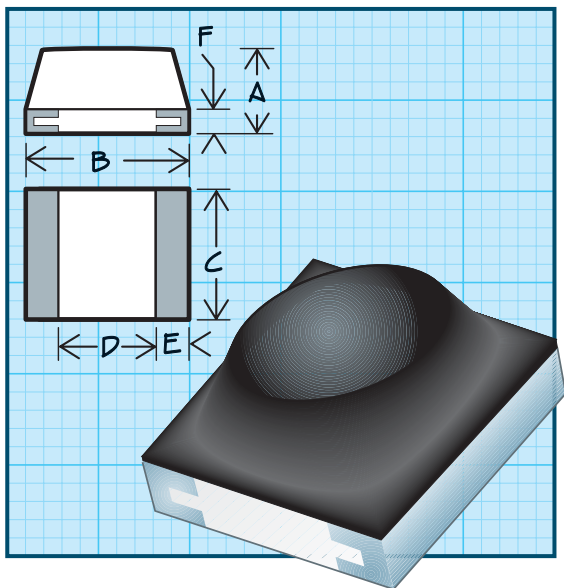


**Micro i<sup>®</sup> Chip Inductors**

RF INDUCTORS



**Military Specifications** MIL-PRF-83446/38

**Physical Parameters**

|   | Inches            | Millimeters    |
|---|-------------------|----------------|
| A | 0.080 Max.        | 2.03 Max.      |
| B | 0.145 to 0.155    | 3.68 to 3.94   |
| C | 0.115 to 0.125    | 2.92 to 3.18   |
| D | 0.070 Min.        | 1.78 Min.      |
| E | 0.020 to 0.030    | 0.508 to 0.762 |
| F | 0.020 Max. (Typ.) | 0.51 Max.      |

**Current Rating at 90°C Ambient** 35°C Rise

**Operating Temperature Range** -55°C to +125°C

**Maximum Power Dissipation at 90°C** 0.175 Watts

**Termination** Standard-Tin/Lead. For RoHS, order 160R - XXXKS. Contact factory for other finish options.

**Notes** 1) Designed specifically for reflow soldering and other high temperature processes with metallized edges to exhibit solder fillet. 2) Optional marking is available. Parts can be printed with dash number (ie 100, 120, etc.). Add suffix M to part number.

**For inductance values** above 560µH, consult factory.

**Mechanical Configuration** Units are epoxy encapsulated. Contact area for reflow are solder coated. Internal connections are thermal compression bonded.

**Packaging** Bulk only

For further surface finish information, refer to TECHNICAL section of this catalog.

Made in the U.S.A.

DASH NUMBER\*  
MIL DASH #  
INDUCTANCE (µH)  
TOLERANCE  
Q MINIMUM  
TEST FREQUENCY (MHz)  
SRF MINIMUM (MHz)  
DC RESISTANCE MAXIMUM (OHMS)  
CURRENT RATING MAX. (mA)

| M83446/38 - SERIES 160 PHENOLIC CORE |    |       |       |    |     |     |       |      |
|--------------------------------------|----|-------|-------|----|-----|-----|-------|------|
| -100MS                               | 1  | 0.010 | ± 20% | 48 | 150 | 900 | 0.050 | 1590 |
| -120MS                               | 2  | 0.012 | ± 20% | 48 | 150 | 900 | 0.055 | 1515 |
| -150MS                               | 3  | 0.015 | ± 20% | 48 | 150 | 900 | 0.060 | 1450 |
| -180MS                               | 4  | 0.018 | ± 20% | 48 | 150 | 900 | 0.065 | 1395 |
| -220MS                               | 5  | 0.022 | ± 20% | 48 | 100 | 900 | 0.070 | 1345 |
| -270MS                               | 6  | 0.027 | ± 20% | 48 | 100 | 900 | 0.075 | 1295 |
| -330MS                               | 7  | 0.033 | ± 20% | 48 | 100 | 900 | 0.075 | 1295 |
| -390MS                               | 8  | 0.039 | ± 20% | 48 | 100 | 900 | 0.080 | 1255 |
| -470MS                               | 9  | 0.047 | ± 20% | 48 | 100 | 850 | 0.085 | 1220 |
| -560MS                               | 10 | 0.056 | ± 20% | 48 | 100 | 800 | 0.088 | 1195 |
| -680MS                               | 11 | 0.068 | ± 20% | 48 | 100 | 750 | 0.093 | 1165 |
| -820MS                               | 12 | 0.082 | ± 20% | 48 | 100 | 700 | 0.095 | 1150 |

| M83446/38 - SERIES 160 IRON CORE |    |       |       |    |      |     |       |      |
|----------------------------------|----|-------|-------|----|------|-----|-------|------|
| -101KS                           | 13 | 0.100 | ± 10% | 50 | 25.0 | 600 | 0.075 | 1295 |
| -121KS                           | 14 | 0.120 | ± 10% | 50 | 25.0 | 550 | 0.075 | 1295 |
| -151KS                           | 15 | 0.150 | ± 10% | 50 | 25.0 | 420 | 0.085 | 1220 |
| -181KS                           | 16 | 0.180 | ± 10% | 50 | 25.0 | 390 | 0.10  | 1125 |
| -221KS                           | 17 | 0.220 | ± 10% | 50 | 25.0 | 340 | 0.11  | 1070 |
| -271KS                           | 18 | 0.270 | ± 10% | 50 | 25.0 | 290 | 0.12  | 1025 |
| -301KS                           | 19 | 0.300 | ± 10% | 50 | 25.0 | 250 | 0.13  | 985  |
| -331KS                           | 20 | 0.330 | ± 10% | 50 | 25.0 | 230 | 0.14  | 950  |
| -361KS                           | 21 | 0.360 | ± 10% | 50 | 25.0 | 220 | 0.15  | 915  |
| -391KS                           | 22 | 0.390 | ± 10% | 50 | 25.0 | 210 | 0.16  | 890  |
| -421KS                           | 23 | 0.430 | ± 10% | 50 | 25.0 | 200 | 0.17  | 860  |
| -471KS                           | 24 | 0.470 | ± 10% | 50 | 25.0 | 190 | 0.18  | 835  |
| -561KS                           | 25 | 0.560 | ± 10% | 50 | 25.0 | 180 | 0.20  | 795  |
| -681KS                           | 26 | 0.680 | ± 10% | 50 | 25.0 | 170 | 0.23  | 740  |
| -821KS                           | 27 | 0.820 | ± 10% | 50 | 25.0 | 150 | 0.26  | 695  |
| -102JS                           | 28 | 1.00  | ± 5%  | 50 | 25.0 | 140 | 0.34  | 610  |
| -122JS                           | 29 | 1.20  | ± 5%  | 36 | 7.9  | 130 | 0.42  | 545  |
| -152JS                           | 30 | 1.50  | ± 5%  | 36 | 7.9  | 120 | 0.56  | 475  |
| -182JS                           | 31 | 1.80  | ± 5%  | 36 | 7.9  | 100 | 0.76  | 410  |
| -222JS                           | 32 | 2.20  | ± 5%  | 36 | 7.9  | 98  | 0.93  | 370  |
| -272JS                           | 33 | 2.70  | ± 5%  | 40 | 7.9  | 91  | 1.2   | 325  |
| -332JS                           | 34 | 3.30  | ± 5%  | 40 | 7.9  | 76  | 1.3   | 310  |
| -392JS                           | 35 | 3.90  | ± 5%  | 47 | 7.9  | 48  | 1.5   | 290  |
| -472JS                           | 36 | 4.70  | ± 5%  | 47 | 7.9  | 46  | 1.7   | 275  |
| -562JS                           | 37 | 5.60  | ± 5%  | 44 | 7.9  | 42  | 1.8   | 270  |
| -682JS                           | 38 | 6.80  | ± 5%  | 40 | 7.9  | 39  | 1.9   | 255  |
| -822JS                           | 39 | 8.20  | ± 5%  | 40 | 7.9  | 30  | 2.4   | 230  |
| -103JS                           | 40 | 10.0  | ± 5%  | 46 | 7.9  | 26  | 3.2   | 200  |
| -123JS                           | 41 | 12.0  | ± 5%  | 41 | 2.5  | 24  | 3.7   | 185  |
| -153JS                           | 42 | 15.0  | ± 5%  | 46 | 2.5  | 23  | 3.8   | 180  |
| -183JS                           | 43 | 18.0  | ± 5%  | 46 | 2.5  | 22  | 4.2   | 175  |
| -223JS                           | 44 | 22.0  | ± 5%  | 47 | 2.5  | 18  | 5.5   | 150  |
| -273JS                           | 45 | 27.0  | ± 5%  | 47 | 2.5  | 17  | 6.1   | 145  |
| -333JS                           | 46 | 33.0  | ± 5%  | 47 | 2.5  | 13  | 6.6   | 140  |
| -393JS                           | 47 | 39.0  | ± 5%  | 50 | 2.5  | 12  | 7.0   | 135  |

| M83446/38 - SERIES 160 FERRITE CORE |    |       |      |    |      |      |      |     |
|-------------------------------------|----|-------|------|----|------|------|------|-----|
| -473JS                              | 48 | 47.0  | ± 5% | 50 | 2.5  | 11.0 | 8.3  | 125 |
| -563JS                              | 49 | 56.0  | ± 5% | 50 | 2.5  | 10.0 | 8.9  | 120 |
| -683JS                              | 50 | 68.0  | ± 5% | 50 | 2.5  | 9.1  | 13.0 | 100 |
| -823JS                              | 51 | 82.0  | ± 5% | 50 | 2.5  | 8.6  | 14.0 | 95  |
| -104JS                              | 52 | 100.0 | ± 5% | 47 | 2.5  | 7.6  | 16.0 | 90  |
| -124JS                              | 53 | 120.0 | ± 5% | 30 | 0.79 | 6.8  | 17.0 | 85  |
| -154JS                              | 54 | 150.0 | ± 5% | 32 | 0.79 | 5.6  | 18.0 | 80  |
| -184JS                              | 55 | 180.0 | ± 5% | 32 | 0.79 | 4.5  | 22.0 | 75  |
| -224JS                              | 56 | 220.0 | ± 5% | 32 | 0.79 | 4.0  | 28.0 | 70  |
| -274JS                              | 57 | 270.0 | ± 5% | 32 | 0.79 | 3.8  | 32.0 | 65  |
| -334JS                              | 58 | 330.0 | ± 5% | 32 | 0.79 | 3.5  | 44.0 | 55  |
| -394JS                              | 59 | 390.0 | ± 5% | 32 | 0.79 | 3.4  | 48.0 | 50  |
| -474JS                              | 60 | 470.0 | ± 5% | 28 | 0.79 | 3.2  | 75.0 | 42  |
| -564JS                              | 61 | 560.0 | ± 5% | 28 | 0.79 | 2.8  | 81.0 | 40  |

Parts listed above are QPL/MIL qualified

Optional Tolerances: J = 5% H = 3% G = 2% F = 1%

\*Complete part # must include series # PLUS the dash #