Embedded resistors in a PCB allow the miniaturization of the total packages with improved electrical performance and highest reliability. The key factors are high density mounting, good high frequency performance, excellent heat dissipation and high reliability by protection.

- **High Density Mounting**
  Embedded resistors are placed between the PCB layers

- **Heat Dissipation**
  PCB has better thermal conductivity than air
  Hot spot temperature is reduced

- **Reliability**
  Epoxy resin is protecting embedded components

For more information, please contact:
KOA Europe GmbH, Kaddenbusch 6, D-25578 Dägeling-Itzehoe, Germany
Phone: +49 (0)4821 89890, E-Mail: koa-europe@koaeurope.de, Internet: www.koaeurope.de
KOA’s resistors of XR73 series are especially designed for the usage in embedded technologies. These extremely low profile parts of 0.13/0.14 mm height with Cu-terminations allow an easy placement between the PCB layers and can be connected with the top and bottom terminations to the PCB layers. This can realize high miniaturization of the circuit. The parts are connected by conductive adhesion.

### XR73- Series KOA Flat Chip Resistors for Embedded Substrates

**Product Features**
- Low profile of 0.13 and 0.14 mm height
- Cu terminations
- Al₂O₃ substrate
- R-tolerance ±1 %, ±5 % is standard
- Jumper (1A) also available
- Suitable for conductive adhesion

### Application Examples
- Industrial control systems
- Medical
- Semiconductor packaging substrate
- Smart phone module (RF, PA, CPU)
- Tablet PC, Note PC
- etc.

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**Dimensions (mm)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Inch</th>
<th>L</th>
<th>W</th>
<th>t</th>
<th>c</th>
<th>d</th>
</tr>
</thead>
<tbody>
<tr>
<td>1H</td>
<td>0201</td>
<td>0.6±0.03</td>
<td>0.3±0.03</td>
<td>0.13±0.02</td>
<td>0.23±0.03</td>
<td>0.23±0.03</td>
</tr>
<tr>
<td>1E</td>
<td>0402</td>
<td>1.0±0.05</td>
<td>0.5±0.05</td>
<td>0.14±0.03</td>
<td>0.28±0.05</td>
<td>0.28±0.05</td>
</tr>
</tbody>
</table>

**Cu Plating Method**

**Process Flow**

1. SMD mounting
2. Prepreg forming
3. Laser via
4. Cu plating

Rated ambient temperature: +70 °C, Operating temperature range: -55 °C ~ +155 °C

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