

# Multilayer Chip Ceramic Inductor – ASDCL1608-A01 Series



Operating Temp : -55°C ~+125°C

## FEATURES

- ◆ Monolithic structure for high reliability
- ◆ High self-resonant frequency
- ◆ Excellent solderability and high heat resistance
- ◆ AEC-Q200D verified

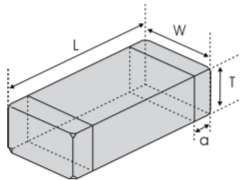
## APPLICATIONS

- ◆ Infotainment system
- ◆ Passive keyless entry
- ◆ Tire pressure monitoring system

## PRODUCT IDENTIFICATION

| 1                                                       | 2    | 3                                                                                          | 4 | 5                                                             | 6 | 7                                                                                   | 8 | 9                                          | 10  |
|---------------------------------------------------------|------|--------------------------------------------------------------------------------------------|---|---------------------------------------------------------------|---|-------------------------------------------------------------------------------------|---|--------------------------------------------|-----|
| A                                                       | SDCL | 1608                                                                                       | C | XXX                                                           | □ | T                                                                                   | D | F                                          | A01 |
| <b>1</b> Feature Code<br>A Automotive Electronics       |      | <b>2</b> Type<br>SDCL Chip Ceramic Inductor                                                |   | <b>3</b> External Dimensions (L×W) (mm)<br>1608[0603] 1.6×0.8 |   | <b>6</b> Inductance Tolerance<br>B ±0.1nH<br>C ±0.2nH<br>S ±0.3nH<br>H ±3%<br>J ±5% |   | <b>9</b> HFS Products<br>F HFS Products    |     |
| <b>4</b> Characteristics Code<br>Q Characteristics Code |      | <b>5</b> Nominal Inductance<br>Example Nominal Value<br>3N9 3.9nH<br>10N 10nH<br>R12 120nH |   | <b>7</b> Packing<br>T Tape Carrier Package                    |   | <b>8</b> Internal Code<br>D Internal Code                                           |   | <b>10</b> Design Code<br>A01 Internal Code |     |

## SHAPE AND DIMENSIONS



Unit: mm [inch]

| Type                | L                        | W                       | T                       | a                      |
|---------------------|--------------------------|-------------------------|-------------------------|------------------------|
| ASDCL1608<br>[0603] | 1.6±0.15<br>[.063±.006]  | 0.8±0.15<br>[.031±.006] | 0.8±0.15<br>[.031±.006] | 0.3±0.2<br>[.012±.008] |
|                     | 1.65±0.15<br>[.065±.006] |                         |                         |                        |

## SPECIFICATIONS ASDCL1608-A01 TYPE

| Part Number              | L   | Q      | L, Q Test. Freq | Q (Typ.) Freq. (MHz) |     |      | S.R.F | DC Resistance | Rated Current  | Thickness               |
|--------------------------|-----|--------|-----------------|----------------------|-----|------|-------|---------------|----------------|-------------------------|
|                          |     |        |                 | 100                  | 800 | 1000 |       |               |                |                         |
| Units                    | nH  | (Min.) | MHz             | /                    |     |      | MHz   | $\Omega$      | mA             | (mm) [inch]             |
| Symbol                   | L   | Q      | /               | /                    |     |      | S.R.F | DCR           | I <sub>r</sub> | T                       |
| ASDCL1608C1N0 □ TDAFA01  | 1.0 | 8      | 100             | 13                   | 70  | 80   | 10000 | 0.05          | 500            | 0.8±0.15<br>[.03±0.006] |
| ASDCL1608C1N2 □ TDAFA01  | 1.2 | 8      | 100             | 13                   | 60  | 70   | 10000 | 0.05          | 500            |                         |
| ASDCL1608C1N5 □ TDAFA01  | 1.5 | 8      | 100             | 13                   | 47  | 68   | 6000  | 0.10          | 500            |                         |
| ASDCL1608C1N8 □ TDAFA01  | 1.8 | 8      | 100             | 13                   | 45  | 61   | 6000  | 0.10          | 500            |                         |
| ASDCL1608C2N2 □ TDAFA01  | 2.2 | 8      | 100             | 13                   | 45  | 60   | 6000  | 0.10          | 500            |                         |
| ASDCL1608C2N7 □ TDAFA01  | 2.7 | 10     | 100             | 13                   | 44  | 55   | 6000  | 0.12          | 500            |                         |
| ASDCL1608C3N3 □ TDAFA01  | 3.3 | 10     | 100             | 13                   | 43  | 50   | 6000  | 0.15          | 500            |                         |
| ASDCL1608C3N9 □ TDAFA01  | 3.9 | 10     | 100             | 13                   | 43  | 50   | 6000  | 0.16          | 500            |                         |
| ASDCL1608C4N7 □ TDAFA01  | 4.7 | 10     | 100             | 13                   | 43  | 50   | 6000  | 0.20          | 500            |                         |
| ASDCL1608C5N6 □ TDAFA01  | 5.6 | 10     | 100             | 14                   | 42  | 48   | 5000  | 0.25          | 500            |                         |
| ASDCL1608C6N8 □ TDAFA01  | 6.8 | 10     | 100             | 14                   | 43  | 50   | 5000  | 0.30          | 500            |                         |
| ASDCL1608C8N2 □ TDAFA01  | 8.2 | 10     | 100             | 14                   | 43  | 48   | 4500  | 0.35          | 500            |                         |
| ASDCL1608C10N □ TDAFA01  | 10  | 12     | 100             | 15                   | 45  | 50   | 3500  | 0.40          | 300            |                         |
| ASDCL1608C12N □ TDAFA01  | 12  | 12     | 100             | 18                   | 48  | 50   | 3000  | 0.45          | 300            |                         |
| ASDCL1608C15N □ TDAFA01  | 15  | 12     | 100             | 18                   | 48  | 50   | 2300  | 0.50          | 300            |                         |
| ASDCL1608C18N □ TDAFA01  | 18  | 12     | 100             | 16                   | 48  | 51   | 2200  | 0.55          | 300            |                         |
| ASDCL1608C22N □ TDAFA01  | 22  | 12     | 100             | 16                   | 45  | 48   | 2000  | 0.60          | 300            |                         |
| ASDCL1608C27N □ TDAFA01  | 27  | 12     | 100             | 16                   | 45  | 45   | 1700  | 0.65          | 300            |                         |
| ASDCL1608C33N □ TDAFA01  | 33  | 12     | 100             | 16                   | 45  | 41   | 1500  | 0.70          | 300            |                         |
| ASDCL1608C39N □ TDAFA01  | 39  | 12     | 100             | 17                   | 40  | 48   | 1400  | 0.70          | 300            |                         |
| ASDCL1608C47N □ TDAFA01  | 47  | 12     | 100             | 17                   | 35  | 35   | 1200  | 0.70          | 300            |                         |
| ASDCL1608C56N □ TDAFA01  | 56  | 12     | 100             | 17                   | 35  | 30   | 1100  | 0.75          | 300            |                         |
| ASDCL1608C68N □ TDAFA01  | 68  | 12     | 100             | 17                   | 30  | 20   | 900   | 0.85          | 300            |                         |
| ASDCL1608C82N □ TDAFA01  | 82  | 8      | 100             | 15                   | 22  | -    | 800   | 1.00          | 300            |                         |
| ASDCL1608CR10 □ TDAFA01  | 100 | 8      | 100             | 15                   | 16  | -    | 700   | 1.20          | 300            |                         |
| ASDCL1608CR12 □ TDAFA01* | 120 | 8      | 50              | 15                   | -   | -    | 600   | 1.40          | 200            |                         |
| ASDCL1608CR15 □ TDAFA01* | 150 | 8      | 50              | 15                   | -   | -    | 500   | 1.60          | 200            |                         |
| ASDCL1608CR18 □ TDAFA01* | 180 | 8      | 50              | 15                   | -   | -    | 400   | 1.90          | 200            |                         |
| ASDCL1608CR22 □ TDAFA01* | 220 | 8      | 50              | 15                   | -   | -    | 350   | 2.40          | 200            |                         |
| ASDCL1608CR27 □ TDAFA01* | 270 | 8      | 50              | 16                   | -   | -    | 350   | 2.60          | 150            |                         |
| ASDCL1608CR33 □ TDAFA01* | 330 | 8      | 50              | 16                   | -   | -    | 350   | 2.80          | 150            |                         |
| ASDCL1608CR39 □ TDAFA01* | 390 | 8      | 50              | 16                   | -   | -    | 300   | 3.20          | 150            |                         |
| ASDCL1608CR43 □ TDAFA01* | 430 | 8      | 50              | 16                   | -   | -    | 280   | 3.40          | 150            |                         |
| ASDCL1608CR47 □ TDAFA01* | 470 | 8      | 50              | 15                   | -   | -    | 250   | 3.60          | 150            |                         |

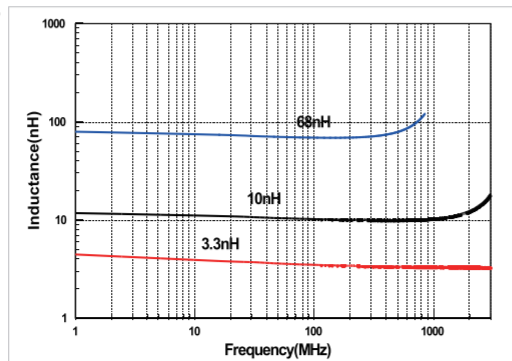
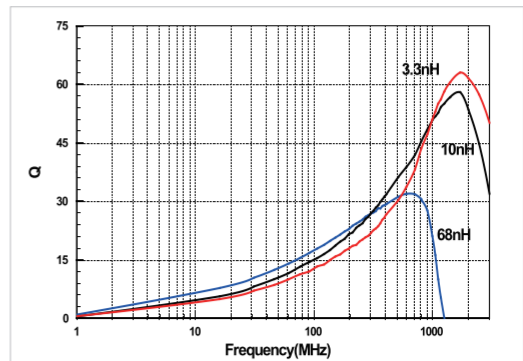
※ □ : Please specify the inductance tolerance: For L≤6.2nH, choose B=±0.1nH, C=±0.2nH or S=±0.3nH; For L>6.2nH, choose H=±3%, J=±5% or K=±10%.

※ \*: The length: 1.65±0.15mm, for others: 1.60±0.15mm.

(1) Operating and storage temperature range (individual chip without packing): -55°C ~ +125°C.

(2) Storage temperature range (packaging conditions): -10°C ~ +40°C and RH 70% (Max.)

## TYPICAL ELECTRICAL CHARACTERISTICS

Inductance vs. Frequency Characteristics  
ASDCL1608-A01 TYPEQ vs. Frequency Characteristics  
ASDCL1608-A01 TYPE

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