

# DRQ

## Dual winding, high power density, shielded drum core power inductors



### Product features

- Dual winding inductors that can be used as either a single inductor, or in coupled inductor/transformer applications (1:1 turns ratio)
- Four sizes of shielded drum core inductors
- Windings can be connected in series or parallel, offering a broad range of inductance and current ratings
- Peak current ratings from 0.13 A to 56 A
- RMS current ratings from 0.128 A to 17.9 A
- Inductance ratings from 0.33  $\mu$ H to 4.02 mH
- 200 Vac Isolation between windings
- Ferrite core material

### Applications

- Desktop and servers
- DVD and media players
- Portable and handheld devices
- LCD panels
- As a transformer: SEPIC, flyback
- As an inductor: buck, boost, coupled inductor
- DC-DC Converters
- VRM inductor for CPU and DDR power supplies
- Input and output filter chokes

### Environmental data

- Storage temperature range (component): -40 °C to +125 °C
- Operating temperature range: -40 °C to +125 °C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 (latest revision) compliant



Product specifications

| Part Number | Rated Inductance (μH) | Parallel Ratings           |                                   |  |                         |                         | Series Ratings             |                                   |  |                         |                         |
|-------------|-----------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|
|             |                       | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec |
| DRQ73-R33-R | 0.33                  | 0.306                      | 6.19                              | 14.4                                   | 0.0074                  | 1.98                    | 1.224                      | 3.10                              | 7.18                                   | 0.0296                  | 3.96                    |
| DRQ73-1R0-R | 1.00                  | 0.992                      | 5.25                              | 7.97                                   | 0.0103                  | 3.56                    | 3.968                      | 2.63                              | 3.99                                   | 0.0411                  | 7.12                    |
| DRQ73-1R5-R | 1.50                  | 1.482                      | 4.64                              | 6.52                                   | 0.0132                  | 4.36                    | 5.928                      | 2.32                              | 3.26                                   | 0.0527                  | 8.72                    |
| DRQ73-2R2-R | 2.20                  | 2.070                      | 4.11                              | 5.52                                   | 0.0167                  | 5.15                    | 8.280                      | 2.06                              | 2.76                                   | 0.0669                  | 10.3                    |
| DRQ73-3R3-R | 3.30                  | 3.540                      | 3.31                              | 4.22                                   | 0.0259                  | 6.73                    | 14.16                      | 1.66                              | 2.11                                   | 0.1035                  | 13.5                    |
| DRQ73-4R7-R | 4.70                  | 4.422                      | 3.09                              | 3.78                                   | 0.0297                  | 7.52                    | 17.69                      | 1.55                              | 1.89                                   | 0.1188                  | 15.0                    |
| DRQ73-6R8-R | 6.80                  | 6.480                      | 2.55                              | 3.12                                   | 0.0435                  | 9.11                    | 25.92                      | 1.28                              | 1.56                                   | 0.1742                  | 18.2                    |
| DRQ73-8R2-R | 8.20                  | 8.930                      | 2.19                              | 2.66                                   | 0.0592                  | 10.7                    | 35.72                      | 1.10                              | 1.33                                   | 0.2368                  | 21.4                    |
| DRQ73-100-R | 10.0                  | 10.30                      | 2.08                              | 2.47                                   | 0.0656                  | 11.5                    | 41.20                      | 1.04                              | 1.24                                   | 0.2623                  | 23.0                    |
| DRQ73-150-R | 15.0                  | 15.01                      | 1.83                              | 2.05                                   | 0.0844                  | 13.9                    | 60.04                      | 0.916                             | 1.03                                   | 0.339                   | 27.8                    |
| DRQ73-220-R | 22.0                  | 22.65                      | 1.62                              | 1.67                                   | 0.107                   | 17.0                    | 90.60                      | 0.811                             | 0.83                                   | 0.429                   | 34.0                    |
| DRQ73-330-R | 33.0                  | 34.41                      | 1.31                              | 1.35                                   | 0.166                   | 21.0                    | 137.6                      | 0.653                             | 0.68                                   | 0.665                   | 42.0                    |
| DRQ73-470-R | 47.0                  | 48.62                      | 1.08                              | 1.14                                   | 0.241                   | 24.9                    | 194.5                      | 0.542                             | 0.57                                   | 0.965                   | 49.8                    |
| DRQ73-680-R | 68.0                  | 68.91                      | 0.89                              | 0.96                                   | 0.358                   | 29.7                    | 275.6                      | 0.444                             | 0.48                                   | 1.43                    | 59.4                    |
| DRQ73-820-R | 82.0                  | 80.37                      | 0.86                              | 0.89                                   | 0.384                   | 32.1                    | 321.5                      | 0.430                             | 0.44                                   | 1.54                    | 64.2                    |
| DRQ73-101-R | 100                   | 101.4                      | 0.73                              | 0.79                                   | 0.527                   | 36.0                    | 405.6                      | 0.367                             | 0.39                                   | 2.11                    | 72.0                    |
| DRQ73-151-R | 150                   | 150.9                      | 0.58                              | 0.65                                   | 0.851                   | 44.0                    | 603.6                      | 0.289                             | 0.32                                   | 3.41                    | 88.0                    |
| DRQ73-221-R | 220                   | 223.3                      | 0.52                              | 0.53                                   | 1.05                    | 53.5                    | 893.2                      | 0.260                             | 0.27                                   | 4.20                    | 107                     |
| DRQ73-331-R | 330                   | 325.5                      | 0.42                              | 0.44                                   | 1.59                    | 64.5                    | 1302                       | 0.211                             | 0.22                                   | 6.36                    | 129                     |
| DRQ73-471-R | 470                   | 465.8                      | 0.35                              | 0.37                                   | 2.36                    | 77.2                    | 1863                       | 0.173                             | 0.18                                   | 9.44                    | 154                     |
| DRQ73-681-R | 680                   | 676.5                      | 0.29                              | 0.31                                   | 3.47                    | 93.1                    | 2706                       | 0.143                             | 0.15                                   | 13.88                   | 186                     |
| DRQ73-821-R | 820                   | 821.7                      | 0.27                              | 0.28                                   | 3.93                    | 103                     | 3287                       | 0.134                             | 0.14                                   | 15.72                   | 206                     |
| DRQ73-102-R | 1000                  | 995.0                      | 0.26                              | 0.25                                   | 4.34                    | 113                     | 3980                       | 0.128                             | 0.13                                   | 17.36                   | 226                     |

- Open Circuit Inductance Test Parameters: 100 kHz, 0.25 V<sub>rms</sub>, 0.0 Adc  
Parallel: (1,2 -4,3) Series: (1-4) tie (2-3)
- RMS current for an approximate DT of 40 °C without core loss.  
It is recommended that the temperature of the part not exceed +125 °C.
- Peak current for approximately 30% roll-off at +20 °C
- DCR limits @ +20 °C
- Applied Volt-Time product (V-μs) across the inductor. This value represents the applied V-μs at 100 kHz necessary to generate a core loss equal to 10% of the total losses for a 40 °C temperature rise.

- Turns Ratio (1:3):(2:4) 1:1
- Part number definition: DRQxxx-yyy-  
- DRQxxx = product code and size,  
- yyy = inductance value in μH,  
- R = decimal point. If no R is present, third character = # of zeros  
- "-R" suffix = RoHS compliant

Product specifications

| Part Number | Rated Inductance (μH) | Parallel Ratings           |                                   |  |                         |                         | Series Ratings             |                                   |  |                         |                         |
|-------------|-----------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|
|             |                       | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> Typ. | Volt <sup>5</sup> μ-sec | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> Typ. | Volt <sup>5</sup> μ-sec |
| DRQ74-R33-R | 0.33                  | 0.294                      | 6.20                              | 18.4                                   | 0.0074                  | 1.71                    | 1.176                      | 3.10                              | 9.18                                   | 0.0295                  | 3.42                    |
| DRQ74-1R0-R | 1.00                  | 0.952                      | 5.33                              | 10.2                                   | 0.0100                  | 3.08                    | 3.808                      | 2.66                              | 5.10                                   | 0.0400                  | 6.16                    |
| DRQ74-1R5-R | 1.50                  | 1.422                      | 4.96                              | 8.35                                   | 0.0115                  | 3.76                    | 5.688                      | 2.48                              | 4.17                                   | 0.0461                  | 7.52                    |
| DRQ74-2R2-R | 2.20                  | 1.986                      | 4.66                              | 7.06                                   | 0.0130                  | 4.45                    | 7.944                      | 2.33                              | 3.53                                   | 0.0521                  | 8.9                     |
| DRQ74-3R3-R | 3.30                  | 3.396                      | 3.94                              | 5.40                                   | 0.0183                  | 5.81                    | 13.58                      | 1.97                              | 2.70                                   | 0.0732                  | 11.6                    |
| DRQ74-4R7-R | 4.70                  | 5.182                      | 3.34                              | 4.37                                   | 0.0254                  | 7.18                    | 20.73                      | 1.67                              | 2.19                                   | 0.102                   | 14.4                    |
| DRQ74-6R8-R | 6.80                  | 7.344                      | 2.60                              | 3.67                                   | 0.0418                  | 8.55                    | 29.38                      | 1.30                              | 1.84                                   | 0.167                   | 17.1                    |
| DRQ74-8R2-R | 8.20                  | 8.566                      | 2.53                              | 3.40                                   | 0.0441                  | 9.23                    | 34.26                      | 1.27                              | 1.70                                   | 0.177                   | 18.5                    |
| DRQ74-100-R | 10.0                  | 9.882                      | 2.41                              | 3.17                                   | 0.0489                  | 9.92                    | 39.53                      | 1.20                              | 1.58                                   | 0.196                   | 19.8                    |
| DRQ74-150-R | 15.0                  | 16.09                      | 2.11                              | 2.48                                   | 0.0637                  | 12.7                    | 64.36                      | 1.05                              | 1.24                                   | 0.255                   | 25.4                    |
| DRQ74-220-R | 22.0                  | 21.73                      | 1.75                              | 2.13                                   | 0.0925                  | 14.7                    | 86.92                      | 0.874                             | 1.07                                   | 0.371                   | 29.4                    |
| DRQ74-330-R | 33.0                  | 33.01                      | 1.41                              | 1.73                                   | 0.143                   | 18.1                    | 132.0                      | 0.702                             | 0.87                                   | 0.574                   | 36.2                    |
| DRQ74-470-R | 47.0                  | 49.64                      | 1.15                              | 1.41                                   | 0.216                   | 22.2                    | 198.6                      | 0.573                             | 0.71                                   | 0.865                   | 44.4                    |
| DRQ74-680-R | 68.0                  | 69.67                      | 1.03                              | 1.19                                   | 0.265                   | 26.3                    | 278.7                      | 0.517                             | 0.60                                   | 1.06                    | 52.6                    |
| DRQ74-820-R | 82.0                  | 80.95                      | 0.91                              | 1.11                                   | 0.345                   | 28.4                    | 323.8                      | 0.453                             | 0.55                                   | 1.38                    | 56.8                    |
| DRQ74-101-R | 100                   | 101.6                      | 0.86                              | 0.99                                   | 0.383                   | 31.8                    | 406.4                      | 0.430                             | 0.49                                   | 1.53                    | 63.6                    |
| DRQ74-151-R | 150                   | 150.0                      | 0.69                              | 0.81                                   | 0.591                   | 38.6                    | 600.0                      | 0.346                             | 0.41                                   | 2.37                    | 77.2                    |
| DRQ74-221-R | 220                   | 227.0                      | 0.56                              | 0.66                                   | 0.907                   | 47.5                    | 908.0                      | 0.279                             | 0.33                                   | 3.63                    | 95                      |
| DRQ74-331-R | 330                   | 335.6                      | 0.45                              | 0.54                                   | 1.41                    | 57.8                    | 1342                       | 0.224                             | 0.27                                   | 5.66                    | 116                     |
| DRQ74-471-R | 470                   | 465.3                      | 0.40                              | 0.46                                   | 1.74                    | 68.1                    | 1861                       | 0.202                             | 0.23                                   | 6.97                    | 136                     |
| DRQ74-681-R | 680                   | 671.2                      | 0.33                              | 0.38                                   | 2.58                    | 81.7                    | 2685                       | 0.166                             | 0.19                                   | 10.3                    | 163                     |
| DRQ74-821-R | 820                   | 812.7                      | 0.31                              | 0.35                                   | 2.93                    | 89.9                    | 3251                       | 0.156                             | 0.17                                   | 11.7                    | 180                     |
| DRQ74-102-R | 1000                  | 1009                       | 0.27                              | 0.31                                   | 3.89                    | 100                     | 4036                       | 0.135                             | 0.16                                   | 15.6                    | 200                     |

1. Open Circuit Inductance Test Parameters: 100 kHz, 0.25 V<sub>rms</sub>, 0.0 Adc  
Parallel: (1,2 -4,3) Series: (1-4) tie (2-3)
2. RMS current for an approximate DT of 40 °C without core loss.  
It is recommended that the temperature of the part not exceed +125 °C.
3. Peak current for approximately 30% roll-off at +20 °C
4. DCR limits @ +20 °C
5. Applied Volt-Time product (V-μs) across the inductor. This value represents the applied V-μs at 100 kHz necessary to generate a core loss equal to 10% of the total losses for a 40 °C temperature rise.

6. Turns Ratio (1:3):(2-4) 1:1
7. Part number definition: DRQxxx-yyy-  
- DRQxxx = product code and size,  
- yyy = inductance value in μH,  
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**Product specifications**

| Part Number  | Rated Inductance (μH) | Parallel Ratings           |                                   |  |                         |                         | Series Ratings             |                                   |  |                         |                         |
|--------------|-----------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|
|              |                       | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec |
| DRQ125-R47-R | 0.47                  | 0.456                      | 17.6                              | 33.0                                   | 0.0018                  | 3.17                    | 1.824                      | 8.80                              | 16.5                                   | 0.0078                  | 6.34                    |
| DRQ125-1R0-R | 1.00                  | 0.894                      | 15.0                              | 23.6                                   | 0.0024                  | 4.43                    | 3.576                      | 7.51                              | 11.8                                   | 0.0096                  | 8.86                    |
| DRQ125-1R5-R | 1.50                  | 1.478                      | 13.8                              | 18.3                                   | 0.0029                  | 5.70                    | 5.912                      | 6.89                              | 9.15                                   | 0.0114                  | 11.40                   |
| DRQ125-2R2-R | 2.20                  | 2.208                      | 10.9                              | 15.0                                   | 0.0045                  | 6.97                    | 8.832                      | 5.46                              | 7.50                                   | 0.0182                  | 13.9                    |
| DRQ125-3R3-R | 3.30                  | 3.084                      | 9.26                              | 12.7                                   | 0.0063                  | 8.23                    | 12.34                      | 4.63                              | 6.35                                   | 0.0253                  | 16.5                    |
| DRQ125-4R7-R | 4.70                  | 5.274                      | 7.18                              | 9.71                                   | 0.0105                  | 10.8                    | 21.10                      | 3.59                              | 4.86                                   | 0.0420                  | 21.6                    |
| DRQ125-6R8-R | 6.80                  | 6.588                      | 6.64                              | 8.68                                   | 0.0123                  | 12.0                    | 26.35                      | 3.32                              | 4.34                                   | 0.0492                  | 24.0                    |
| DRQ125-8R2-R | 8.20                  | 8.048                      | 5.54                              | 7.86                                   | 0.0176                  | 13.3                    | 32.19                      | 2.77                              | 3.93                                   | 0.0705                  | 26.6                    |
| DRQ125-100-R | 10.0                  | 9.654                      | 5.35                              | 7.17                                   | 0.0189                  | 14.6                    | 38.62                      | 2.67                              | 3.59                                   | 0.0757                  | 29.2                    |
| DRQ125-150-R | 15.0                  | 15.35                      | 4.27                              | 5.69                                   | 0.0298                  | 18.4                    | 61.40                      | 2.13                              | 2.85                                   | 0.120                   | 36.8                    |
| DRQ125-220-R | 22.0                  | 22.36                      | 3.70                              | 4.71                                   | 0.0396                  | 22.2                    | 89.44                      | 1.84                              | 2.36                                   | 0.159                   | 44.4                    |
| DRQ125-330-R | 33.0                  | 33.74                      | 3.28                              | 3.84                                   | 0.0505                  | 27.2                    | 135.0                      | 1.64                              | 1.92                                   | 0.203                   | 54.4                    |
| DRQ125-470-R | 47.0                  | 47.47                      | 2.71                              | 3.24                                   | 0.0740                  | 32.3                    | 189.9                      | 1.35                              | 1.62                                   | 0.297                   | 64.6                    |
| DRQ125-680-R | 68.0                  | 67.91                      | 2.22                              | 2.70                                   | 0.101                   | 38.6                    | 271.6                      | 1.11                              | 1.35                                   | 0.440                   | 77.2                    |
| DRQ125-820-R | 82.0                  | 86.89                      | 2.05                              | 2.39                                   | 0.128                   | 43.7                    | 347.6                      | 1.03                              | 1.20                                   | 0.515                   | 87.4                    |
| DRQ125-101-R | 100                   | 102.7                      | 1.78                              | 2.20                                   | 0.170                   | 47.5                    | 410.8                      | 0.892                             | 1.10                                   | 0.682                   | 95.0                    |
| DRQ125-151-R | 150                   | 151.1                      | 1.48                              | 1.81                                   | 0.248                   | 57.6                    | 604.4                      | 0.739                             | 0.905                                  | 0.991                   | 115.2                   |
| DRQ125-221-R | 220                   | 216.8                      | 1.19                              | 1.51                                   | 0.384                   | 69.0                    | 867.2                      | 0.594                             | 0.755                                  | 1.54                    | 138                     |
| DRQ125-331-R | 330                   | 332.6                      | 1.06                              | 1.22                                   | 0.482                   | 85.5                    | 1330                       | 0.530                             | 0.610                                  | 1.93                    | 171                     |
| DRQ125-471-R | 470                   | 473.1                      | 0.87                              | 1.02                                   | 0.718                   | 102                     | 1892                       | 0.434                             | 0.510                                  | 2.87                    | 204                     |
| DRQ125-681-R | 680                   | 679.8                      | 0.70                              | 0.85                                   | 1.10                    | 122                     | 2719                       | 0.350                             | 0.425                                  | 4.42                    | 244                     |
| DRQ125-821-R | 820                   | 828.0                      | 0.60                              | 0.77                                   | 1.49                    | 135                     | 3312                       | 0.301                             | 0.385                                  | 5.96                    | 270                     |
| DRQ125-102-R | 1000                  | 1008                       | 0.57                              | 0.70                                   | 1.69                    | 149                     | 4032                       | 0.283                             | 0.350                                  | 6.76                    | 298                     |

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- RMS current for an approximate DT of 40 °C without core loss.  
It is recommended that the temperature of the part not exceed +125 °C.
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- DCR limits @ +20 °C
- Applied Volt-Time product (V-μs) across the inductor. This value represents the applied V-μs at 100 kHz necessary to generate a core loss equal to 10% of the total losses for a 40 °C temperature rise.

- Turns Ratio (1:3):(2-4) 1:1
- Part number definition: DRQxxx-yyy-  
- DRQxxx = product code and size,  
- yyy = inductance value in μH,  
- R = decimal point. If no R is present, third character = # of zeros  
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Product specifications

| Part Number  | Rated Inductance (μH) | Parallel Ratings           |                                   |  |                         |                         | Series Ratings             |                                   |  |                         |                         |
|--------------|-----------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|----------------------------|-----------------------------------|--|-------------------------|-------------------------|
|              |                       | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec | OCL <sup>1</sup> ±20% (μH) | I <sub>rms</sub> <sup>2</sup> (A) | I <sub>sat</sub> <sup>3</sup> (A) Peak | DCR Ω <sup>4</sup> typ. | Volt <sup>5</sup> μ-sec |
| DRQ127-R47-R | 0.47                  | 0.419                      | 17.9                              | 56.0                                   | 0.00195                 | 3.50                    | 1.676                      | 8.94                              | 28                                     | 0.0078                  | 7.00                    |
| DRQ127-1R0-R | 1.00                  | 0.821                      | 15.5                              | 40.0                                   | 0.00261                 | 4.90                    | 3.284                      | 7.74                              | 20                                     | 0.0104                  | 9.80                    |
| DRQ127-1R5-R | 1.50                  | 1.357                      | 13.5                              | 31.1                                   | 0.00341                 | 6.30                    | 5.428                      | 6.77                              | 15.6                                   | 0.0137                  | 12.60                   |
| DRQ127-2R2-R | 2.20                  | 2.027                      | 12.5                              | 25.5                                   | 0.00373                 | 7.70                    | 8.108                      | 6.23                              | 12.7                                   | 0.0161                  | 15.4                    |
| DRQ127-3R3-R | 3.30                  | 2.831                      | 10.4                              | 21.5                                   | 0.00567                 | 9.10                    | 11.32                      | 5.23                              | 10.8                                   | 0.0229                  | 18.2                    |
| DRQ127-4R7-R | 4.70                  | 4.841                      | 8.25                              | 16.5                                   | 0.00917                 | 11.9                    | 19.36                      | 4.13                              | 8.24                                   | 0.0367                  | 23.8                    |
| DRQ127-6R8-R | 6.80                  | 7.387                      | 7.34                              | 13.3                                   | 0.0116                  | 14.7                    | 29.55                      | 3.67                              | 6.67                                   | 0.0465                  | 29.4                    |
| DRQ127-8R2-R | 8.20                  | 8.861                      | 6.32                              | 12.2                                   | 0.0157                  | 16.1                    | 35.44                      | 3.16                              | 6.09                                   | 0.0627                  | 32.2                    |
| DRQ127-100-R | 10.0                  | 10.47                      | 6.04                              | 11.2                                   | 0.0172                  | 17.5                    | 41.88                      | 3.02                              | 5.60                                   | 0.0686                  | 35.0                    |
| DRQ127-150-R | 15.0                  | 14.09                      | 5.03                              | 9.66                                   | 0.0247                  | 20.3                    | 56.36                      | 2.51                              | 4.83                                   | 0.0990                  | 40.6                    |
| DRQ127-220-R | 22.0                  | 22.93                      | 4.00                              | 7.57                                   | 0.0391                  | 25.9                    | 91.72                      | 2.00                              | 3.78                                   | 0.157                   | 51.8                    |
| DRQ127-330-R | 33.0                  | 33.92                      | 3.23                              | 6.22                                   | 0.0600                  | 31.5                    | 135.7                      | 1.61                              | 3.11                                   | 0.241                   | 63.0                    |
| DRQ127-470-R | 47.0                  | 47.05                      | 2.95                              | 5.28                                   | 0.0719                  | 37.1                    | 188.2                      | 1.47                              | 2.64                                   | 0.288                   | 74.2                    |
| DRQ127-680-R | 68.0                  | 66.48                      | 2.44                              | 4.44                                   | 0.105                   | 44.1                    | 265.9                      | 1.22                              | 2.22                                   | 0.421                   | 88.2                    |
| DRQ127-820-R | 82.0                  | 79.75                      | 2.09                              | 4.06                                   | 0.143                   | 48.3                    | 319.0                      | 1.04                              | 2.03                                   | 0.573                   | 96.6                    |
| DRQ127-101-R | 100                   | 99.31                      | 1.96                              | 3.64                                   | 0.163                   | 53.9                    | 397.2                      | 0.980                             | 1.82                                   | 0.653                   | 107.8                   |
| DRQ127-151-R | 150                   | 144.9                      | 1.59                              | 3.01                                   | 0.247                   | 65.1                    | 579.6                      | 0.796                             | 1.51                                   | 0.989                   | 130.2                   |
| DRQ127-221-R | 220                   | 221.5                      | 1.29                              | 2.43                                   | 0.376                   | 80.5                    | 886.0                      | 0.645                             | 1.22                                   | 1.50                    | 161                     |
| DRQ127-331-R | 330                   | 323.6                      | 1.04                              | 2.01                                   | 0.574                   | 97.3                    | 1294                       | 0.522                             | 1.01                                   | 2.30                    | 195                     |
| DRQ127-471-R | 470                   | 467.1                      | 0.85                              | 1.68                                   | 0.861                   | 117                     | 1868                       | 0.427                             | 0.838                                  | 3.44                    | 234                     |
| DRQ127-681-R | 680                   | 676.7                      | 0.76                              | 1.39                                   | 1.08                    | 141                     | 2707                       | 0.380                             | 0.697                                  | 4.32                    | 282                     |
| DRQ127-821-R | 820                   | 818.1                      | 0.65                              | 1.27                                   | 1.47                    | 155                     | 3272                       | 0.325                             | 0.633                                  | 5.88                    | 310                     |
| DRQ127-102-R | 1000                  | 1005                       | 0.61                              | 1.14                                   | 1.66                    | 172                     | 4020                       | 0.307                             | 0.571                                  | 6.64                    | 344                     |

- Open Circuit Inductance Test Parameters: 100 kHz, 0.25 V<sub>rms</sub>, 0.0 Adc  
Parallel: (1,2 -4,3) Series: (1-4) tie (2-3)
- RMS current for an approximate DT of 40 °C without core loss.  
It is recommended that the temperature of the part not exceed +125 °C.
- Peak current for approximately 30% roll-off at 20°C
- DCR limits @ +20 °C
- Applied Volt-Time product (V-μs) across the inductor. This value represents the applied V-μs at 100 kHz necessary to generate a core loss equal to 10% of the total losses for a 40 °C temperature rise.

- Turns Ratio (1:3):(2-4) 1:1
- Part number definition: DRQxxx-yyy-  
- DRQxxx = product code and size,  
- yyy = inductance value in μH,  
- R = decimal point. If no R is present, third character = # of zeros  
- "-R" suffix = RoHS compliant

Dimensions - mm

DRQ73

Top View



Side View



Recommended Pad Layout



Bottom View



Schematic



DRQ74

Top View



Side View



Recommended Pad Layout



Bottom View



Schematic



### = Inductance value per family chart  
wlyyy = Date code  
R = Revision level  
Dot indicates pin #1  
Do not route traces or vias underneath the inductor

Dimensions - mm

DRQ125



DRQ127



### = Inductance value per family chart  
 wwllly = (date code)  
 R = revision level  
 Dot indicates pin #1  
 Do not route traces or vias underneath the inductor

**Packaging information- mm**

**DRQ73**

Supplied in tape and reel packaging,  
1350 parts per reel, 13" diameter reel.

Ao=7.90mm  
Bo=7.90mm  
Ko=3.80mm



**DRQ74**

Supplied in tape and reel packaging,  
1100 parts per reel, 13" diameter reel.

Ao=7.90mm  
Bo=7.90mm  
Ko=4.70mm



**DRQ125**

Supplied in tape and reel packaging,  
600 parts per reel, 13" diameter reel.

Ao=13.00mm  
Bo=13.00mm  
Ko=6.30mm



**DRQ127**

Supplied in tape and reel packaging,  
350 parts per reel, 13" diameter reel.

Ao=13.00mm  
Bo=13.00mm  
Ko=8.30mm



Dimensions are in millimeters.



Core loss



Inductance characteristics

DRQ73



DRQ74



DRQ125



DRQ127



### Solder Reflow Profile



Table 1 - Standard SnPb Solder ( $T_p$ )

| Package Thickness   | Volume $\text{mm}^3$ <350 | Volume $\text{mm}^3$ $\geq 350$ |
|---------------------|---------------------------|---------------------------------|
| <2.5mm              | 235°C                     | 220°C                           |
| $\geq 2.5\text{mm}$ | 220°C                     | 220°C                           |

Table 2 - Lead (Pb) Free Solder ( $T_p$ )

| Package Thickness | Volume $\text{mm}^3$ <350 | Volume $\text{mm}^3$ 350 - 2000 | Volume $\text{mm}^3$ >2000 |
|-------------------|---------------------------|---------------------------------|----------------------------|
| <1.6mm            | 260°C                     | 260°C                           | 260°C                      |
| 1.6 – 2.5mm       | 260°C                     | 250°C                           | 245°C                      |
| >2.5mm            | 250°C                     | 245°C                           | 245°C                      |

### Reference JDEC J-STD-020

| Profile Feature  | Standard SnPb Solder | Lead (Pb) Free Solder |
|--|----------------------|-----------------------|
| Preheat and Soak   |                      |                       |
| • Temperature min. ( $T_{smin}$ )  | 100°C                | 150°C                 |
| • Temperature max. ( $T_{smax}$ )  | 150°C                | 200°C                 |
| • Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )                                      | 60-120 Seconds       | 60-120 Seconds        |
| Average ramp up rate $T_{smax}$ to $T_p$   | 3°C/ Second Max.     | 3°C/ Second Max.      |
| Liquidous temperature ( $T_L$ )  | 183°C                | 217°C                 |
| Time at liquidous ( $t_L$ )  | 60-150 Seconds       | 60-150 Seconds        |
| Peak package body temperature ( $T_p$ )*   | Table 1              | Table 2               |
| Time ( $t_p$ )** within 5 °C of the specified classification temperature ( $T_c$ ) | 20 Seconds**         | 30 Seconds**          |
| Average ramp-down rate ( $T_p$ to $T_{smax}$ )                                     | 6°C/ Second Max.     | 6°C/ Second Max.      |
| Time 25°C to Peak Temperature  | 6 Minutes Max.       | 8 Minutes Max.        |

\* Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

\*\* Tolerance for time at peak profile temperature ( $t_p$ ) is defined as a supplier minimum and a user maximum.

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Publication No. DS4311 BU-SB14113  
September 2017

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