Remarks: RM3-ZZ-0019 is with Gigabit Schematic inside.
Can be co-lay out with RM3-ZZ-0020(10/100 BaseT Schematic)

Part Number: RM3-ZZ-0019

Description: RJ45 multiport 2X1
Through Hole
10/100/1000 Base-T
Contact Area: 30µ" min.Gold
LED: L-Green; R-Yellow

Spec No. | Update Date | Revision
---|---|---
RM316031-00 | 2016/9/30 | A

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1. MECHANICAL DIMENSION

1.1 Product Dimension

<table>
<thead>
<tr>
<th>Unit : mm</th>
<th>General Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X.X : ± 0.38</td>
</tr>
<tr>
<td></td>
<td>X.XX : ± 0.20</td>
</tr>
</tbody>
</table>

[Diagram of mechanical dimensions with dimensions and tolerances]
1.2 Recommended PCB Layout

Component Side of Board

All dimension tolerance are ±0.05mm unless otherwise specified

Table 1

<table>
<thead>
<tr>
<th>Layer</th>
<th>Layout</th>
<th>Trace</th>
<th>Component</th>
<th>Grounding</th>
<th>Test Point</th>
<th>Via Hole</th>
<th>PTH</th>
<th>NPTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component side</td>
<td></td>
<td>X</td>
<td>X</td>
<td>O</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>Inner layer</td>
<td></td>
<td>O</td>
<td>NA</td>
<td>O</td>
<td>NA</td>
<td>O</td>
<td>X</td>
<td>O</td>
</tr>
<tr>
<td>Bottom side</td>
<td></td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>O</td>
<td>X</td>
<td>O</td>
</tr>
</tbody>
</table>

X--Forbid; O--OK; NA--Not Applicable.
1.3 Recommended Panel cutout

1.4 Packing Information

40 pcs finished goods per tray

5 trays (200 pcs finished goods) per inner box

4 Inner boxes (800 pcs finished goods) per master carton
1.5 Standard RJ45 Plug Specification

- All dimensions follow:
  
  FCC subpart F, 68,500, Figure (C)(2)(i) & (C)(2)(ii) & (C)(3)(i)
  
  IEC 60603-7

- All plugs must be meeting the requirements of plug Go & No-Go gauge.
  
  Gauge follow: FCC subpart F, 68,500, Figure (C)(4)(i) & (C)(5)(i)

- There must be no damage to Housing and Locking Latch.

- There must be no nicks and cuts in cable.

- Durability: 750 cycles generally
2. REQUIREMENTS

2.1 Design and Construction

Product shall be of design, construction and physical dimensions specified on applicable.

2.2 Material

2.2.1 Terminal Parts (Underplating):

2.2.1.1 RJ Terminal : YCUT-FX-H, Thickness = 0.30mm
   Finish : Contact Area : 30μ" mi

2.2.1.2 Input Terminal : Brass, Thickness = 0.35mm
   Finish : 100

2.2.1.3 Case Terminal : Brass, Thickness = 0.30mm
   Finish : 100

2.2.2 Plastic Parts <UL94V-0>

2.2.2.1 Housing : PA6T, Black

2.2.2.2 Case : PA6T, Black

2.2.2.3 Spacer : PA6T, Black

2.2.2.4 Terminal Cover : PA6T, Black

2.2.2.5 Terminal Base : PA6T, Black

2.2.2.6 Insert : PA6T, Black

2.2.3 Shield Parts

2.2.3.1 Front Shield : Stainless Steel, Thickness = 0.20mm, unplating

2.2.3.2 Back Shield : Stainless Steel, Thickness = 0.20mm, Pre-soldering
2.3 Operating and Storage Temperature

Operating Temperature: 0°C to +70°C

Storage Temperature: -40°C to +85°C

2.4 RJ45 specifications

Insulation Resistance: 500MΩ min.

Insertion force with the latch depressed: 22N max

Removal force with the latch depressed: 44N max

Locking Force of Plug Latch: 50N min. @ 60+/−5 sec

Durability: 2500 cycles

2.5 Performance and Test Description

Product is designed to meet electrical, mechanical and environmental performance requirements specified in below table. All tests are performed at ambient environmental conditions per MIL-STD-1344A and EIA-364 unless otherwise specified.

2.6 Packaging and Packing

All parts shall be packaged and packed to protect against physical damage, corrosion and deterioration during shipment and storage.
3. ELECTRICAL CHARACTERISTICS @ 25°C

3.1 Schematic

PHY Side
(Input)

VCC R9

TD1+ R1 0.1μF 1:1 75Ω
TD1- R2
TD2+ R3 0.1μF 1:1 75Ω
TD2- R4
TD3+ R5 0.1μF 1:1 75Ω
TD3- R6
TD4+ R7 0.1μF 1:1 75Ω
TD4- R8
GND

Cable Side
(RJ45 Output)

C1 TX1+
C2 TX1-
C3 TX2+
C6 TX2-
C4 TX3+
C5 TX3-
C7 TX4+
C8 TX4-
2KV,1000pF

Shield

L3
Green

L4

L1
Yellow

L2

Emitting Color | λ_p (nm) | V_f @I_f=20mA | I_r @V_r=5V
---|---|---|---
Green | 570 | 1.7 ~2.6 V | 10μA
Yellow | 588 | 1.7 ~2.6 V | 10μA
3.2 Transmitter filter & Receiver filter

Type : Balance low pass 100Ω imped

Insertion loss : 1~100 MHz -1.0dB max.
Return loss : 1~30 MHz -18dB min. load
30~60MHz -16dB min. load
60~80MHz -12dB min. load
80~100MHz -10dB min. load

3.3 Common Mode Rejection

@ 1~100 MHz -30dB min.

3.4 Cross Talk

@ 1~100 MHz -30dB min.

3.5 Inductance @ 100KHz, 0.1V, 8mA DC BIAS

Input (R1-R2), Input(R3-R4), Input

3.6 HiPot Test

Input(R1-R2) To Output(C1-C2) : 1500Vac 60s or 2250Vdc 60s
Input(R3-R4) To Output(C3-C6) : 1500Vac 60s or 2250Vdc 60s
Input(R5-R6) To Output(C4-C5) : 1500Vac 60s or 2250Vdc 60s
Input(R7-R8) To Output(C7-C8) : 1500Vac 60s or 2250Vdc 60s
4. DIPPING TEMPERATURE PROFILE

Note:
The measuring point for the specified temperature shall be on the soldered part of the lead.

Temperature Decrease:
10 °C / sec or more

265±3°C

140°C

100°C

Time (sec)

40 sec

10±1 sec
5. Revision History

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Revision</th>
<th>Comments</th>
<th>Operator</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016/9/30</td>
<td>A</td>
<td>Initial Release</td>
<td>Max</td>
</tr>
</tbody>
</table>