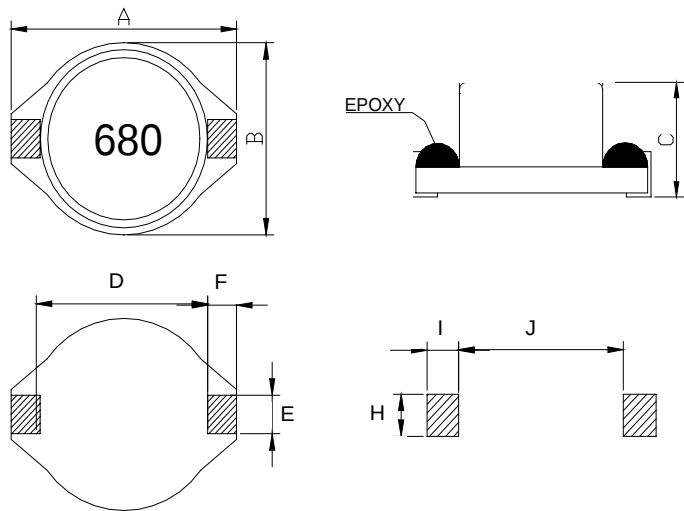


# Shielded SMD Power Inductor—PS



## Features

- With magnetically shielded against radiation
- PS1608 can help to achieve longer battery life significantly in handheld communication devices.
- PS3316 / 5022 designed for the higher current requirements of portable computers.
- PS1608 used ceramic base with gold-plating
- PS3316 / 5022 used LCP plastic base

## Applications

- Portable Telephones
- Personal Computers
- Other Various Electronic Appliances
- DC/DC Converters, etc.

## Characteristics

- Saturation Rated Current (IDC): The DC current when the inductance becomes 10% lower than its initial value. (Ta=25°C)
- Temperature Rise Current (I rms): The actual current when temperature of coil becomes Δ40°C. (Ta=25°C)
- Operating temperature range: -40~85°C

## Dimensions

Unit: mm

| Type   | A<br>max. | B<br>max. | C<br>max. | D     | E    | F    | H    | I    | J     |
|--------|-----------|-----------|-----------|-------|------|------|------|------|-------|
| PS1608 | 6.60      | 4.45      | 2.92      | 4.32  | 1.27 | 1.02 | 3.56 | 1.40 | 4.06  |
| PS3316 | 12.95     | 9.40      | 5.21      | 7.62  | 2.54 | 2.54 | 2.79 | 2.92 | 7.37  |
| PS5022 | 18.54     | 15.24     | 7.62      | 12.70 | 2.54 | 2.54 | 2.79 | 2.92 | 12.45 |

## Inductance and rated current ranges

- PS1608 1.0~10000μH 3.0~0.02A
- PS3316 1.0~1000μH 5.0~0.17A
- PS5022 10~1000μH 3.9~0.53A
- Electrical specifications at 25°C

## Product Identification

| PS           | 1608                                                                   | M                     | T                  | 101                                   |
|--------------|------------------------------------------------------------------------|-----------------------|--------------------|---------------------------------------|
| Product Type | Dimensions<br>(AxBxC)                                                  | Inductor<br>Tolerance | Packaging<br>Style | Inductance                            |
|              | 1608: 6.60×4.45×2.92<br>3316: 12.95×9.4×5.21<br>5022: 18.54×15.24×7.62 | K: ±10%<br>M: ±20%    | T: Tape and Reel   | 1R1: 1.1μH<br>470: 47μH<br>101: 100μH |

## ■ Electrical Characteristics

PS1608 Type

| Codes | L<br>( $\mu$ H) | Tolerance | Test Condition |              | DCR<br>( $\Omega$ ) max. | SRF ref<br>(MHz) | Q min. | I rms<br>(A) max. |
|-------|-----------------|-----------|----------------|--------------|--------------------------|------------------|--------|-------------------|
|       |                 |           | L              | Q            |                          |                  |        |                   |
| 1R0   | 1.0             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.040                    | 250              | 30     | 3.00              |
| 1R5   | 1.5             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.045                    | 125              | 30     | 2.30              |
| 2R2   | 2.2             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.050                    | 120              | 40     | 1.80              |
| 3R3   | 3.3             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.055                    | 120              | 40     | 1.60              |
| 4R7   | 4.7             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.060                    | 105              | 40     | 1.40              |
| 6R8   | 6.8             | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.065                    | 50               | 40     | 1.20              |
| 100   | 10              | M         | 100KHz, 0.1V   | 200KHz, 0.1V | 0.075                    | 38               | 40     | 1.00              |
| 150   | 15              | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.090                    | 33               | 40     | 0.80              |
| 220   | 22              | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.11                     | 25               | 40     | 0.70              |
| 330   | 33              | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.19                     | 20               | 40     | 0.60              |
| 470   | 47              | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.23                     | 20               | 40     | 0.50              |
| 680   | 68              | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.29                     | 15               | 40     | 0.40              |
| 101   | 100             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.48                     | 10               | 40     | 0.30              |
| 151   | 150             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.59                     | 9                | 40     | 0.26              |
| 221   | 220             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 0.90                     | 6                | 40     | 0.22              |
| 331   | 330             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 1.40                     | 5                | 40     | 0.20              |
| 471   | 470             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 1.80                     | 4                | 40     | 0.19              |
| 681   | 680             | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 2.20                     | 3                | 40     | 0.18              |
| 102   | 1000            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 3.40                     | 2                | 40     | 0.15              |
| 152   | 1500            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 4.20                     | 2                | 50     | 0.12              |
| 222   | 2200            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 8.50                     | 2                | 50     | 0.10              |
| 332   | 3300            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 11.0                     | 1                | 50     | 0.08              |
| 472   | 4700            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 13.9                     | 1                | 50     | 0.06              |
| 682   | 6800            | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 25.0                     | 1                | 50     | 0.04              |
| 103   | 10000           | M         | 100KHz, 0.1V   | 100KHz, 0.1V | 32.8                     | 0.8              | 50     | 0.02              |

PS3316 Type

| Codes | L<br>( $\mu$ H) | Tolerance | Test Condition | DCR<br>( $\Omega$ ) max. | SRF ref<br>(MHz) | IDC<br>(A) max. | I rms<br>(A) max. |
|-------|-----------------|-----------|----------------|--------------------------|------------------|-----------------|-------------------|
| 1R0   | 1.0             | M         | 100KHz, 0.1V   | 0.021                    | 140              | 5.6             | 5.0               |
| 1R5   | 1.5             | M         | 100KHz, 0.1V   | 0.022                    | 120              | 5.2             | 4.5               |
| 2R2   | 2.2             | M         | 100KHz, 0.1V   | 0.032                    | 80               | 5.0             | 3.8               |
| 3R3   | 3.3             | M         | 100KHz, 0.1V   | 0.039                    | 70               | 3.9             | 3.3               |
| 4R7   | 4.7             | M         | 100KHz, 0.1V   | 0.054                    | 40               | 3.2             | 2.7               |
| 6R8   | 6.8             | M         | 100KHz, 0.1V   | 0.075                    | 38               | 2.8             | 2.2               |
| 100   | 10              | M         | 100KHz, 0.1V   | 0.101                    | 35               | 2.4             | 2.0               |
| 150   | 15              | M         | 100KHz, 0.1V   | 0.150                    | 25               | 2.0             | 1.5               |
| 220   | 22              | M         | 100KHz, 0.1V   | 0.207                    | 19               | 1.6             | 1.3               |
| 330   | 33              | M         | 100KHz, 0.1V   | 0.334                    | 15               | 1.4             | 1.1               |
| 470   | 47              | M         | 100KHz, 0.1V   | 0.472                    | 13               | 1.0             | 0.8               |
| 680   | 68              | M         | 100KHz, 0.1V   | 0.660                    | 10               | 0.9             | 0.7               |
| 101   | 100             | M         | 100KHz, 0.1V   | 1.110                    | 7                | 0.8             | 0.6               |
| 151   | 150             | M         | 100KHz, 0.1V   | 1.550                    | 6                | 0.6             | 0.5               |
| 221   | 220             | M         | 100KHz, 0.1V   | 2.000                    | 5                | 0.5             | 0.37              |
| 102   | 1000            | M         | 100KHz, 0.1V   | 8.300                    | 2                | 0.32            | 0.17              |

PS5022 Type

| Codes | L<br>( $\mu$ H) | Tolerance | Test Condition | DCR<br>( $\Omega$ ) max. | SRF ref<br>(MHz) | IDC<br>(A) max. | I rms<br>(A) max. |
|-------|-----------------|-----------|----------------|--------------------------|------------------|-----------------|-------------------|
| 100   | 10              | M         | 100KHz, 0.1V   | 0.040                    | 30               | 8.0             | 3.9               |
| 150   | 15              | M         | 100KHz, 0.1V   | 0.048                    | 20               | 7.00            | 3.4               |
| 220   | 22              | M         | 100KHz, 0.1V   | 0.059                    | 18               | 6.00            | 3.1               |
| 330   | 33              | M         | 100KHz, 0.1V   | 0.075                    | 14               | 5.00            | 2.8               |
| 470   | 47              | M         | 100KHz, 0.1V   | 0.097                    | 10               | 4.00            | 2.4               |
| 680   | 68              | M         | 100KHz, 0.1V   | 0.138                    | 9.0              | 3.00            | 2.0               |
| 101   | 100             | M         | 100KHz, 0.1V   | 0.207                    | 7.0              | 2.40            | 1.7               |
| 151   | 150             | M         | 100KHz, 0.1V   | 0.293                    | 6.0              | 2.10            | 1.3               |
| 221   | 220             | M         | 100KHz, 0.1V   | 0.470                    | 5.0              | 1.90            | 1.1               |
| 331   | 330             | M         | 100KHz, 0.1V   | 0.780                    | 4.0              | 1.10            | 0.86              |
| 471   | 470             | M         | 100KHz, 0.1V   | 1.080                    | 3.0              | 1.10            | 0.73              |
| 681   | 680             | M         | 100KHz, 0.1V   | 1.400                    | 2.5              | 0.96            | 0.64              |
| 102   | 1000            | M         | 100KHz, 0.1V   | 2.010                    | 2.0              | 0.80            | 0.53              |