Mechanical Performance:

Contact resistance: 30 mΩ Maximum
Mating force: 5 lbs Maximum
Unmating force: 5 lbs Maximum
Operating life: 750 Cycles Minimum

Operating and Storage Temperature:

Operating Temperature Range: -40°C ~ +85°C
Storage Temperature Range: -40°C ~ +85°C

Dimensions in mm

Unless otherwise specified, Tolerance: .xx ±0.25

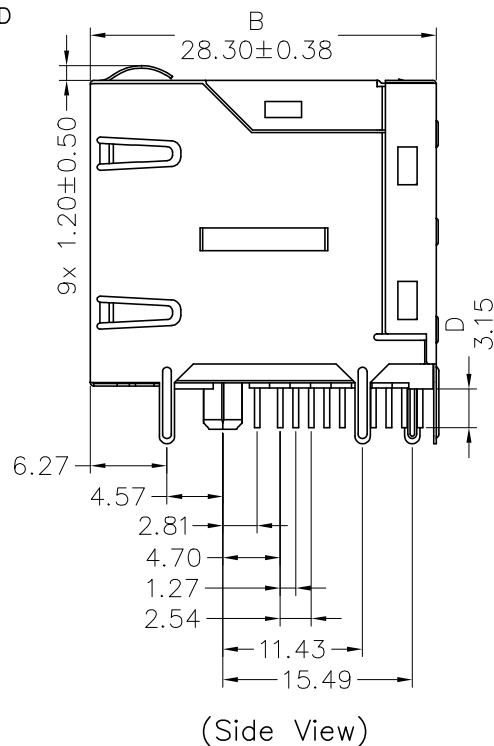
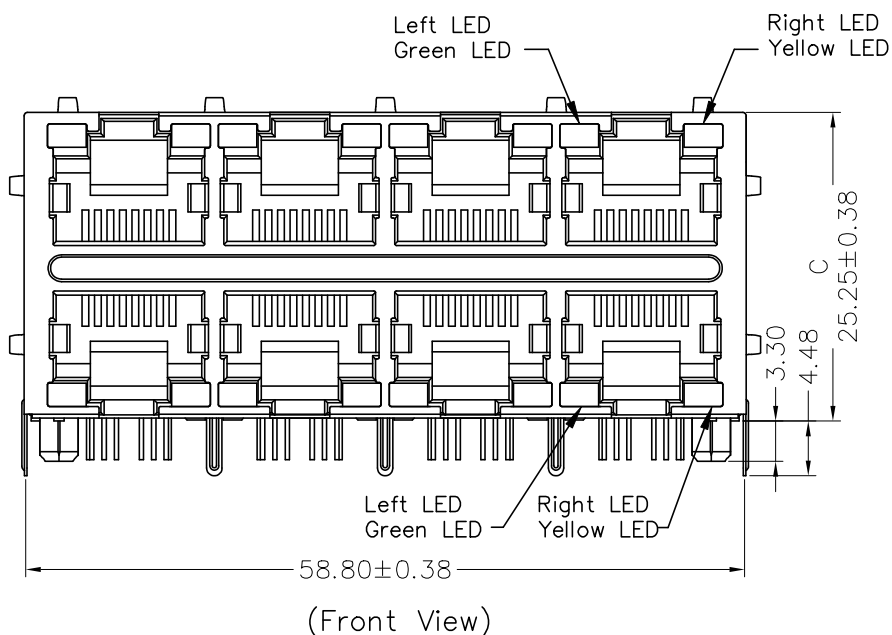
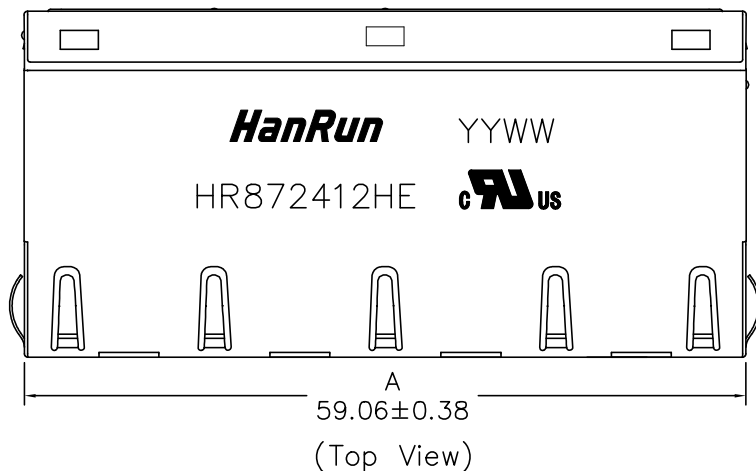
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2 of 5

Stacked 2x4 RJ45 Connector
with Integrated Magnetics and LED

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Mechanical Dimensions:



| Standard LED | Wavelength | Forward V (Min/Max) | Forward A | Type |
|--------------|------------|------------------------|-----------|------------|
| Yellow | 586nm | 1.8V/2.8V | 20mA | squareness |
| Green | 568nm | 1.8V/2.8V | 20mA | squareness |

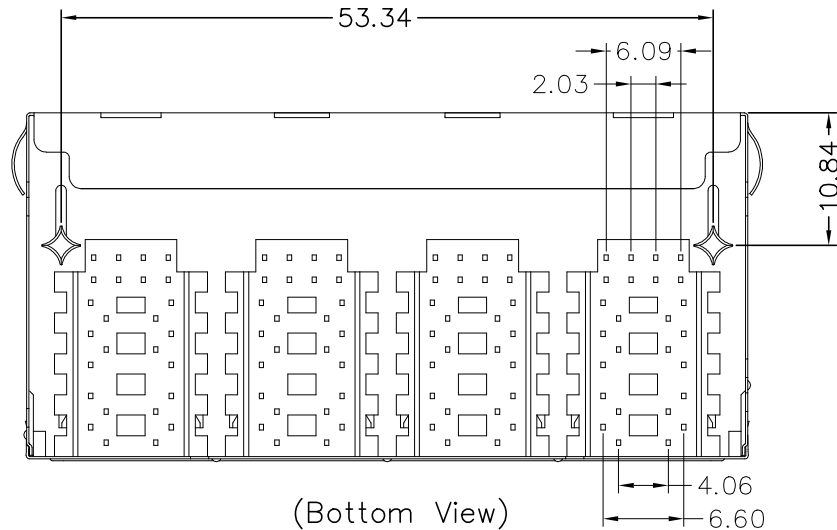
Dimensions in mm

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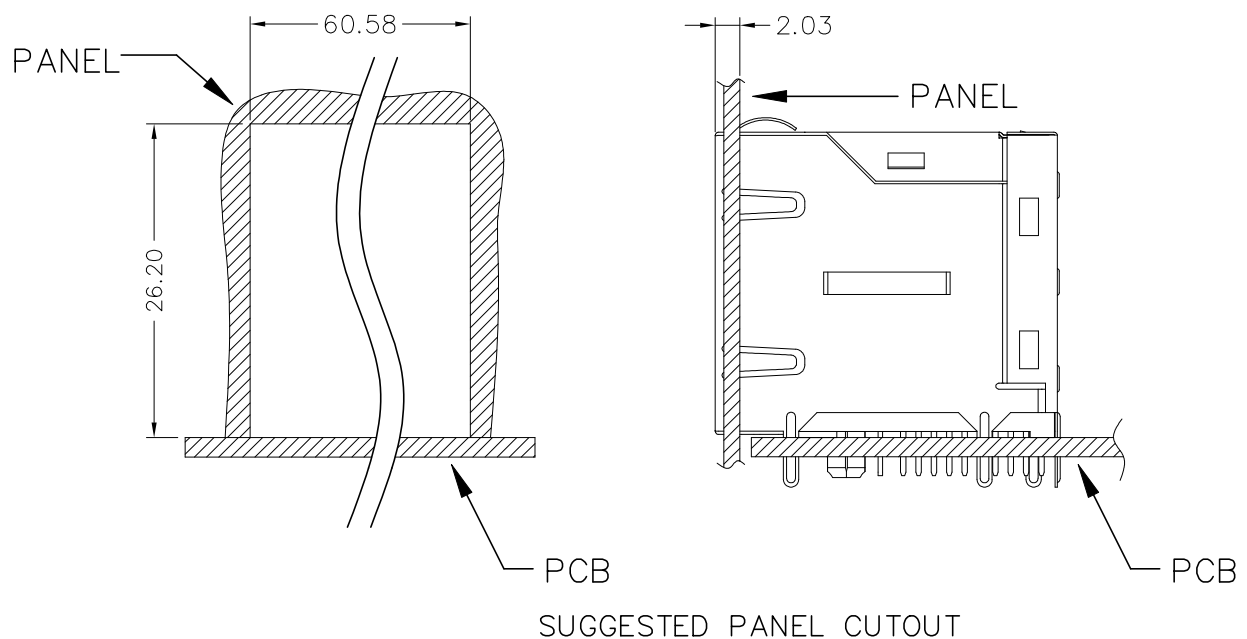
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3 of 5

HR872412HE



Suggested Panel Cutout:



Dimensions in mm

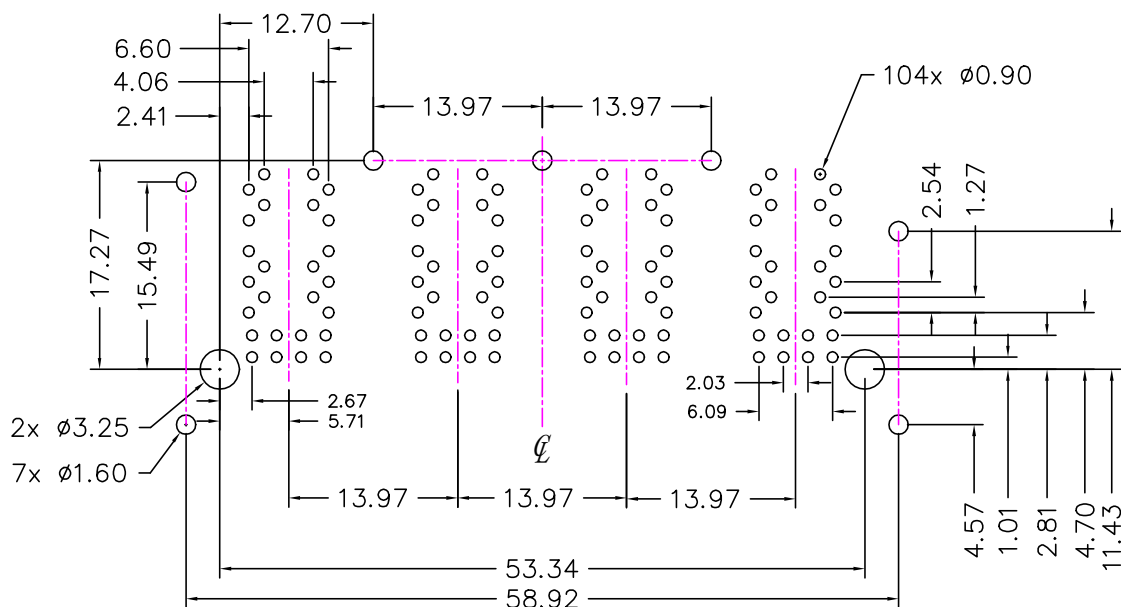
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4 of 5

HR872412HE

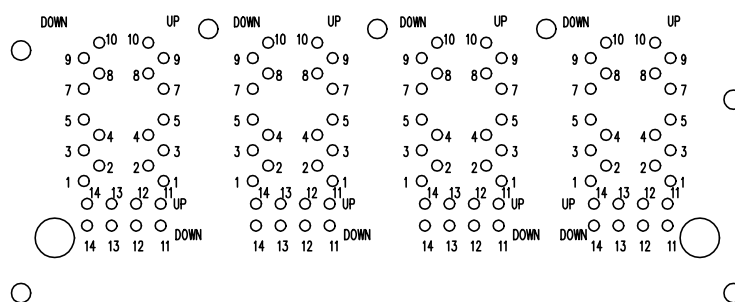
PCB Layout:



(Recommended PCB layout)

All dimension tolerance are ± 0.08 unless otherwise specified

Pin Assignments:



Remark: Remove Pin#6
(Component Side View)

Dimensions in mm

Unless otherwise specified, Tolerance: .xx ± 0.25

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5 of 5