Common Mode Choke RA6870

- Recommended for use in the RX and TX sections of the Microchip MOST150 coaxial PHY application diagrams.
- Specified for the OS82150 MOST150 Coaxial Transceiver, OS81118 MOST150 INIC and OS81119 MOST150 Dual Port INIC

**Core material**  Ferrite

**Environmental**  RoHS compliant

**Terminations**  Matte tin over nickel over silver-palladium-glass frit.

**Ambient temperature**  
-40°C to +125°C with Irms current

**Storage temperature**  Component: -40°C to +125°C.
Tape and reel packaging: -40°C to +80°C

**Resistance to soldering heat**  Max three 40 second refows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL)**  1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

**Packaging** 2000/7" reel; 7500/13" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 1.14 mm pocket depth

**PCB washing**  Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Common mode impedance max (kOhms)</th>
<th>Cutoff frequency2 (MHz)</th>
<th>Inductance3 min (nH)</th>
<th>Irms4 (mA)</th>
<th>DCR max5 (Ohms)</th>
<th>Isolation6 (Vrms)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA6870-AL_</td>
<td>1.94  @ 700 MHz</td>
<td>590</td>
<td>700</td>
<td>300</td>
<td>0.69</td>
<td>250</td>
</tr>
</tbody>
</table>

1. When ordering, please specify **packaging** code:

**RA6870-ALC**

Packaging:
- C = 7” machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).
- B = Less than full reel. In tape, but not machine ready.
- To have a leader and trailer added ($25 charge), use code letter C instead.

D = 13” machine-ready reel. EIA-481 embossed plastic tape (7500 parts per full reel).

2. Frequency at which the differential mode attenuation equals 3 dB

3. Inductance shown for each winding, measured at 100 MHz using an Agilent/HP 4286A impedance analyzer and a Coilcraft SMD-A fixture

4. Current that causes a 40°C temperature rise from 25°C ambient.

5. DCR is specified per winding.

6. Isolation (hipot) measured for one minute.

7. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

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**Dimensions** are in **inches/mm**
Common Mode Choke – RA6870-AL

Attenuation (Ref: 50 Ohms)

Impedance vs Frequency