



**THE DATASHEET OF
AISC-1008-R22J-T**



SMD Wire-Wound Chip Inductor (Ceramic or Ferrite Core)



AISC-1008(F) SERIES



2.92 x 2.79 x 2.29mm
RoHS/RoHS II Compliant
MSL = MSL - 1

FEATURES

- Ceramic construction assures the utmost thermal stability & high SRF
- Exceptionally high Q compared to non-wirewound inductors, especially at high frequencies
- Inductance options from 4.7nH to 8200nH

APPLICATIONS

- Widely applied in VCO, SAW circuit for GSM, & CDMA communications
- Used in hard disk, notebook computers & other electronic equipment

Electrical Specifications

| Part Number AISC-1008- Inductance Code | Inductance | Tolerance | Min. Quality Factor | L/Q Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|--|------------|------------|---------------------------|-------------------|-----------------------|-----------------------|---------------------------------|
| Units | nH | - | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Q | Freq. | DCR | Ir | S.R.F |
| AISC-1008-R0047 | 4.7 | J, K, M | 50 | 50/1500 | 0.11 | 1000 | >6000 |
| AISC-1008-R010 | 10 | G, J, K, M | 50 | 50/500 | 0.08 | 1000 | 4100 |
| AISC-1008-R012 | 12 | G, J, K, M | 50 | 50/500 | 0.09 | 1000 | 3300 |
| AISC-1008-R015 | 15 | G, J, K, M | 50 | 50/500 | 0.13 | 1000 | 2500 |
| AISC-1008-R018 | 18 | G, J, K, M | 50 | 50/350 | 0.11 | 1000 | 2500 |
| AISC-1008-R022 | 22 | G, J, K, M | 55 | 50/350 | 0.12 | 1000 | 2400 |
| AISC-1008-R027 | 27 | G, J, K, M | 55 | 50/350 | 0.13 | 1000 | 1600 |
| AISC-1008-R033 | 33 | G, J, K, M | 60 | 50/350 | 0.14 | 1000 | 1600 |
| AISC-1008-R039 | 39 | G, J, K, M | 50 | 50/350 | 0.15 | 1000 | 1500 |
| AISC-1008-R047 | 47 | G, J, K, M | 65 | 50/350 | 0.16 | 1000 | 1500 |
| AISC-1008-R056 | 56 | G, J, K, M | 50 | 50/350 | 0.18 | 1000 | 1300 |
| AISC-1008-R068 | 68 | G, J, K, M | 65 | 50/350 | 0.21 | 1000 | 1200 |
| AISC-1008-R082 | 82 | G, J, K, M | 60 | 50/350 | 0.22 | 1000 | 800 |
| AISC-1008-R10 | 100 | G, J, K, M | 60 | 25/350 | 0.56 | 650 | 1000 |
| AISC-1008-R12 | 120 | G, J, K, M | 60 | 25/350 | 0.63 | 650 | 950 |
| AISC-1008-R15 | 150 | G, J, K, M | 50 | 25/100 | 0.62 | 580 | 800 |
| AISC-1008-R18 | 180 | G, J, K, M | 50 | 25/100 | 0.7 | 620 | 750 |
| AISC-1008-R22 | 220 | G, J, K, M | 50 | 25/100 | 0.8 | 500 | 630 |
| AISC-1008-R27 | 270 | G, J, K, M | 50 | 25/100 | 0.91 | 500 | 600 |
| AISC-1008-R33 | 330 | G, J, K, M | 50 | 25/100 | 1.05 | 450 | 530 |
| AISC-1008-R39 | 390 | G, J, K, M | 50 | 25/100 | 1.12 | 470 | 480 |



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REVISED: 09.05.2018

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|--|------------|------------|---------------------------|-------------------|-----------------------|-----------------------|---------------------------------|
| Units | nH | - | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Q | Freq. | DCR | Ir | S.R.F |
| AISC-1008-R47 | 470 | G, J, K, M | 50 | 25/100 | 1.19 | 470 | 450 |
| AISC-1008-R56 | 560 | G, J, K, M | 50 | 25/100 | 1.33 | 400 | 390 |
| AISC-1008-R62 | 620 | G, J, K, M | 45 | 25/100 | 1.4 | 300 | 375 |
| AISC-1008-R68 | 680 | G, J, K, M | 45 | 25/100 | 1.47 | 400 | 360 |
| AISC-1008-R75 | 750 | G, J, K, M | 45 | 25/100 | 1.54 | 360 | 360 |
| AISC-1008-R82 | 820 | G, J, K, M | 45 | 25/100 | 1.61 | 400 | 330 |
| AISC-1008-R91 | 910 | G, J, K, M | 35 | 25/50 | 1.68 | 380 | 295 |
| AISC-1008-1R0 | 1,000 | G, J, K, M | 35 | 25/50 | 1.8 | 370 | 270 |
| AISC-1008-1R2 | 1,200 | G, J, K, M | 35 | 7.9/50 | 2 | 310 | 200 |
| AISC-1008-1R5 | 1,500 | G, J, K, M | 28 | 7.9/50 | 2.3 | 330 | 150 |
| AISC-1008-1R8 | 1,800 | G, J, K, M | 28 | 7.9/50 | 2.6 | 300 | 120 |
| AISC-1008-2R2 | 2,200 | G, J, K, M | 28 | 7.9/50 | 2.8 | 280 | 100 |
| AISC-1008-1R7 | 2,700 | G, J, K, M | 22 | 7.9/25 | 3.2 | 290 | 90 |
| AISC-1008-3R3 | 3,300 | G, J, K, M | 22 | 7.9/25 | 3.4 | 290 | 70 |
| AISC-1008-3R9 | 3,900 | G, J, K, M | 17 | 7.9/25 | 3.6 | 260 | 60 |
| AISC-1008-4R7 | 4,700 | G, J, K, M | 20 | 7.9/25 | 4 | 260 | 50 |
| AISC-1008-5R6 | 5,600 | G, J, K, M | 20 | 7.9/25 | 5.7 | 240 | 40 |
| AISC-1008-6R8 | 6,800 | G, J, K, M | 20 | 7.9/25 | 7.7 | 200 | 40 |
| AISC-1008-8R2 | 8,200 | G, J, K, M | 20 | 7.9/25 | 10.7 | 150 | 30 |
| AISC-1008F-R33 | 330 | J, K, M | 50 | 25/100 | 0.17 | 700 | 600 |
| AISC-1008F-1R0 | 1,000 | J, K, M | 20 | 7.9/50 | 0.80 | 600 | 250 |
| AISC-1008F-1R2 | 1,200 | J, K, M | 37 | 7.9/50 | 0.80 | 650 | 250 |
| AISC-1008F-1R5 | 1,500 | J, K, M | 35 | 7.9/50 | 0.76 | 630 | 190 |
| AISC-1008F-1R8 | 1,800 | J, K, M | 33 | 7.9/50 | 0.84 | 600 | 170 |
| AISC-1008F-2R2 | 2,200 | J, K, M | 30 | 7.9/50 | 1.15 | 520 | 150 |
| AISC-1008F-2R7 | 2,700 | J, K, M | 25 | 7.9/50 | 1.30 | 490 | 120 |
| AISC-1008F-3R3 | 3,300 | J, K, M | 23 | 7.9/50 | 1.70 | 450 | 100 |
| AISC-1008F-3R9 | 3,900 | J, K, M | 26 | 7.9/25 | 2.00 | 420 | 100 |
| AISC-1008F-4R7 | 4,700 | J, K, M | 31 | 7.9/7.9 | 1.68 | 400 | 60 |
| AISC-1008F-5R6 | 5,600 | J, K, M | 23 | 7.9/7.9 | 2.65 | 380 | 80 |
| AISC-1008F-6R8 | 6,800 | J, K, M | 20 | 7.9/7.9 | 3.00 | 360 | 60 |
| AISC-1008F-8R2 | 8,200 | J, K, M | 20 | 7.9/7.9 | 3.30 | 330 | 40 |
| AISC-1008F-100 | 10,000 | J, K, M | 15 | 7.9/7.9 | 2.95 | 300 | 40 |

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Operating Temperature: -40°C to +125°C for AISC-1008, -40°C to +85°C for AISC-1008F

Storage Temperature: -10°C to +40°C, 70% RH max.

Rated Current (Ir): Ir is direct electric current as chip surface temperature rose just 20°C against chip initial surface temperature (Ta)

Electrical Characteristics Curves



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Part Number Identification



Marking: No Marking

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Mechanical Dimensions



| A MAX. | B MAX. | C MAX. | D REF. | E | F | H REF. | I REF. | J REF. |
|--------|--------|--------|--------|---------|---------|--------|--------|--------|
| 2.92 | 2.79 | 2.29 | 0.51 | 2.1±0.2 | 0.5±0.2 | 2.54 | 1.02 | 1.27 |

Dimensions: mm



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Materials



| No | Components | Material |
|----|------------|---|
| A | Coating | Ultraviolet epoxy resin |
| B | Core | Ceramic |
| C | Wire | Polyurethane system enameled copper wire |
| D | Electrodes | AISC-1008: Mo-Mn with Ni and Au plating AISC-1008F: Ag-Pd with Ni-Sn plating |

Reflow Profile



| Zone | Description | Temperature | Times |
|------|-------------|---|---------------|
| 1 | Preheat | $T_{SMIN} \sim T_{SMAX}$ 150°C ~ 200°C | 60 ~ 120 sec. |
| 2 | Reflow | T_L 217°C | 60 ~ 90 sec. |
| 3 | Peak heat | T_p 260°C | 10 sec. MAX |

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Packing

T= tape and reel (2,000pcs/reel)



| A | P | B | K Max | T |
|----------------|---------------|----------------|----------------|----------------|
| 2.73 ± 0.2 | 4.0 ± 0.1 | 2.90 ± 0.2 | 2.34 ± 0.2 | 0.23 ± 0.1 |



Dimensions: mm



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