

# 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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- 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                     |

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,  
- 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



Dual Inductor Mode

Series Mode

Bottom View

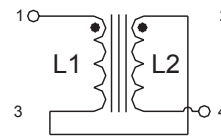


Schematic

Dual Inductor



Series Mode



Parallel Mode



DRQ74

Top View



Side View



Recommended Pad Layout



Dual Inductor Mode

Series Mode

Bottom View



Schematic

Dual Inductor



Series Mode



Parallel Mode



### = Inductance value per family chart  
wlyy = 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 ( $T_c$ )

| Package Thickness | Volume $<350$ mm <sup>3</sup> | Volume $\geq 350$ mm <sup>3</sup> |
|-------------------|-------------------------------|-----------------------------------|
| $<2.5$ mm         | 235°C                         | 220°C                             |
| $\geq 2.5$ mm     | 220°C                         | 220°C                             |

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

| Package Thickness | Volume $<350$ mm <sup>3</sup> | Volume $350 - 2000$ mm <sup>3</sup> | Volume $>2000$ mm <sup>3</sup> |
|-------------------|-------------------------------|-------------------------------------|--------------------------------|
| $<1.6$ mm         | 260°C                         | 260°C                               | 260°C                          |
| 1.6 – 2.5mm       | 260°C                         | 250°C                               | 245°C                          |
| $>2.5$ mm         | 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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