To:

Customer P/N:

UDE P/N: RB1-125BAG1A

Description: RJ45 1X1 Tab Down Through Hole 10/100Base-T Contact Area: Gold Flash LED:L-Green; R-Yellow

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<table>
<thead>
<tr>
<th>Spec No.</th>
<th>Update Date</th>
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<tr>
<td>RB1111-00</td>
<td>2009/8/27</td>
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<th>Approved</th>
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http://www.ude-corp.com/
1. MECHANICAL DIMENSION

1.1 Product Dimension

General Tolerance

<table>
<thead>
<tr>
<th>Type</th>
<th>Tolerance</th>
</tr>
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<tbody>
<tr>
<td>X.X</td>
<td>± 0.25</td>
</tr>
<tr>
<td>X.XX</td>
<td>± 0.13</td>
</tr>
<tr>
<td>X.XXX</td>
<td>± 0.08</td>
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</table>

Back View

Left LED: 0.50LED
Right LED: 0.45RJ

Standoff: 1.2

1.27 TYP
2.54 TYP

1.27x7=8.89

Detail A

Detail B
1.2 Recommended PCB Layout

Component Side of Board

All dimension tolerance are ±0.05mm unless otherwise specified.
1.3 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 : 30\(\mu\)" min. Nickel overall)

2.2.1.1 RJ Terminal : PH. Bronze, Thickness=0.30mm

Finish : Contact Area :Gold Flash

2.2.1.2 Input Terminal : Brass, Thickness=0.35mm

Finish : 100\(\mu\)" min. Tin

2.2.1.3 Case Terminal : Brass, Thickness=0.30mm

Finish : 100\(\mu\)" min. Tin

2.2.2 Plastic Parts  <UL94V-0>

2.2.2.1 Housing : High Temperature Thermoplastic, Black

2.2.2.2 Case : High Temperature Thermoplastic, Black

2.2.3 Shield Parts : Stainless, 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

3.1 Schematic

**INPUT**
- TD+ R1
- TD- R2
- RD+ R7
- RD- R8
- CT R3

**OUTPUT**
- RJ45
- C1 TX+
- C2 TX-
- C3 RX+
- C6 RX-
- C4
- C5
- C7
- C8

75Ω 2KV 1000pF

Shield

**Diodes**
- L1 (Yellow) 1.7 ~ 2.6 V 10μA max.
- L2 (Yellow) 1.7 ~ 2.6 V 10μA max.
- L3 (Green) 1.7 ~ 2.6 V 10μA max.
- L4 (Green) 1.7 ~ 2.6 V 10μA max.

**Table:**

<table>
<thead>
<tr>
<th>Emitting Color</th>
<th>λp (nm)</th>
<th>Vf @If=20mA</th>
<th>Ir @Vr=5V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>565</td>
<td>1.7 ~ 2.6 V</td>
<td>10μA max.</td>
</tr>
<tr>
<td>Yellow</td>
<td>585</td>
<td>1.7 ~ 2.6 V</td>
<td>10μA max.</td>
</tr>
</tbody>
</table>
3.2 Transmitter filter & Receiver filter

Type: Balance low pass 100Ω impedance

Insertion loss: 1~100 MHz -1.0dB max.

Return loss: 1~30 MHz -18dB min. load 100Ω
30~60MHz -16dB min. load 100Ω
60~80MHz -12dB min. load 100Ω

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(R7-R8): 350 μH min.

3.6 HiPot Test

Input(R1-R2) To Output(C1-C2): 1500Vac 60s or 2250Vdc 60s
Input(R7-R8) To Output(C3-C6): 1500Vac 60s or 2250Vdc 60s
4. ORDER INFORMATION

R  B  1  -  1  2  5B  AG1  A
   A  B  C  D

A. LED Code:
L-Green; R-Yellow. <Refer to Schematic of LED>

B. Mechanical Code:
w/ UDE Logo, w/ all Spring, Rear side Leg, Board Lock

C. Schematics Code:
AG1 : AG1 circuit

D. Plating Code:

<table>
<thead>
<tr>
<th>Underplating</th>
<th>30 μ &quot; min. Nickel overall</th>
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<tbody>
<tr>
<td>Solder Tail</td>
<td>100 μ &quot; min. Bright Tin</td>
</tr>
<tr>
<td>Contact Area</td>
<td>A : Gold Flash</td>
</tr>
<tr>
<td></td>
<td>C : 6 μ &quot; gold</td>
</tr>
<tr>
<td></td>
<td>B : 10 μ &quot; gold</td>
</tr>
<tr>
<td></td>
<td>D : 15 μ &quot; gold</td>
</tr>
<tr>
<td></td>
<td>F : 30 μ &quot; gold</td>
</tr>
<tr>
<td></td>
<td>G : 50 μ &quot; gold</td>
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</table>
5. DIPPING TEMPERATURE PROFILE

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

Temperature Decrease:  
$10^\circ C / \text{sec}$ or more

- $265 \pm 3^\circ C$
- $140^\circ C$
- $100^\circ C$

40 sec

10$^\pm1$ sec