

# 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><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>μ-sec | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>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><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>Typ. | Volt <sup>5</sup><br>μ-sec | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>Typ. | Volt <sup>5</sup><br>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.

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- DRQxxx = product code and size,  
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## Product specifications

| Part Number  | Rated Inductance (μH) | Parallel Ratings                 |                                      |                                              |                            |                            | Series Ratings                   |                                      |                                              |                            |                            |
|--------------|-----------------------|----------------------------------|--------------------------------------|----------------------------------------------|----------------------------|----------------------------|----------------------------------|--------------------------------------|----------------------------------------------|----------------------------|----------------------------|
|              |                       | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>μ-sec | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>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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|--------------|-----------------------|----------------------------------|--------------------------------------|----------------------------------------------|----------------------------|----------------------------|----------------------------------|--------------------------------------|----------------------------------------------|----------------------------|----------------------------|
|              |                       | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>μ-sec | OCL <sup>1</sup><br>±20%<br>(μH) | I <sub>rms</sub> <sup>2</sup><br>(A) | I <sub>sat</sub> <sup>3</sup><br>(A)<br>Peak | DCR Ω <sup>4</sup><br>typ. | Volt <sup>5</sup><br>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

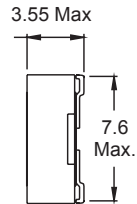
**Dimensions - mm**

**DRQ73**

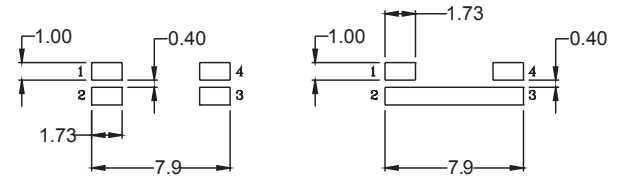
Top View



Side View



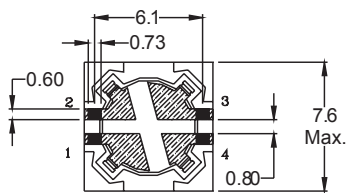
Recommended Pad Layout



Dual Inductor Mode

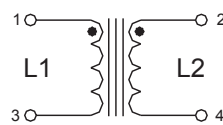
Series Mode

Bottom View

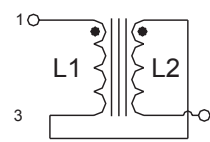


Schematic

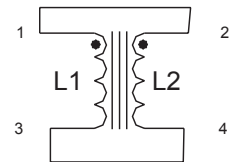
Dual Inductor



Series Mode



Parallel Mode

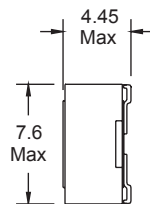


**DRQ74**

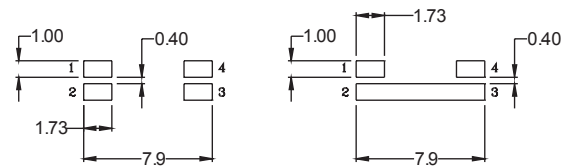
Top View



Side View



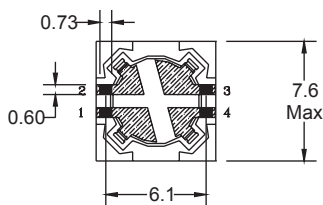
Recommended Pad Layout



Dual Inductor Mode

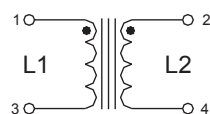
Series Mode

Bottom View

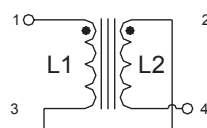


Schematic

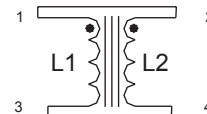
Dual Inductor



Series Mode



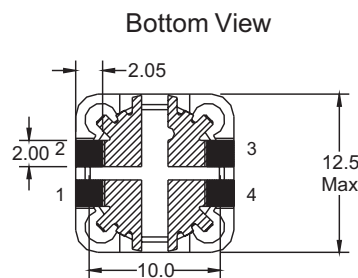
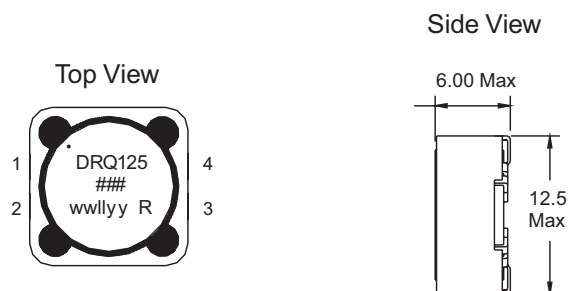
Parallel Mode



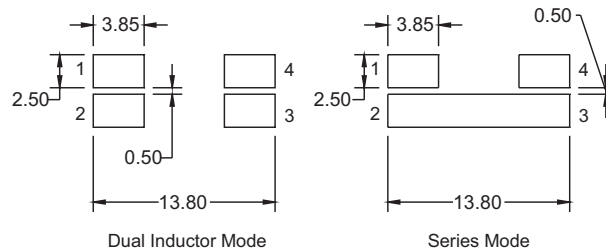
### = Inductance value per family chart  
willy = Date code  
R = Revision level  
Dot indicates pin #1  
Do not route traces or vias underneath the inductor

**Dimensions - mm**

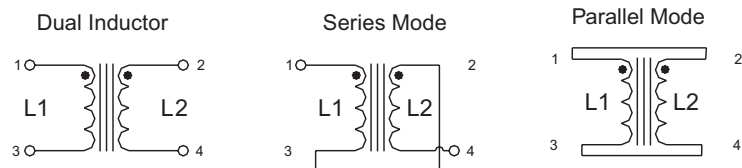
**DRQ125**



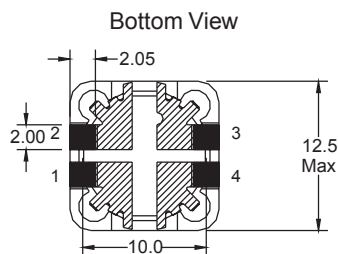
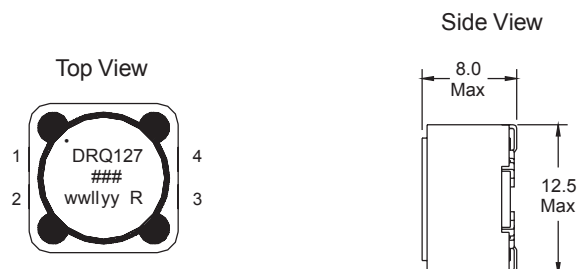
**Recommended Pad Layout**



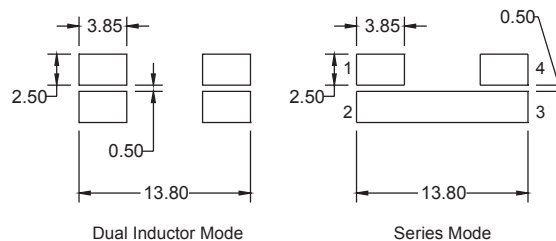
**Schematic**



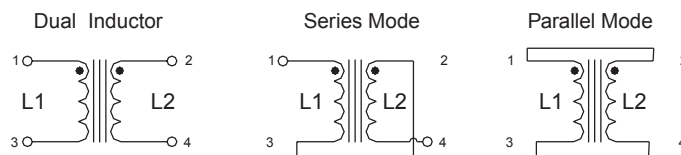
**DRQ127**



**Recommended Pad Layout**



**Schematic**



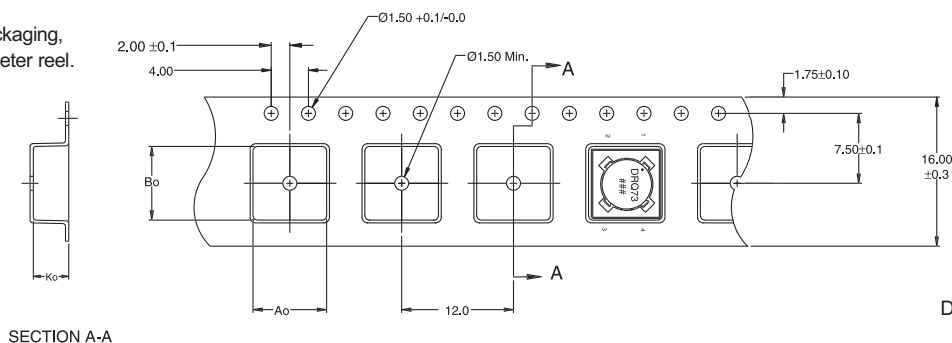
### = Inductance value per family chart  
wwllly = (date code)  
R = revision level  
Dot indicates pin #1  
Do not route traces or vias underneath the inductor

## Packaging information- mm

### DRQ73

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

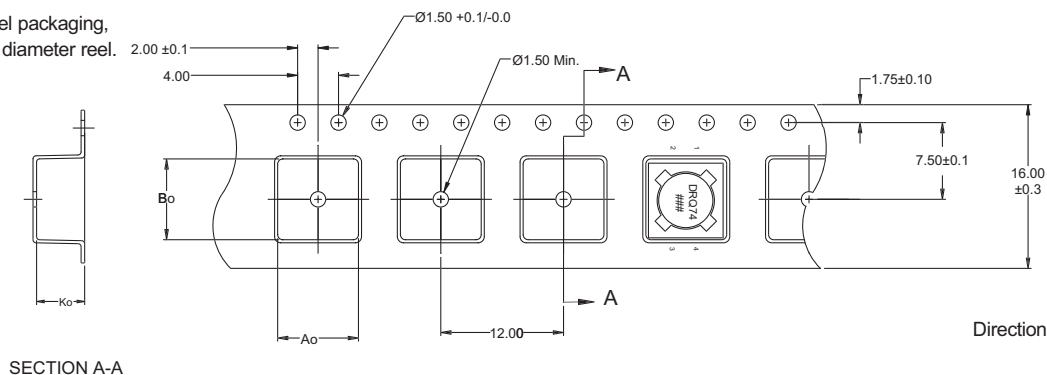
$A_o=7.90\text{mm}$   
 $B_o=7.90\text{mm}$   
 $K_o=3.80\text{mm}$



### DRQ74

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

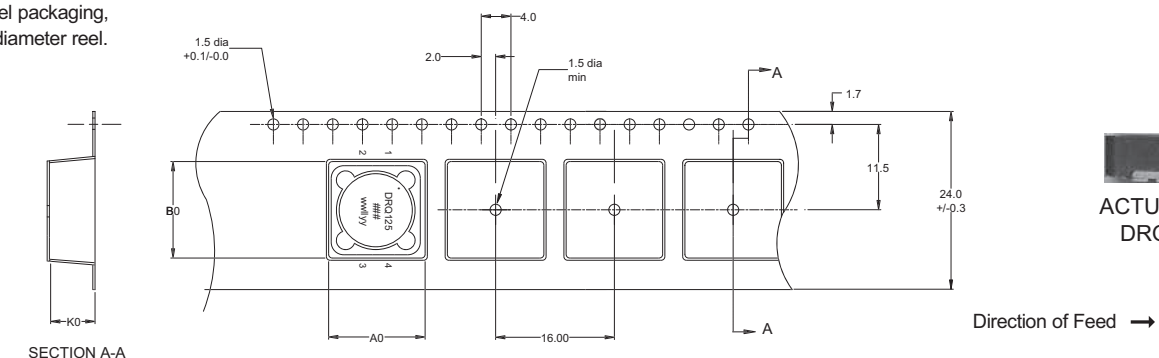
$A_o=7.90\text{mm}$   
 $B_o=7.90\text{mm}$   
 $K_o=4.70\text{mm}$



### DRQ125

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

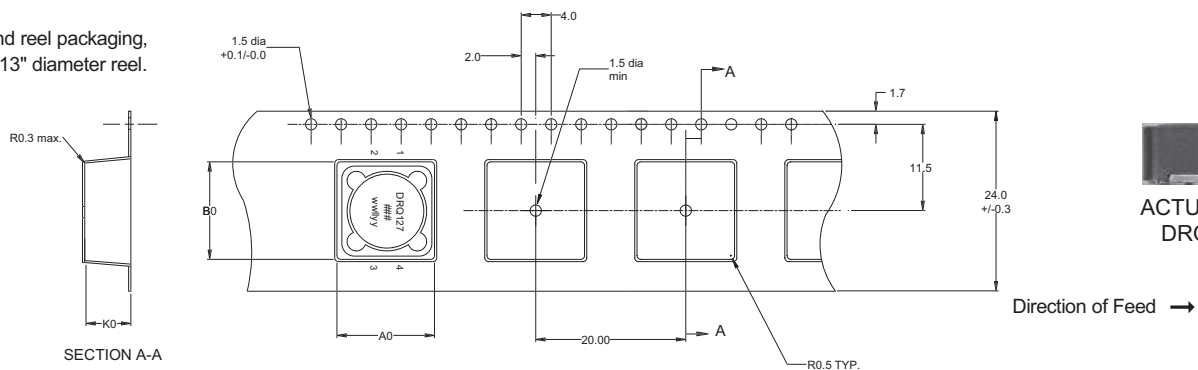
$A_o=13.00\text{mm}$   
 $B_o=13.00\text{mm}$   
 $K_o=6.30\text{mm}$



### DRQ127

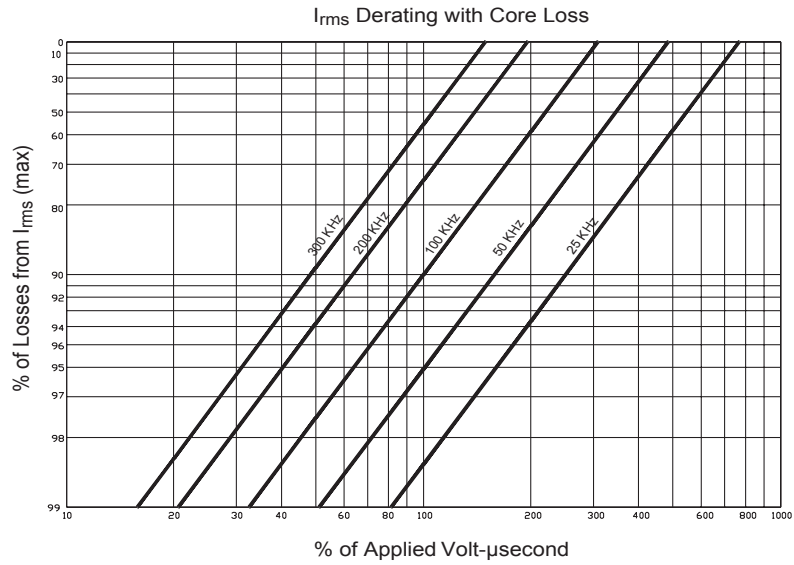
Supplied in tape and reel packaging,  
350 parts per reel, 13" diameter reel.

$A_o=13.00\text{mm}$   
 $B_o=13.00\text{mm}$   
 $K_o=8.30\text{mm}$



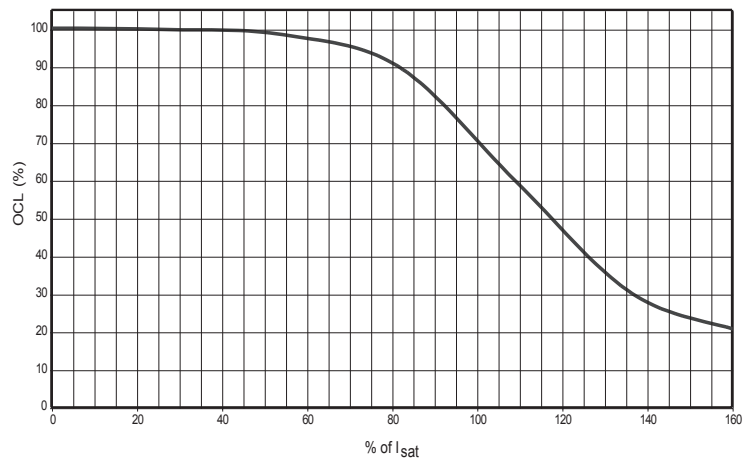
Dimensions are in millimeters.

## Core loss

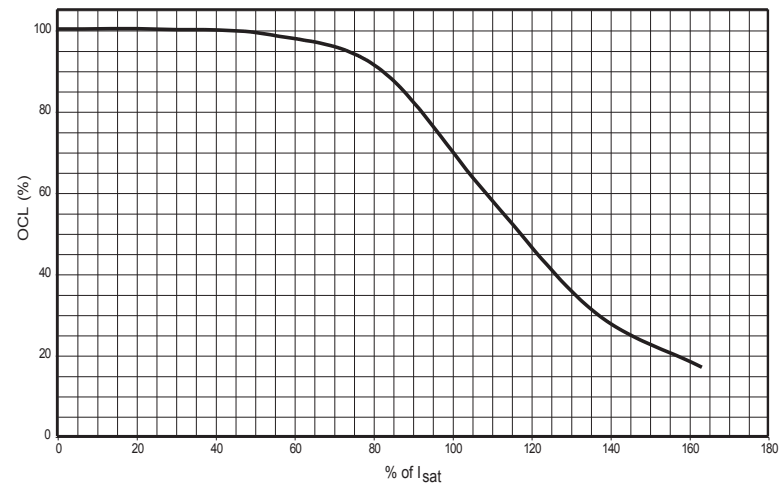


## Inductance characteristics

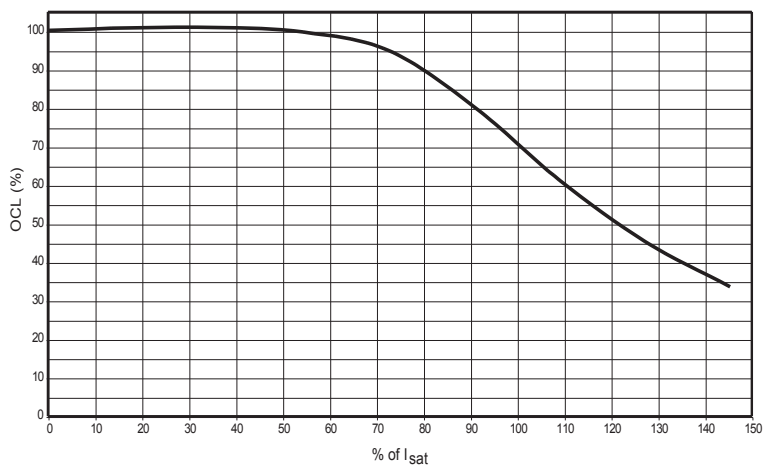
DRQ73



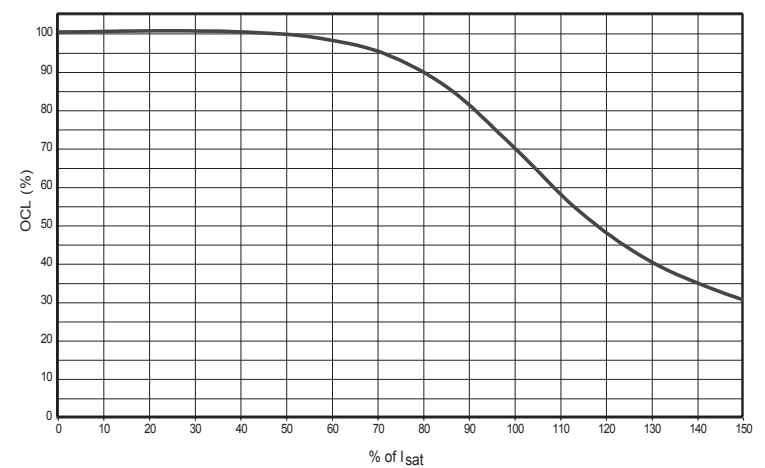
DRQ74



DRQ125



DRQ127



## Solder Reflow Profile

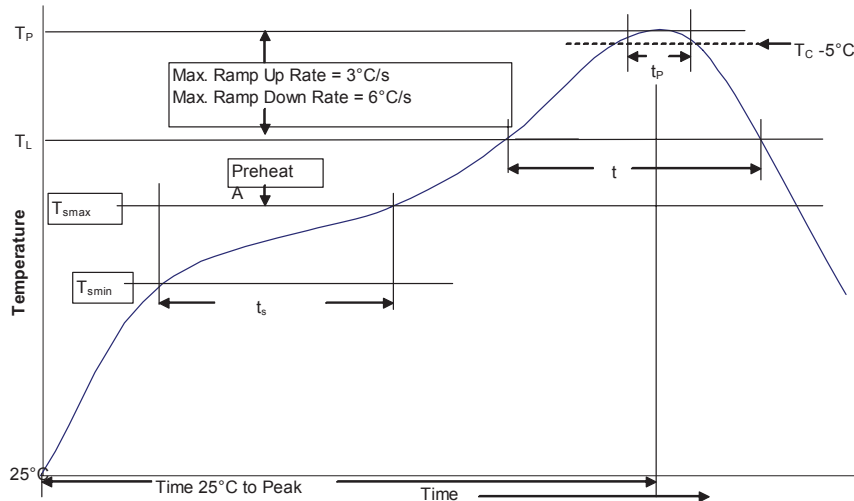


Table 1 - Standard SnPb Solder ( $T_p$ )

| 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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