

# 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.

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

## 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                        |

- 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 complian

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 |
| 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

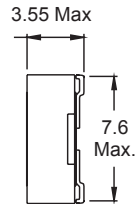
**Dimensions - mm**

**DRQ73**

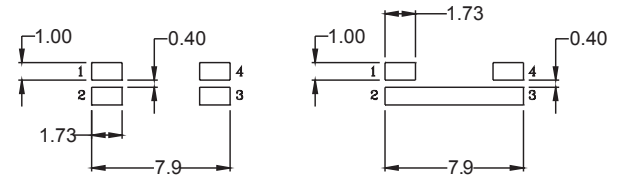
Top View



Side View



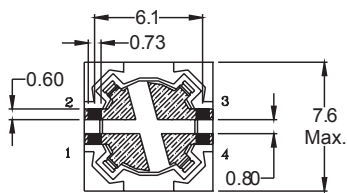
Recommended Pad Layout



Dual Inductor Mode

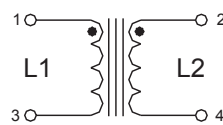
Series Mode

Bottom View

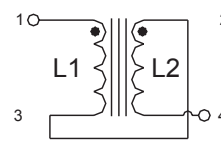


Schematic

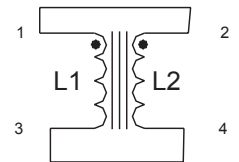
Dual Inductor



Series Mode



Parallel Mode

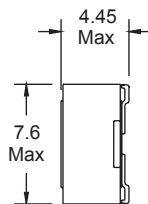


**DRQ74**

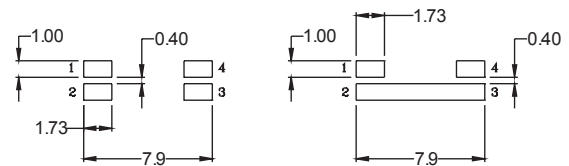
Top View



Side View



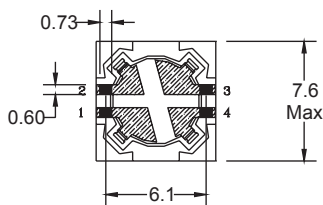
Recommended Pad Layout



Dual Inductor Mode

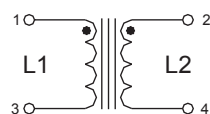
Series Mode

Bottom View

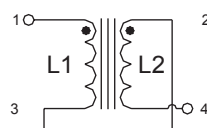


Schematic

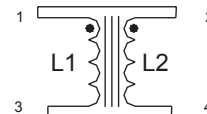
Dual Inductor



Series Mode



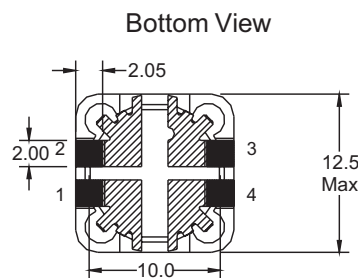
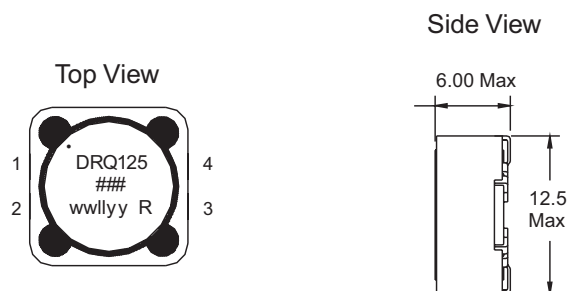
Parallel Mode



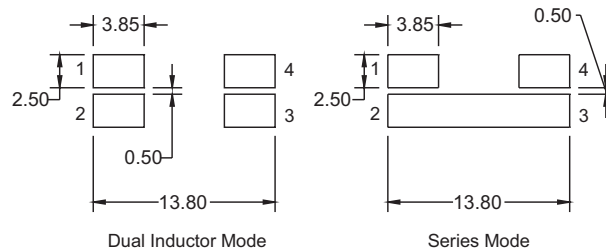
### = Inductance value per family chart  
willy = Date code  
R = Revision level  
Dot indicates pin #1  
Do not route traces or vias underneath the inductor

Dimensions - mm

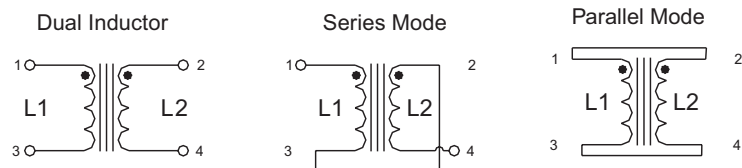
DRQ125



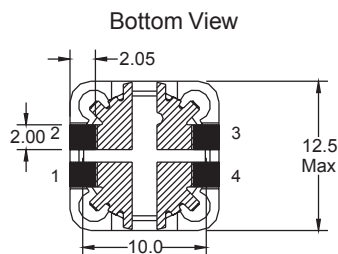
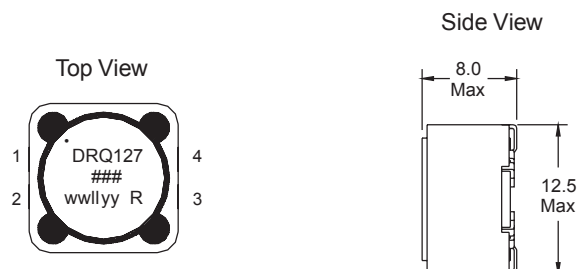
Recommended Pad Layout



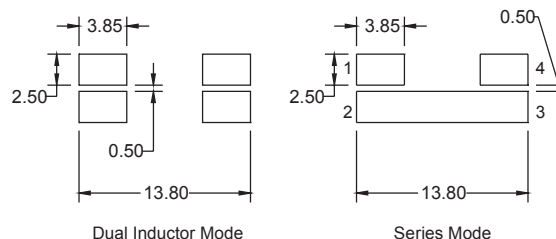
Schematic



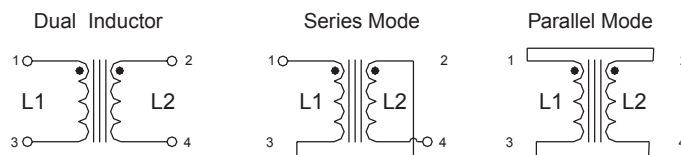
DRQ127



Recommended Pad Layout



Schematic



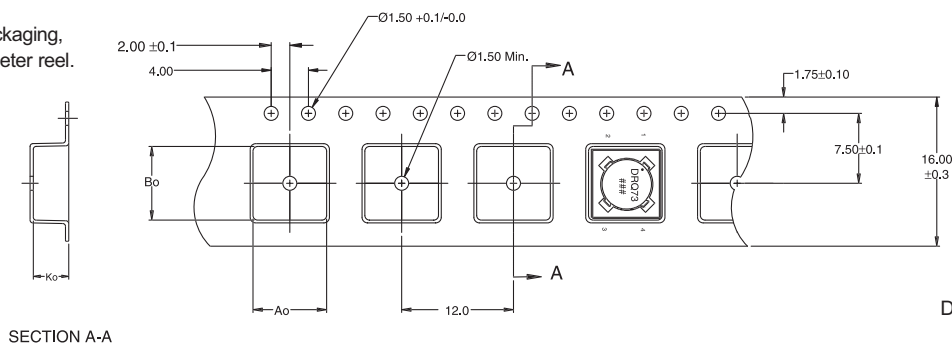
### = Inductance value per family chart  
wwllyy = (date code)  
R = revision level  
Dot indicates pin #1  
Do not route traces or vias underneath the inductor

## Packaging information- mm

### DRQ73

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

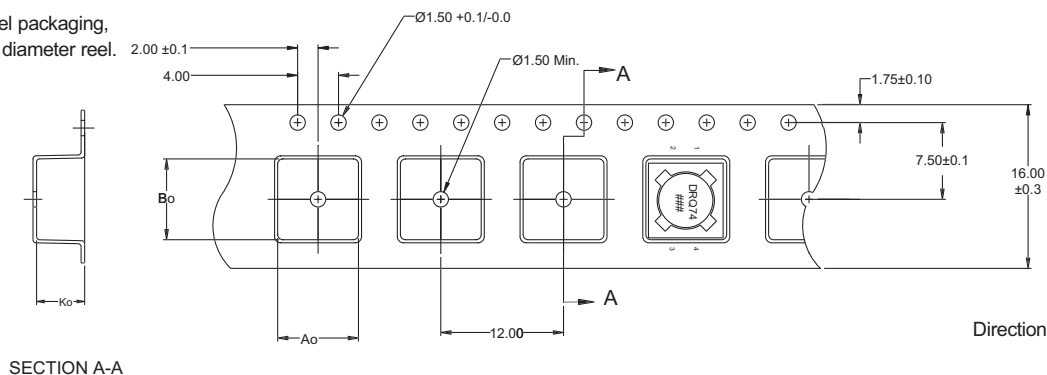
$A_o=7.90\text{mm}$   
 $B_o=7.90\text{mm}$   
 $K_o=3.80\text{mm}$



### DRQ74

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

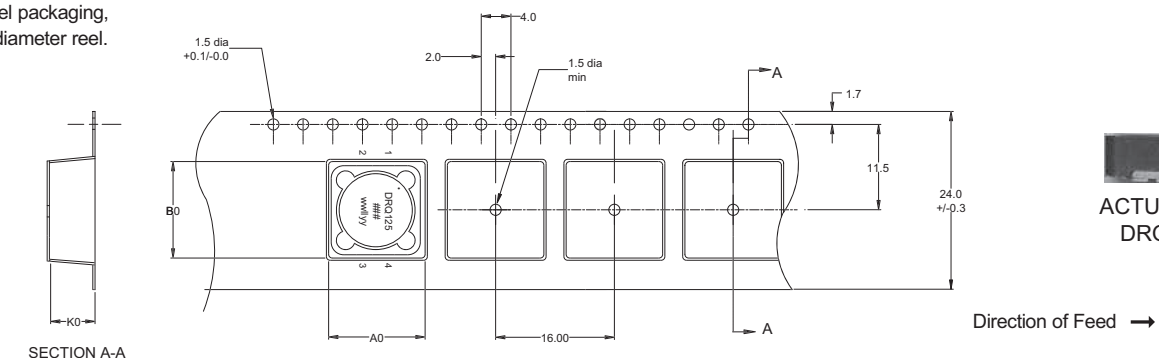
$A_o=7.90\text{mm}$   
 $B_o=7.90\text{mm}$   
 $K_o=4.70\text{mm}$



### DRQ125

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

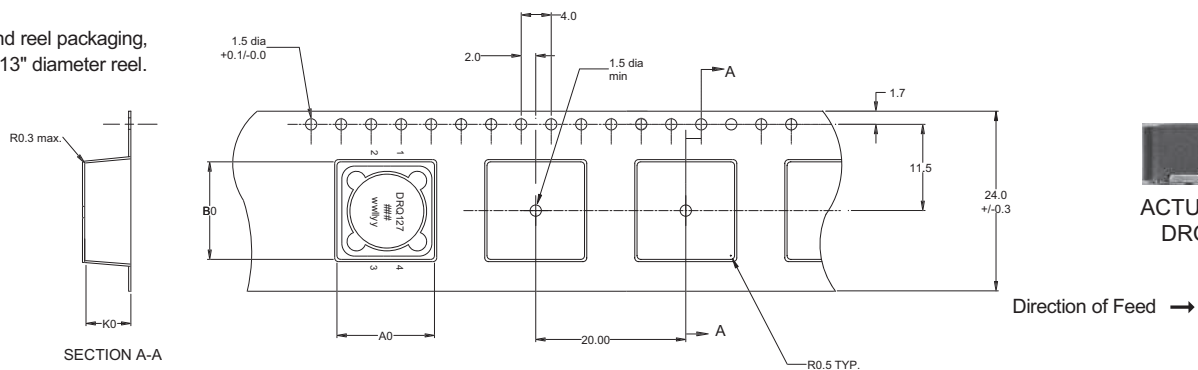
$A_o=13.00\text{mm}$   
 $B_o=13.00\text{mm}$   
 $K_o=6.30\text{mm}$



### DRQ127

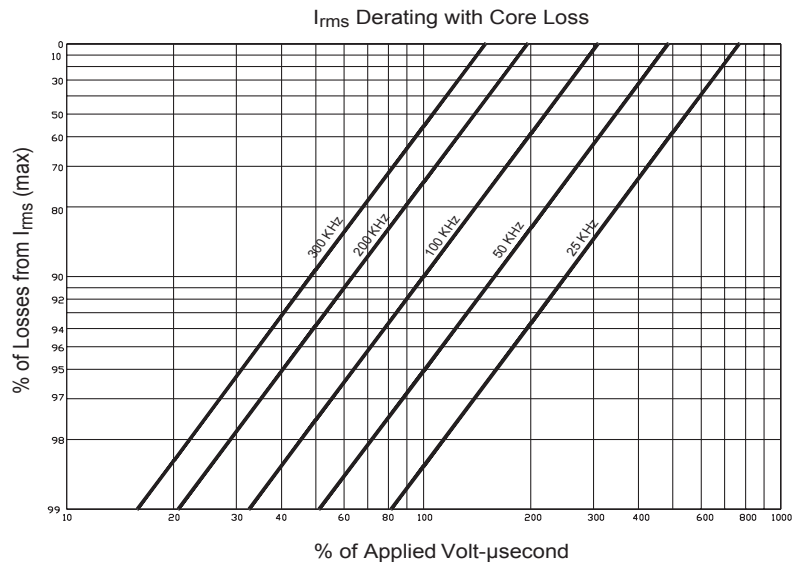
Supplied in tape and reel packaging,  
350 parts per reel, 13" diameter reel.

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



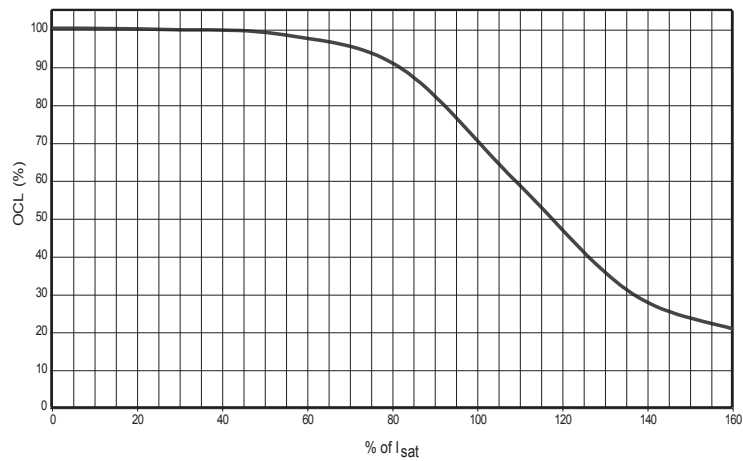
Dimensions are in millimeters.

## Core loss

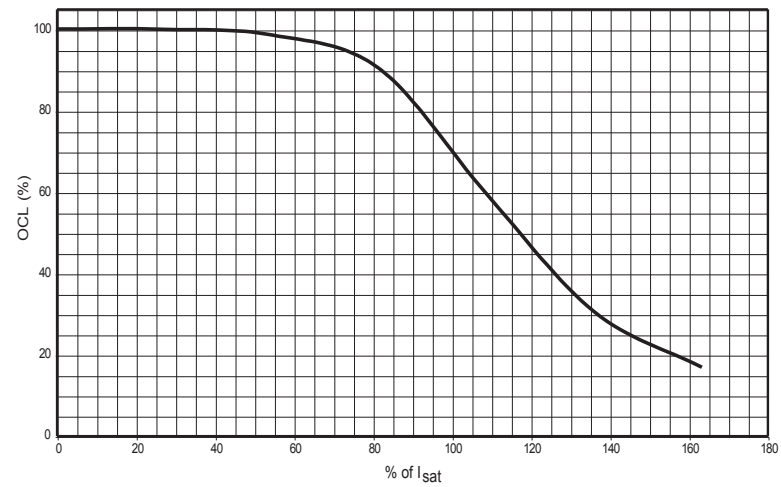


## Inductance characteristics

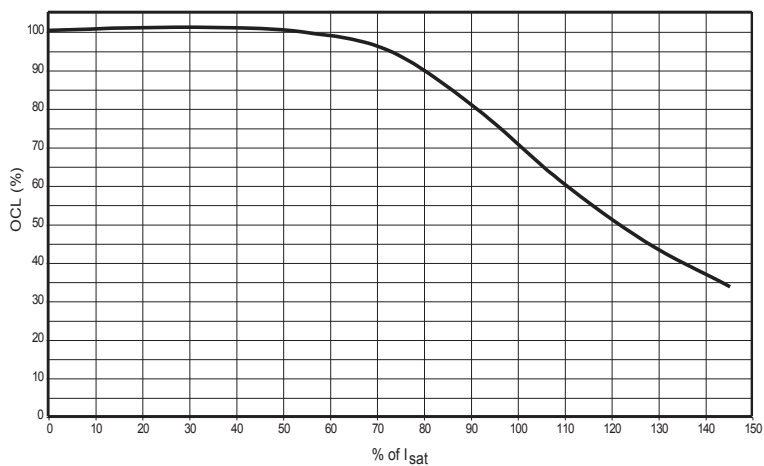
DRQ73



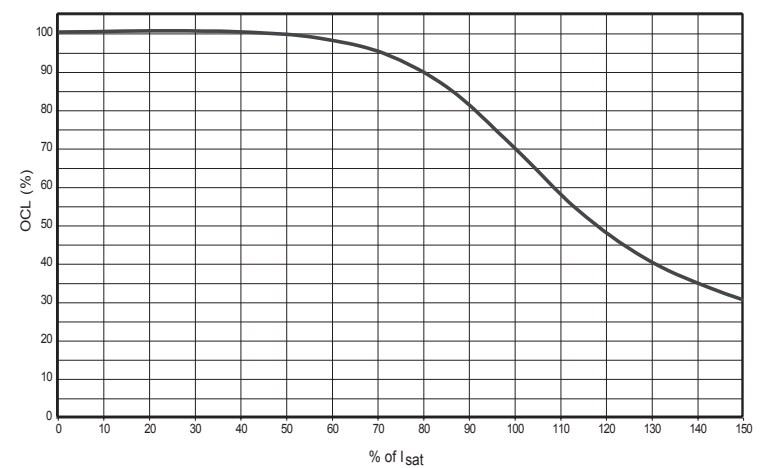
DRQ74



DRQ125



DRQ127



## Solder Reflow Profile

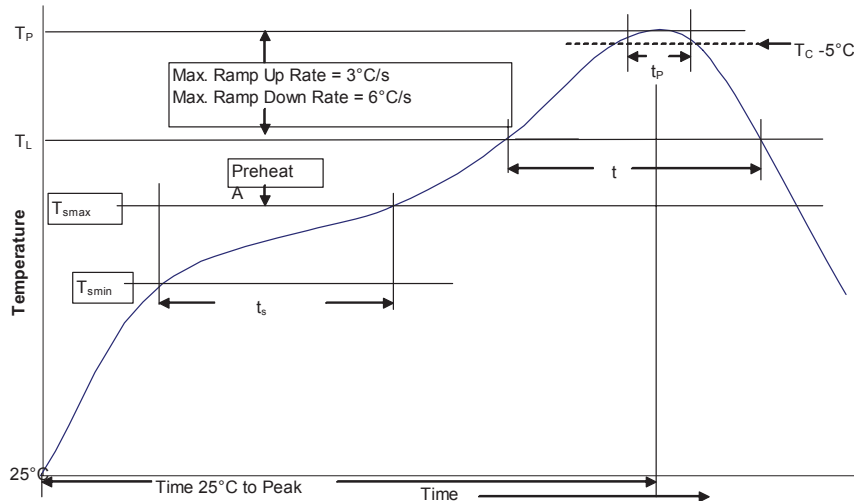


Table 1 - Standard SnPb Solder ( $T_p$ )

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

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

| Package Thickness | Volume $mm^3$ <350 | Volume $mm^3$ 350 - 2000 | Volume $mm^3$ >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.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

**Eaton**  
**Electronics Division**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
www.eaton.com/electronics

© 2017 Eaton  
All Rights Reserved Printed in USA  
Publication No. DS4311 BU-SB14113  
September 2017

## Данный компонент на территории Российской Федерации

**Вы можете приобрести в компании MosChip.**

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: [info@moschip.ru](mailto:info@moschip.ru)

Skype отдела продаж:

moschip.ru

moschip.ru\_4

moschip.ru\_6

moschip.ru\_9