

# Dielectric Resonators (RESOMICS®)

**muRata**

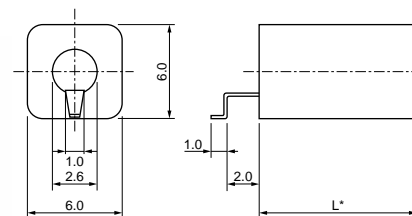
## Dielectric Resonator P Series (DRR Copper Plated Type)

### ■ Features

1. High dielectric constant : Er=21
2. Lower price than silver plated type
3. Excellent solderability by copper electrode
4. These resonators cover wide range of resonant frequencies (by 10MHz step).



DRR060 Type

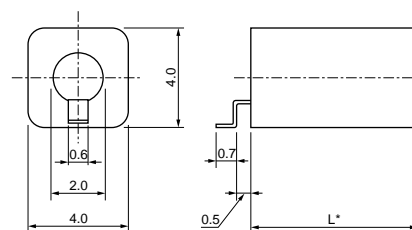


\* Dimension L can be calculated by the following,  
using dielectric constant and resonant frequency.  
 $L \approx 3 \times 10^{11} / (n\sqrt{\epsilon_r} \cdot f_0)$  ( $f_0$  : Hz)  
 $\lambda/4$  TEM mode :  $n=4$   $\lambda/2$  TEM mode :  $n=2$

(in mm)



DRR040 Type

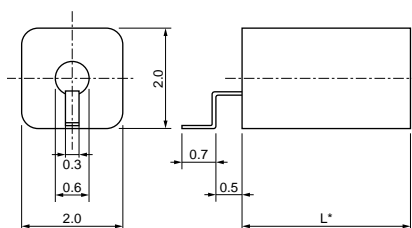


\* Dimension L can be calculated by the following,  
using dielectric constant and resonant frequency.  
 $L \approx 3 \times 10^{11} / (n\sqrt{\epsilon_r} \cdot f_0)$  ( $f_0$  : Hz)  
 $\lambda/4$  TEM mode :  $n=4$   $\lambda/2$  TEM mode :  $n=2$

(in mm)



DRR020 Type

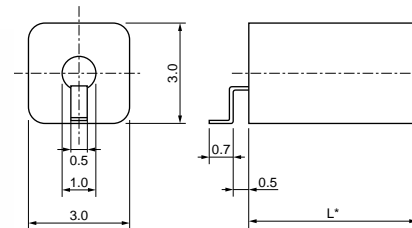


\* Dimension L can be calculated by the following,  
using dielectric constant and resonant frequency.  
 $L \approx 3 \times 10^{11} / (n\sqrt{\epsilon_r} \cdot f_0)$  ( $f_0$  : Hz)  
 $\lambda/4$  TEM mode :  $n=4$   $\lambda/2$  TEM mode :  $n=2$

(in mm)



DRR030 Type



\* Dimension L can be calculated by the following,  
using dielectric constant and resonant frequency.  
 $L \approx 3 \times 10^{11} / (n\sqrt{\epsilon_r} \cdot f_0)$  ( $f_0$  : Hz)  
 $\lambda/4$  TEM mode :  $n=4$   $\lambda/2$  TEM mode :  $n=2$

(in mm)

| Part Number      | f <sub>0</sub><br>(MHz) | Unloaded Q<br>(min) | Wavelength | Z <sub>a</sub><br>(ohm) |
|------------------|-------------------------|---------------------|------------|-------------------------|
| DRR060□□□□PTC00T | 1000 to 1190            | 550                 | Lambda/4   | 11.9 (Nominal Value)    |
| DRR060□□□□PTC00T | 1200 to 1790            | 600                 | Lambda/4   | 11.9 (Nominal Value)    |
| DRR060□□□□PTC00T | 1800 to 2700            | 650                 | Lambda/4   | 11.9 (Nominal Value)    |
| DRR060□□□□PPC00T | 2000 to 2490            | 800                 | Lambda/2   | 11.9 (Nominal Value)    |
| DRR060□□□□PPC00T | 2500 to 3000            | 850                 | Lambda/2   | 11.9 (Nominal Value)    |
| DRR040□□□□PTC00R | 1300 to 1490            | 350                 | Lambda/4   | 10.0 (Nominal Value)    |
| DRR040□□□□PTC00R | 1500 to 1990            | 400                 | Lambda/4   | 10.0 (Nominal Value)    |
| DRR040□□□□PTC00R | 2000 to 3000            | 450                 | Lambda/4   | 10.0 (Nominal Value)    |
| DRR040□□□□PPC00R | 2500 to 3000            | 550                 | Lambda/2   | 10.0 (Nominal Value)    |
| DRR030□□□□PTC00R | 1900 to 2490            | 380                 | Lambda/4   | 15.4 (Nominal Value)    |
| DRR030□□□□PTC00R | 2500 to 3000            | 400                 | Lambda/4   | 15.4 (Nominal Value)    |
| DRR020□□□□PTC00R | 2800 to 3500            | 250                 | Lambda/4   | 16.7 (Nominal Value)    |

Continued on the following page.

Continued from the preceding page.

| Part Number      | f <sub>0</sub><br>(MHz) | Unloaded Q<br>(min) | Wavelength | Z <sub>a</sub><br>(ohm) |
|------------------|-------------------------|---------------------|------------|-------------------------|
| DRR020□□□□PTC00R | 3510 to 5000            | 300                 | Lambda/4   | 16.7 (Nominal Value)    |

Dielectric Constant : 21.4±0.2

Temperature coefficient of resonant frequency : 4±2ppm/°C

Tolerance of resonant frequency : ±0.7%max. (Please contact our sales representatives for details.)

Unloaded Q is value at lower limit of frequency range.

Five blank boxes of the above Part Numbers are filled with Resonant Frequency codes. Please see Part Numbering for details.

### ■ Minimum Quantity of Taping

DRR020 type: 2500pcs./phi 330mm reel

DRR030 type: 2000pcs./phi 330mm reel

DRR040 type: 1500pcs./phi 330mm reel