

**Size 0603 (EIA) and/or 1608 (IEC)**  
**Rated inductance 1,0 to 220 nH**  
**Rated current 70 to 500 mA**



### Construction

- Copper-plated ceramic core
- Laser-cut winding, epoxy-coated

### Features

- High resonance frequency
- Free of polarization effect
- Close inductance tolerance
- High mechanical stability
- Suitable for reflow (IR and vapor phase) and wave soldering

### Applications

Resonant circuits, impedance matching for

- Mobile phones
- DECT systems
- Keyless entry
- GPS (Global Positioning System)
- Video cameras

### Terminals

- Electro-plated, 2  $\mu\text{m}$  Ni, 5  $\mu\text{m}$  Sn90Pb10
- Base material  $\text{Al}_2\text{O}_3$  ceramic with Cu layer

### Marking

No marking on component

Minimum data on reel:

Manufacturer, part number, ordering code,  
 $L$  value and tolerance of  $L$  value,  
quantity, date of packing

### Delivery mode

8-mm blister or cardboard tape, wound on 178-mm  $\varnothing$  reel

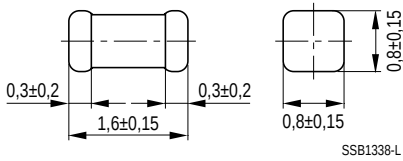
For details on taping, packing and packing units [see page 151](#)



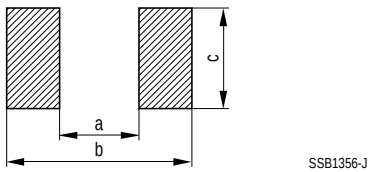
### General technical data

|                                                |                                                                                                        |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Rated inductance $L_R$                         | Measured with impedance analyzer HP 4291A at frequency $f_L$                                           |
| Q factor $Q_{\min}$ , $Q_{\text{typ}}$         | Measured with impedance analyzer HP 4291A, $Q_{\min}$ measured at frequency $f_Q$                      |
| Rated current $I_R$                            | Maximum permissible dc with a temperature increase of $\leq 15$ K at rated temperature of 85°C         |
| Self-resonance frequency $f_{\text{res, min}}$ | Measured with network analyzer HP 8753                                                                 |
| DC resistance $R_{\text{max}}$                 | Measured at 20°C ambient temperature, measuring current $< I_R$                                        |
| Climatic category                              | In accordance with IEC 60068-1 40/085/56 (– 40°C/+ 85°C/56 days damp heat test)                        |
| Solderability                                  | In accordance with IEC 60062-2-58 (215 ± 3)°C, (3 ± 0,3) s<br>Wetting of soldering area: $\geq 95$ %   |
| Resistance to soldering heat                   | In accordance with IEC 60068-2-20 260°C, 10 s<br>$\Delta L/L \leq \pm 5$ %; $\Delta Q/Q \leq \pm 20$ % |
| Permissible PCB bending                        | 2 mm (100 mm long standard PCB)                                                                        |
| Weight                                         | Approx. 4 mg                                                                                           |

### Dimensional drawing



### Layout recommendation



### Dimensions (mm)

| <i>a</i>      | <i>b</i>      | <i>c</i>      |
|---------------|---------------|---------------|
| $0,9 \pm 0,1$ | $2,3 \pm 0,3$ | $0,8 \pm 0,1$ |

# Characteristics and ordering codes

| $L_R$<br>nH | Tolerance      | $Q_{min}$ | $Q_{typ}$<br>(at<br>800 MHz) | $f_L, f_Q$<br>MHz | $I_R$<br>mA | $R_{max}$<br>$\Omega$ | $f_{res, min}$<br>MHz | Ordering code <sup>1)2)</sup> |
|-------------|----------------|-----------|------------------------------|-------------------|-------------|-----------------------|-----------------------|-------------------------------|
| 1,0         | $\pm 0,3$ nH   | 7         | 47                           | 100               | 500         | 0,05                  | 6000                  | B82496-A3109-+                |
| 1,2         | $\triangleq A$ | 7         | 47                           | 100               | 500         | 0,06                  | 6000                  | B82496-A3129-+                |
| 1,5         | $\pm 0,2$ nH   | 8         | 47                           | 100               | 500         | 0,07                  | 6000                  | B82496-A3159-+                |
| 1,8         | $\triangleq Z$ | 8         | 45                           | 100               | 500         | 0,08                  | 6000                  | B82496-A3189-+                |
| 2,2         |                | 8         | 35                           | 100               | 500         | 0,09                  | 6000                  | B82496-A3229-+                |
| 2,7         |                | 8         | 35                           | 100               | 500         | 0,10                  | 6000                  | B82496-A3279-+                |
| 3,3         |                | 9         | 35                           | 100               | 500         | 0,12                  | 5500                  | B82496-A3339-+                |
| 3,9         | $\pm 5$ %      | 9         | 36                           | 100               | 450         | 0,15                  | 5500                  | B82496-A3399-+                |
| 4,7         | $\triangleq J$ | 9         | 36                           | 100               | 450         | 0,17                  | 4800                  | B82496-A3479-+                |
| 5,6         | $\pm 0,2$ nH   | 9         | 36                           | 100               | 430         | 0,18                  | 4600                  | B82496-A3569-+                |
| 6,8         | $\triangleq Z$ | 9         | 36                           | 100               | 430         | 0,20                  | 3550                  | B82496-A3689-+                |
| 8,2         |                | 9         | 36                           | 100               | 400         | 0,28                  | 3500                  | B82496-A3829-+                |
| 10          | $\pm 5$ %      | 10        | 37                           | 100               | 400         | 0,32                  | 2800                  | B82496-A3100-+                |
| 12          | $\triangleq J$ | 10        | 37                           | 100               | 400         | 0,35                  | 2800                  | B82496-A3120-+                |
| 15          | $\pm 2$ %      | 10        | 38                           | 100               | 350         | 0,41                  | 2500                  | B82496-A3150-+                |
| 18          | $\triangleq G$ | 10        | 39                           | 100               | 350         | 0,45                  | 2300                  | B82496-A3180-+                |
| 22          |                | 10        | 40                           | 100               | 300         | 0,50                  | 2000                  | B82496-A3220-+                |
| 27          |                | 10        | 41                           | 100               | 300         | 0,55                  | 2000                  | B82496-A3270-+                |
| 33          |                | 10        | 40                           | 100               | 300         | 0,60                  | 1800                  | B82496-A3330-+                |
| 39          |                | 11        | 39                           | 100               | 300         | 0,80                  | 1800                  | B82496-A3390-+                |
| 47          |                | 11        | 38                           | 100               | 250         | 0,95                  | 1800                  | B82496-A3470-+                |
| 56          |                | 12        | 35                           | 100               | 250         | 1,2                   | 1800                  | B82496-A3560-+                |
| 68          |                | 12        | 35                           | 100               | 250         | 1,3                   | 1500                  | B82496-A3680-+                |
| 82          |                | 12        | 33                           | 100               | 250         | 1,5                   | 1500                  | B82496-A3820-+                |
| 100         |                | 12        | 30                           | 100               | 200         | 1,8                   | 1300                  | B82496-A3101-+                |
| 120         |                | 5         | 25                           | 25,2              | 130         | 3,0                   | 1200                  | B82496-A3121-+                |
| 150         |                | 5         | 22                           | 25,2              | 100         | 4,5                   | 1100                  | B82496-A3151-+                |
| 180         |                | 4         | 20                           | 25,2              | 80          | 6,5                   | 1000                  | B82496-A3181-+                |
| 220         |                | 4         | —                            | 25,2              | 70          | 7,5                   | 900                   | B82496-A3221-+                |

1) Replace the + by the code letter for the required inductance tolerance (see table).

2) Ordering code for blister tape. For cardboard tape append code number »20«. Example: B82496-A3109-A20