

*Using breakthrough technology,  
we aim for products that will create new markets.*

## New Product News

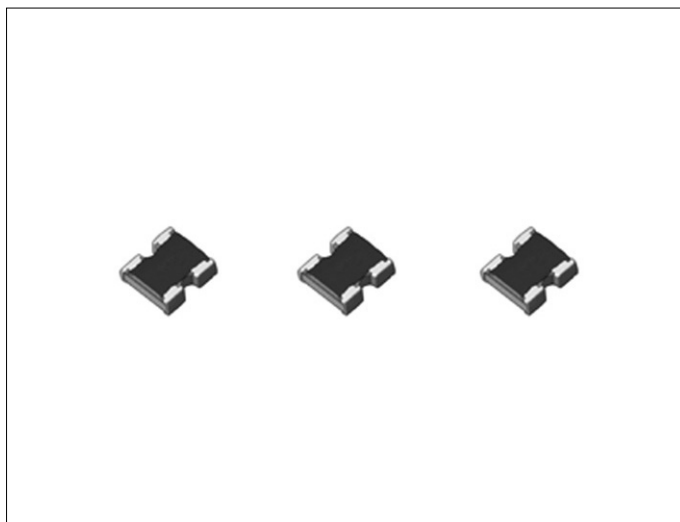
Minimum size in the market, World's first development

### Chip resistor network

#### 0404 Balanced O type chip attenuator

Industry/Field: Mobile communication

## Balanced O type attenuator in 0404 chip



### • Development Target:

Market: Equipment that needs attenuation, level-adjustment, impedance-matching in balanced circuit RF signal

Aim: Reducing the mounting occupation area and the number of chips

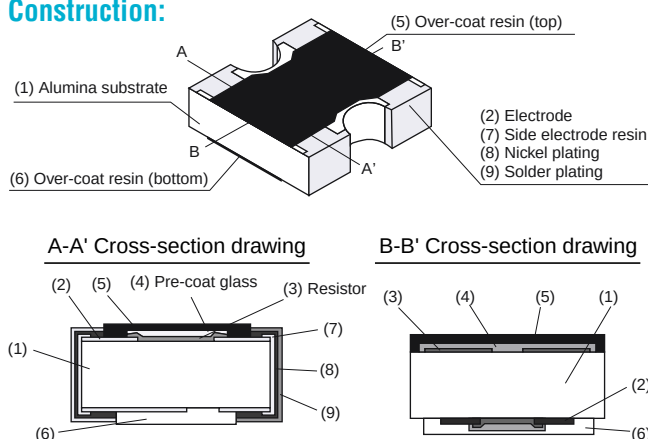
---Contributing to the downsizing and the down weighting

### • Features:

- 1** Reducing the mounting occupation area: about 67% reduction compared with attenuator circuit consisted of four 0402 chip resistors
- 2** Reducing the mounting times : 4 times to 1 time
- 3** Superior high frequency characteristics

• Number of industrial property rights: 1 (pending)

### • Construction:



### • Characteristics/specifications:

|                                    |                                                                            |
|------------------------------------|----------------------------------------------------------------------------|
| Attenuation value                  | 0 dB, 1 dB, 2 dB, 3 dB, 6 dB, 10 dB                                        |
| Attenuation value tolerance        | 0 dB to 3 dB : $\pm 0.8$ dB<br>6 dB : $\pm 1.0$ dB<br>10 dB : $\pm 2.0$ dB |
| Characteristic impedance           | 100 $\Omega$ , 200 $\Omega$ , 300 $\Omega$                                 |
| Rated power (70°C max.)            | 0.04 W / package                                                           |
| Frequency range                    | DC to 2.5 GHz                                                              |
| VSWR (Voltage Standing Wave Ratio) | 1.2 max. (typical value)<br>1.5 max. (0 dB, typical value)                 |

### • Applications/usage examples:

- Attenuation, level-adjustment, impedance-matching in RF signal of mobile phone

### • Explanation of part numbers:

|                                           |   |   |   |   |   |   |   |   |    |    |    |
|-------------------------------------------|---|---|---|---|---|---|---|---|----|----|----|
| 1                                         | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| E                                         | X | B | 2 | 4 | A | B | 6 | G | 1  | R  | X  |
| Common code                               |   |   |   |   |   |   |   |   |    |    |    |
| 0404 size balanced O type chip attenuator |   |   |   |   |   |   |   |   |    |    |    |
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