

## Inductors, Epoxy Conformal Coated, Uniform Roll Coated, Axial Leaded



### ELECTRICAL SPECIFICATIONS

**Inductance Tolerance:**  $\pm 5\%$ ,  $\pm 10\%$ ,  $\pm 20\%$   
Other tolerances available on request

**Insulation Resistance:** 1000 M $\Omega$  minimum per  
MIL-STD-202, method 302, test condition B

**Operating Temperature:** - 55 °C to + 105 °C

### MATERIAL SPECIFICATIONS

**Coating:** Epoxy-uniform roll coated

**Lead:** Tinned copper

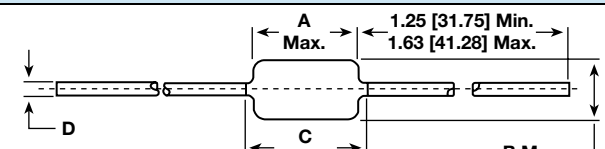
**Core:** Ferrite

### MECHANICAL SPECIFICATIONS

**Terminal Strength:** 5 pounds pull per MIL-STD-202,  
method 211, test condition A

**Weight:** IRF-1 = 0.3 g maximum

IRF-3 = 0.6 g maximum

| DIMENSIONS in inches [millimeters]                                                  |                 |                 |                  |                                            |
|-------------------------------------------------------------------------------------|-----------------|-----------------|------------------|--------------------------------------------|
|  |                 |                 |                  |                                            |
| MODEL                                                                               | A (MAX.)        | B (MAX.)        | C (MAX.)         | D                                          |
| IRF-1                                                                               | 0.260<br>[6.60] | 0.120<br>[3.05] | 0.330<br>[8.38]  | 0.0200 $\pm$ 0.0015<br>[0.508 $\pm$ 0.038] |
| IRF-3                                                                               | 0.385<br>[9.78] | 0.165<br>[4.19] | 0.410<br>[10.41] | 0.025 $\pm$ 0.002<br>[0.635 $\pm$ 0.051]   |

### FEATURES

- Flame-retardant coating
- Color band identification
- Uniform coating is excellent for automatic insertion
- Available in bulk, ammo and reel pack per EIA RS/296
- Superior electrical specifications high Q and self resonant frequency, low DC resistance, high rated DC current
- Compliant to RoHS directive 2002/95/EC



**RoHS**  
COMPLIANT

### TEST EQUIPMENT <sup>(1)</sup>

- H/P 4342A Q-meter
- Measurements corporation megacycle meter, model 59
- Wheatstone bridge

#### Note

<sup>(1)</sup> Test procedures per MIL-PRF-15305

### ENVIRONMENTAL PERFORMANCE

| TEST                         | CONDITIONS | SPECIFICATIONS             |
|------------------------------|------------|----------------------------|
| Flammability                 | -          | MIL-STD-202,<br>method 111 |
| Overload                     | -          | MIL-PRF-15305              |
| Resistance to Soldering Heat | A          | MIL-STD-202,<br>method 210 |
| Resistance to Solvents       | -          | MIL-STD-202,<br>method 215 |

### STANDARD ELECTRICAL SPECIFICATIONS

| MODEL | IND.<br>( $\mu$ H) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>( $\Omega$ ) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |
|-------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|-----------------------------------------|
| IRF-1 | 0.10               | $\pm 20$    | 40        | 25.0                            | 400.0                            | 0.06                     | 1350                                    |
| IRF-1 | 0.12               | $\pm 20$    | 40        | 25.0                            | 400.0                            | 0.06                     | 1270                                    |
| IRF-1 | 0.15               | $\pm 20$    | 40        | 25.0                            | 400.0                            | 0.07                     | 1200                                    |
| IRF-1 | 0.18               | $\pm 20$    | 40        | 25.0                            | 400.0                            | 0.075                    | 1155                                    |
| IRF-1 | 0.22               | $\pm 20$    | 40        | 25.0                            | 380.0                            | 0.075                    | 1150                                    |
| IRF-1 | 0.27               | $\pm 20$    | 40        | 25.0                            | 360.0                            | 0.08                     | 1110                                    |
| IRF-1 | 0.33               | $\pm 20$    | 40        | 25.0                            | 350.0                            | 0.08                     | 1110                                    |
| IRF-1 | 0.39               | $\pm 20$    | 40        | 25.0                            | 320.0                            | 0.09                     | 1000                                    |
| IRF-1 | 0.47               | $\pm 20$    | 40        | 25.0                            | 300.0                            | 0.10                     | 1000                                    |
| IRF-1 | 0.56               | $\pm 20$    | 40        | 25.0                            | 280.0                            | 0.11                     | 950                                     |
| IRF-1 | 0.68               | $\pm 20$    | 40        | 25.0                            | 250.0                            | 0.12                     | 900                                     |
| IRF-1 | 0.82               | $\pm 20$    | 40        | 25.0                            | 200.0                            | 0.12                     | 900                                     |
| IRF-1 | 1.0                | $\pm 10$    | 50        | 25.0                            | 180.0                            | 0.15                     | 815                                     |
| IRF-1 | 1.2                | $\pm 10$    | 50        | 7.9                             | 165.0                            | 0.18                     | 740                                     |
| IRF-1 | 1.5                | $\pm 10$    | 50        | 7.9                             | 150.0                            | 0.20                     | 700                                     |

#### Notes

<sup>(1)</sup> Measured with full length lead

<sup>(2)</sup> Rated DC current based on maximum temperature rise of 15 °C at + 90 °C ambient

**STANDARD ELECTRICAL SPECIFICATIONS**

| MODEL | IND.<br>( $\mu$ H) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>( $\Omega$ ) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |
|-------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|-----------------------------------------|
| IRF-1 | 1.8                | $\pm 10$    | 50        | 7.9                             | 125.0                            | 0.23                     | 655                                     |
| IRF-1 | 2.2                | $\pm 10$    | 50        | 7.9                             | 115.0                            | 0.25                     | 630                                     |
| IRF-1 | 2.7                | $\pm 10$    | 50        | 7.9                             | 100.0                            | 0.28                     | 595                                     |
| IRF-1 | 3.3                | $\pm 10$    | 50        | 7.9                             | 90.0                             | 0.30                     | 575                                     |
| IRF-1 | 3.9                | $\pm 10$    | 50        | 7.9                             | 80.0                             | 0.32                     | 555                                     |
| IRF-1 | 4.7                | $\pm 10$    | 50        | 7.9                             | 75.0                             | 0.35                     | 530                                     |
| IRF-1 | 5.6                | $\pm 10$    | 50        | 7.9                             | 65.0                             | 0.40                     | 500                                     |
| IRF-1 | 6.8                | $\pm 10$    | 50        | 7.9                             | 60.0                             | 0.45                     | 470                                     |
| IRF-1 | 8.2                | $\pm 10$    | 50        | 7.9                             | 55.0                             | 0.55                     | 425                                     |
| IRF-1 | 10.0               | $\pm 10$    | 50        | 7.9                             | 50.0                             | 0.72                     | 370                                     |
| IRF-1 | 12.0               | $\pm 10$    | 50        | 2.5                             | 40.0                             | 0.80                     | 350                                     |
| IRF-1 | 15.0               | $\pm 10$    | 50        | 2.5                             | 35.0                             | 0.88                     | 335                                     |
| IRF-1 | 18.0               | $\pm 10$    | 50        | 2.5                             | 30.0                             | 1.0                      | 315                                     |
| IRF-1 | 22.0               | $\pm 10$    | 50        | 2.5                             | 25.0                             | 1.2                      | 285                                     |
| IRF-1 | 27.0               | $\pm 10$    | 50        | 2.5                             | 20.0                             | 1.35                     | 270                                     |
| IRF-1 | 33.0               | $\pm 10$    | 50        | 2.5                             | 24.0                             | 1.5                      | 255                                     |
| IRF-1 | 39.0               | $\pm 10$    | 50        | 2.5                             | 22.0                             | 1.7                      | 240                                     |
| IRF-1 | 47.0               | $\pm 10$    | 60        | 2.5                             | 20.0                             | 2.3                      | 205                                     |
| IRF-1 | 56.0               | $\pm 10$    | 60        | 2.5                             | 18.0                             | 2.6                      | 195                                     |
| IRF-1 | 68.0               | $\pm 10$    | 60        | 2.5                             | 15.0                             | 2.9                      | 185                                     |
| IRF-1 | 82.0               | $\pm 10$    | 60        | 2.5                             | 14.0                             | 3.2                      | 175                                     |
| IRF-1 | 100.0              | $\pm 10$    | 60        | 2.5                             | 13.0                             | 3.5                      | 165                                     |
| IRF-1 | 120.0              | $\pm 10$    | 60        | 0.79                            | 5.40                             | 3.8                      | 160                                     |
| IRF-1 | 150.0              | $\pm 10$    | 60        | 0.79                            | 4.75                             | 4.4                      | 150                                     |
| IRF-1 | 180.0              | $\pm 10$    | 60        | 0.79                            | 4.35                             | 5.0                      | 140                                     |
| IRF-1 | 220.0              | $\pm 10$    | 60        | 0.79                            | 4.0                              | 5.7                      | 130                                     |
| IRF-1 | 270.0              | $\pm 10$    | 60        | 0.79                            | 3.70                             | 6.5                      | 120                                     |
| IRF-1 | 330.0              | $\pm 10$    | 60        | 0.79                            | 3.40                             | 9.5                      | 100                                     |
| IRF-1 | 390.0              | $\pm 10$    | 60        | 0.79                            | 2.80                             | 10.5                     | 95                                      |
| IRF-1 | 470.0              | $\pm 10$    | 60        | 0.79                            | 2.55                             | 11.6                     | 90                                      |
| IRF-1 | 560.0              | $\pm 10$    | 60        | 0.79                            | 2.35                             | 13.0                     | 85                                      |
| IRF-1 | 680.0              | $\pm 10$    | 60        | 0.79                            | 2.0                              | 18.0                     | 75                                      |
| IRF-1 | 820.0              | $\pm 10$    | 60        | 0.79                            | 1.85                             | 23.0                     | 65                                      |
| IRF-1 | 1000.0             | $\pm 10$    | 60        | 0.79                            | 1.40                             | 26.0                     | 60                                      |
| IRF-3 | 0.22               | $\pm 20$    | 55        | 25.0                            | 380.0                            | 0.10                     | 1400                                    |
| IRF-3 | 0.27               | $\pm 20$    | 55        | 25.0                            | 340.0                            | 0.11                     | 1320                                    |
| IRF-3 | 0.33               | $\pm 20$    | 55        | 25.0                            | 300.0                            | 0.12                     | 1280                                    |
| IRF-3 | 0.39               | $\pm 20$    | 55        | 25.0                            | 280.0                            | 0.13                     | 1200                                    |
| IRF-3 | 0.47               | $\pm 20$    | 55        | 25.0                            | 250.0                            | 0.14                     | 1150                                    |
| IRF-3 | 0.56               | $\pm 20$    | 55        | 25.0                            | 230.0                            | 0.15                     | 1100                                    |
| IRF-3 | 0.68               | $\pm 20$    | 55        | 25.0                            | 210.0                            | 0.16                     | 1030                                    |
| IRF-3 | 0.82               | $\pm 20$    | 55        | 25.0                            | 172.0                            | 0.17                     | 980                                     |
| IRF-3 | 1.0                | $\pm 10$    | 55        | 25.0                            | 157.0                            | 0.19                     | 920                                     |
| IRF-3 | 1.2                | $\pm 10$    | 50        | 7.9                             | 144.0                            | 0.21                     | 880                                     |
| IRF-3 | 1.5                | $\pm 10$    | 50        | 7.9                             | 131.0                            | 0.23                     | 830                                     |
| IRF-3 | 1.8                | $\pm 10$    | 55        | 7.9                             | 121.0                            | 0.25                     | 790                                     |
| IRF-3 | 2.2                | $\pm 10$    | 55        | 7.9                             | 110.0                            | 0.28                     | 750                                     |
| IRF-3 | 2.7                | $\pm 10$    | 60        | 7.9                             | 100.0                            | 0.30                     | 720                                     |
| IRF-3 | 3.3                | $\pm 10$    | 65        | 7.9                             | 94.0                             | 0.34                     | 670                                     |
| IRF-3 | 3.9                | $\pm 10$    | 65        | 7.9                             | 86.0                             | 0.37                     | 640                                     |
| IRF-3 | 4.7                | $\pm 10$    | 70        | 7.9                             | 80.0                             | 0.39                     | 620                                     |
| IRF-3 | 5.6                | $\pm 10$    | 70        | 7.9                             | 74.0                             | 0.43                     | 590                                     |
| IRF-3 | 6.8                | $\pm 10$    | 75        | 7.9                             | 68.0                             | 0.48                     | 550                                     |
| IRF-3 | 8.2                | $\pm 10$    | 80        | 7.9                             | 53.0                             | 0.52                     | 530                                     |
| IRF-3 | 10.0               | $\pm 10$    | 85        | 7.9                             | 45.0                             | 0.58                     | 500                                     |
| IRF-3 | 12.0               | $\pm 10$    | 75        | 2.5                             | 42.0                             | 0.63                     | 480                                     |
| IRF-3 | 15.0               | $\pm 10$    | 70        | 2.5                             | 40.0                             | 0.72                     | 460                                     |
| IRF-3 | 18.0               | $\pm 10$    | 65        | 2.5                             | 34.0                             | 0.77                     | 430                                     |
| IRF-3 | 22.0               | $\pm 10$    | 60        | 2.5                             | 30.0                             | 0.84                     | 410                                     |
| IRF-3 | 27.0               | $\pm 10$    | 55        | 2.5                             | 25.0                             | 0.94                     | 390                                     |
| IRF-3 | 33.0               | $\pm 10$    | 55        | 2.5                             | 19.0                             | 1.03                     | 370                                     |
| IRF-3 | 39.0               | $\pm 10$    | 50        | 2.5                             | 14.5                             | 1.12                     | 350                                     |

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise of 15 °C at + 90 °C ambient

**STANDARD ELECTRICAL SPECIFICATIONS**

| MODEL | IND.<br>( $\mu$ H) | TOL.<br>(%) | Q<br>MIN. | TEST FREQUENCY L AND Q<br>(MHz) | SRF MIN.<br>(MHz) <sup>(1)</sup> | DCR MAX.<br>( $\Omega$ ) | RATED DC CURRENT<br>(mA) <sup>(2)</sup> |
|-------|--------------------|-------------|-----------|---------------------------------|----------------------------------|--------------------------|-----------------------------------------|
| IRF-3 | 47.0               | $\pm 10$    | 45        | 2.5                             | 13.0                             | 1.22                     | 340                                     |
| IRF-3 | 56.0               | $\pm 10$    | 40        | 2.5                             | 12.0                             | 1.34                     | 320                                     |
| IRF-3 | 68.0               | $\pm 10$    | 40        | 2.5                             | 11.0                             | 1.47                     | 305                                     |
| IRF-3 | 82.0               | $\pm 10$    | 35        | 2.5                             | 10.3                             | 1.62                     | 290                                     |
| IRF-3 | 100.0              | $\pm 10$    | 30        | 2.5                             | 9.5                              | 1.8                      | 275                                     |
| IRF-3 | 120.0              | $\pm 10$    | 70        | 0.79                            | 3.8                              | 3.7                      | 185                                     |
| IRF-3 | 150.0              | $\pm 10$    | 70        | 0.79                            | 3.5                              | 4.2                      | 175                                     |
| IRF-3 | 180.0              | $\pm 10$    | 70        | 0.79                            | 3.3                              | 4.6                      | 165                                     |
| IRF-3 | 220.0              | $\pm 10$    | 70        | 0.79                            | 3.0                              | 5.1                      | 155                                     |
| IRF-3 | 270.0              | $\pm 10$    | 70        | 0.79                            | 2.8                              | 5.8                      | 145                                     |
| IRF-3 | 330.0              | $\pm 10$    | 70        | 0.79                            | 2.6                              | 6.4                      | 137                                     |
| IRF-3 | 390.0              | $\pm 10$    | 65        | 0.79                            | 2.4                              | 7.0                      | 133                                     |
| IRF-3 | 470.0              | $\pm 10$    | 65        | 0.79                            | 2.25                             | 7.7                      | 126                                     |
| IRF-3 | 560.0              | $\pm 10$    | 65        | 0.79                            | 2.1                              | 8.5                      | 120                                     |
| IRF-3 | 680.0              | $\pm 10$    | 65        | 0.79                            | 1.95                             | 9.4                      | 113                                     |
| IRF-3 | 820.0              | $\pm 10$    | 65        | 0.79                            | 1.85                             | 10.5                     | 105                                     |
| IRF-3 | 1000.0             | $\pm 10$    | 65        | 0.79                            | 1.4                              | 14.0                     | 100                                     |

**Notes**<sup>(1)</sup> Measured with full length lead<sup>(2)</sup> Rated DC current based on maximum temperature rise of 15 °C at + 90 °C ambient**ORDERING INFORMATION**

|              |                             |                              |                 |                                  |
|--------------|-----------------------------|------------------------------|-----------------|----------------------------------|
| <b>IRF-1</b> | <b>10 <math>\mu</math>H</b> | <b><math>\pm 10</math> %</b> | <b>ER</b>       | <b>e2</b>                        |
| MODEL        | INDUCTANCE<br>VALUE         | INDUCTANCE<br>TOLERANCE      | PACKAGE<br>CODE | JEDEC LEAD (Pb)-FREE<br>STANDARD |

**GLOBAL PART NUMBER**

|                                                                  |                           |                                        |                         |
|------------------------------------------------------------------|---------------------------|----------------------------------------|-------------------------|
| <div>I</div> <div>R</div> <div>F</div> <div>0</div> <div>1</div> | <div>E</div> <div>R</div> | <div>1</div> <div>0</div> <div>0</div> | <div>K</div>            |
| MODEL                                                            | PACKAGE<br>CODE           | INDUCTANCE<br>VALUE                    | INDUCTANCE<br>TOLERANCE |



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