

Coiltronics DRQ Series

Dual winding, shielded inductors/transformers



Product description

- Lead free, RoHS compliant
- 125°C maximum total operating temperature
- 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 to 56 amps
- RMS current ratings from 0.128 to 17.9 amps
- Inductance ratings from 0.33 μ H to 4.02mH
- Surface mount
- 200Vac Isolation between windings
- Ferrite core material

Applications

- 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 + self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Packaging:

- Supplied in tape and reel packaging (per reel):
 - DRQ73 1350
 - DRQ74 1100
 - DRQ125 600
 - DRQ127 350



The Coiltronics brand of magnetics (formerly of the Bussmann Division of Cooper Industries) is now part of Eaton's Electrical Group, Electronics Division.

Coiltronics is now part of Eaton
Same great products plus even more.

Product specifications

| Part Number | Rated Inductance (μH) | Parallel Ratings | | | | | Series Ratings | | | | |
|-------------|-----------------------|----------------------------|------------------------------------|---|-------------------------|-------------------------|----------------------------|------------------------------------|---|-------------------------|-------------------------|
| | | OCL ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ typ. | Volt ⁵ μ-Sec | OCL ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ typ. | Volt ⁵ 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 |

1. Open Circuit Inductance Test Parameters: 100kHz, 0.25 V_{rms}, 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 100kHz 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-R
- 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 ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ Typ. | Volt ⁵ μ-Sec | OCL ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ Typ. | Volt ⁵ 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: 100kHz, 0.25 V_{rms}, 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 100KHz necessary to generate a core loss equal to 10% of the total losses for a 40°C temperature rise.

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7. Part number definition: DRQxxx-yyy-R
- DRQxxx = product code and size,
- yyy = inductance value in μH,
- R = decimal point. If no R is present, third character = # of zeros
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Product specifications

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

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- RMS current for an approximate DT of 40°C without core loss.
It is recommended that the temperature of the part not exceed 125°C.
- 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 100kHz 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-R
- DRQxxx = product code and size,
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- R = decimal point. If no R is present, third character = # of zeros
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Product specifications

| Part Number | Rated Inductance (μH) | Parallel Ratings | | | | | Series Ratings | | | | |
|--------------|-----------------------|----------------------------|------------------------------------|---|-------------------------|-------------------------|----------------------------|------------------------------------|---|-------------------------|-------------------------|
| | | OCL ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ typ. | Volt ⁵ μ-Sec | OCL ¹ ±20% (μH) | I _{rms} ² Amps | I _{sat} ³ Amps Peak | DCR Ω ⁴ typ. | Volt ⁵ 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 |

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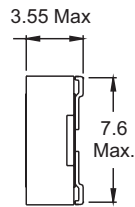
Dimensions - mm

DRQ73 Series

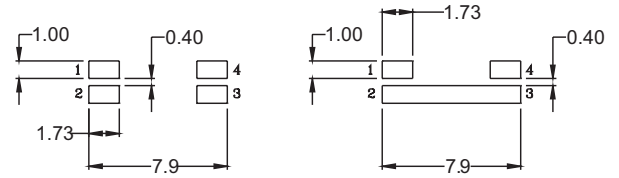
Top View



Side View



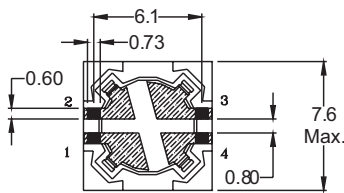
Recommended Pad Layout



Dual Inductor Mode

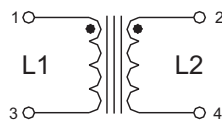
Series Mode

Bottom View

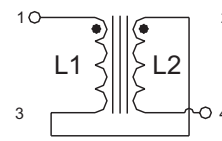


Schematic

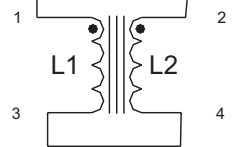
Dual Inductor



Series Mode



Parallel Mode

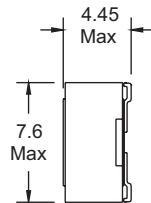


DRQ74 Series

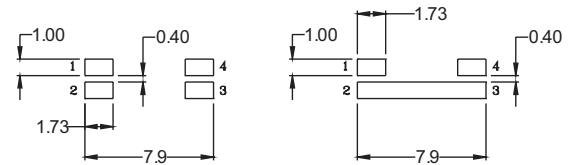
Top View



Side View



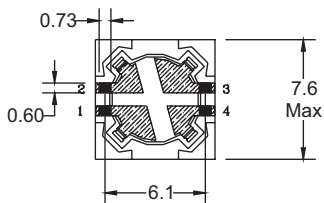
Recommended Pad Layout



Dual Inductor Mode

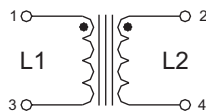
Series Mode

Bottom View

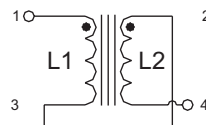


Schematic

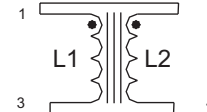
Dual Inductor



Series Mode



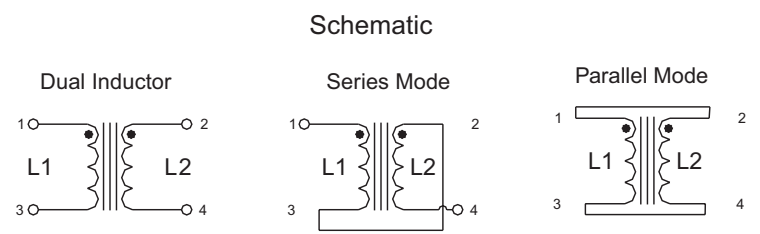
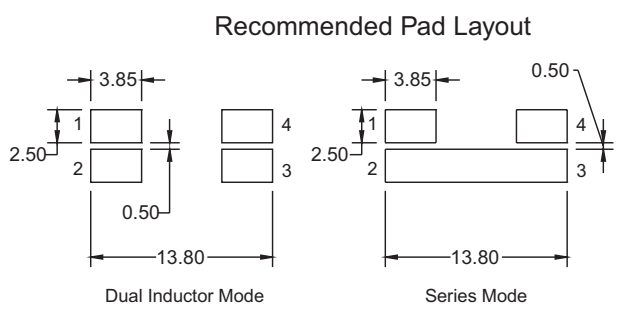
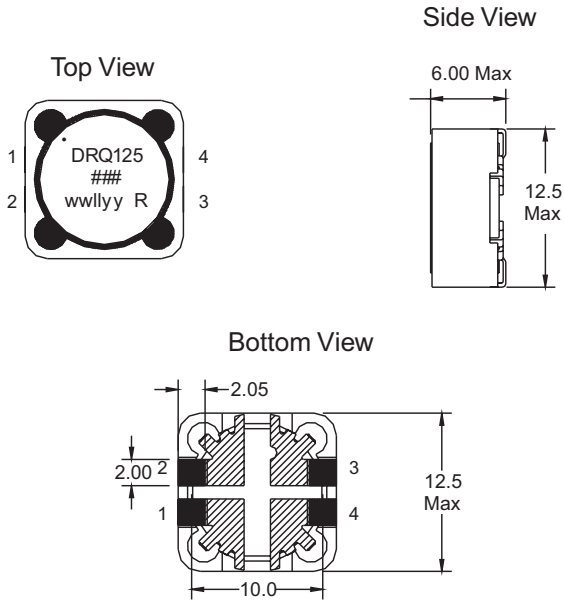
Parallel Mode



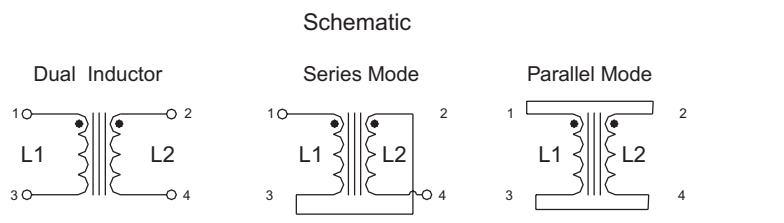
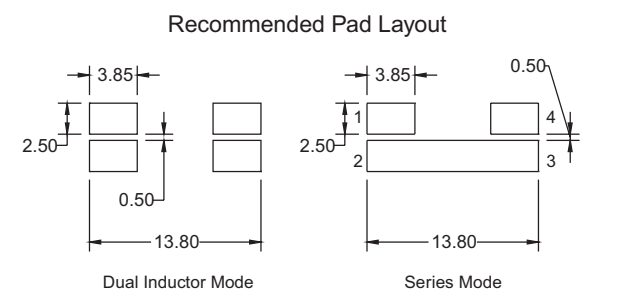
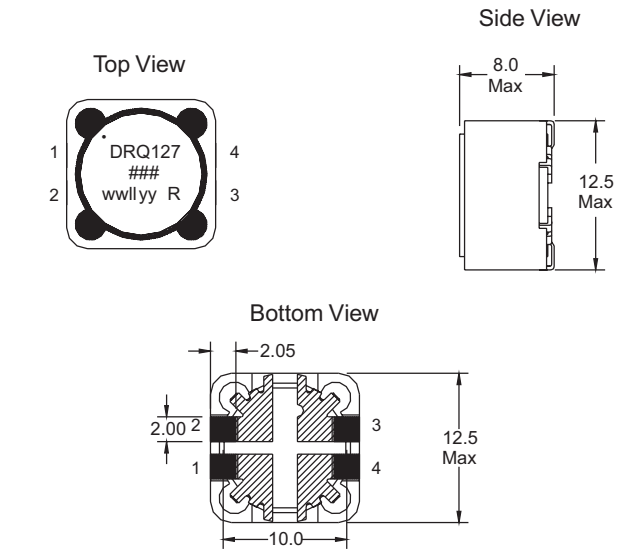
= Inductance value per family chart
wlyy = Date code
R = Revision level
Dot indicates pin #1

Dimensions - mm

DRQ125 Series



DRQ127 Series



Dimensions in millimeters.

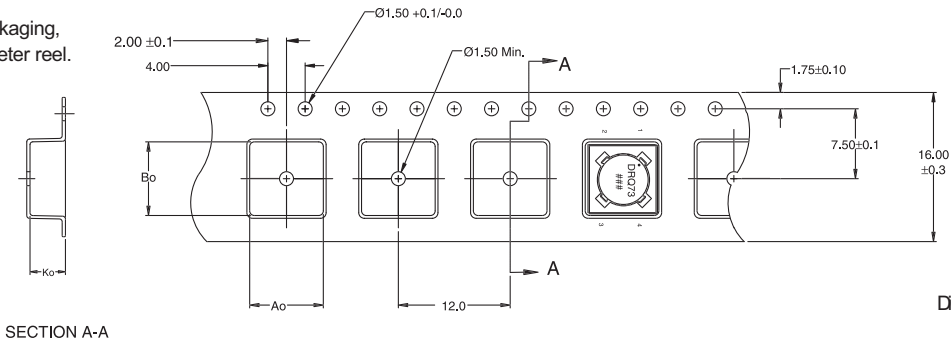
= Inductance value per family chart
wwllyy = (date code) R = revision level
Dot indicates pin #1

Packaging information - mm

DRQ73 Series

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

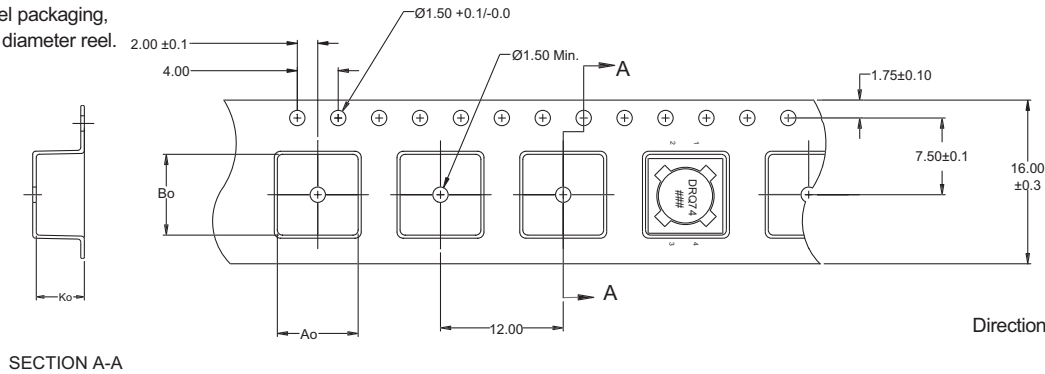
Ao=7.90mm
Bo=7.90mm
Ko=3.80mm



DRQ74 Series

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

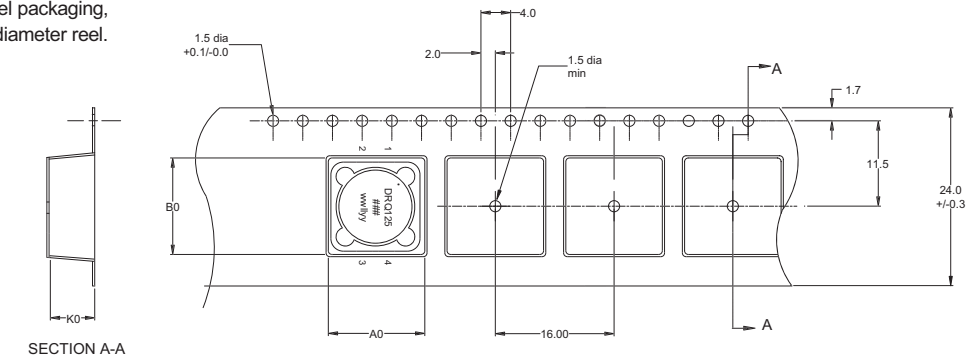
Ao=7.90mm
Bo=7.90mm
Ko=4.70mm



DRQ125 Series

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

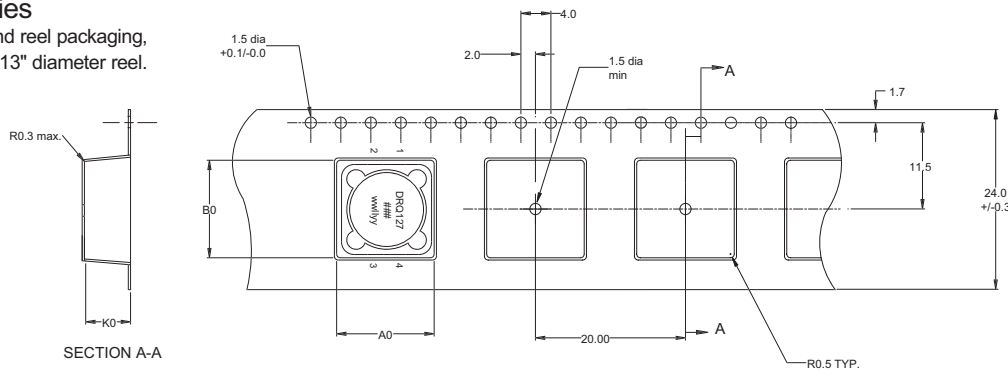
Ao=13.00mm
Bo=13.00mm
Ko=6.30mm



DRQ127 Series

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

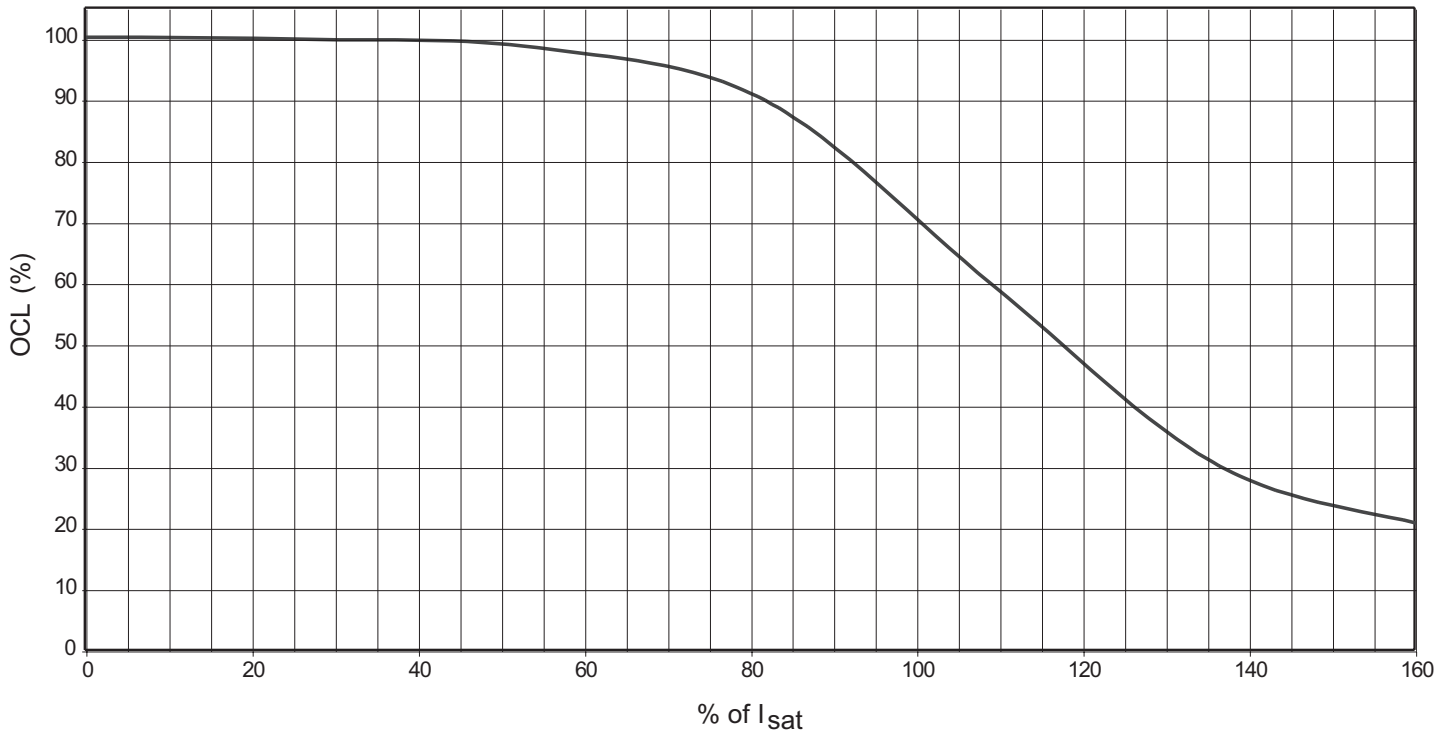
Ao=13.00mm
Bo=13.00mm
Ko=8.30mm



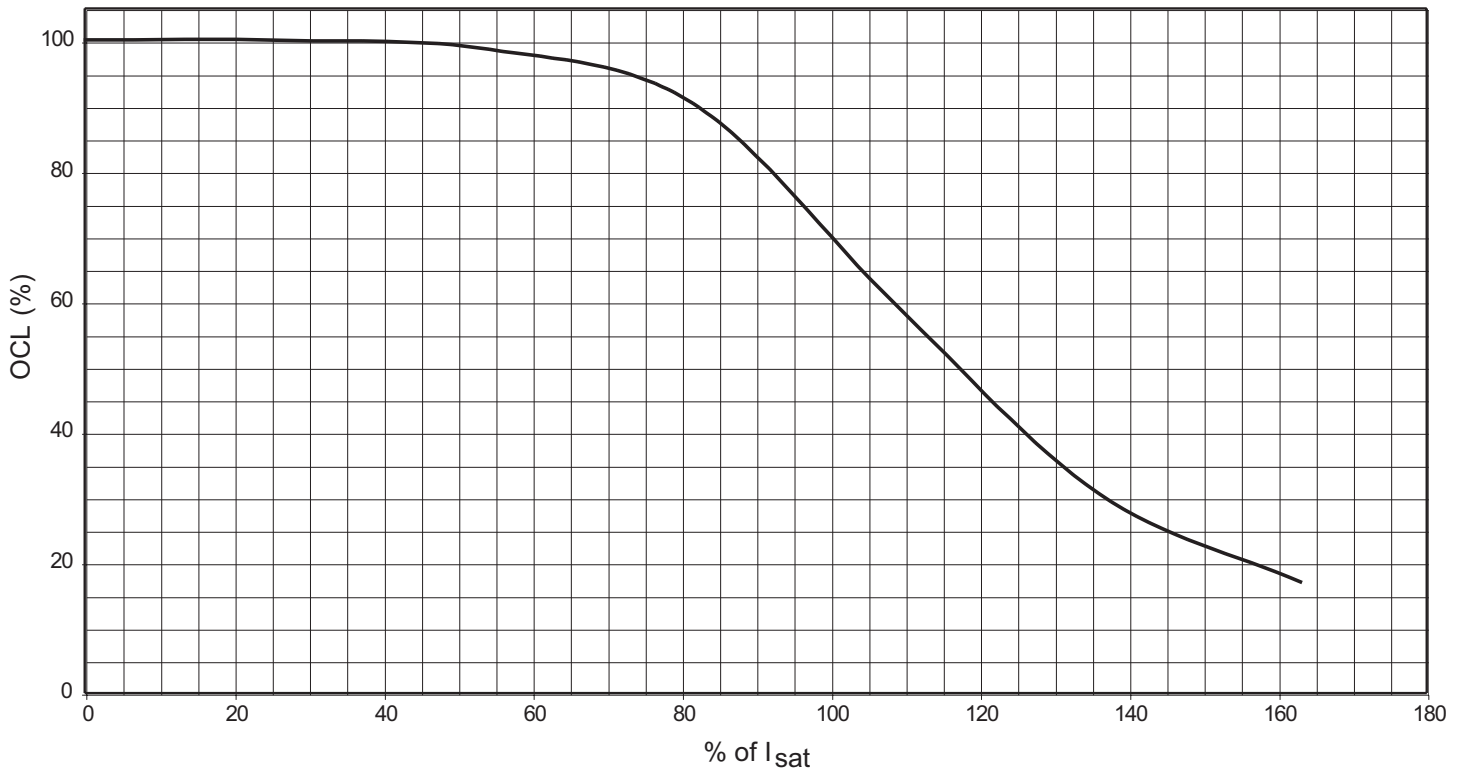
Dimensions are in millimeters.

Inductance characteristics

OCL vs I_{sat} DRQ73

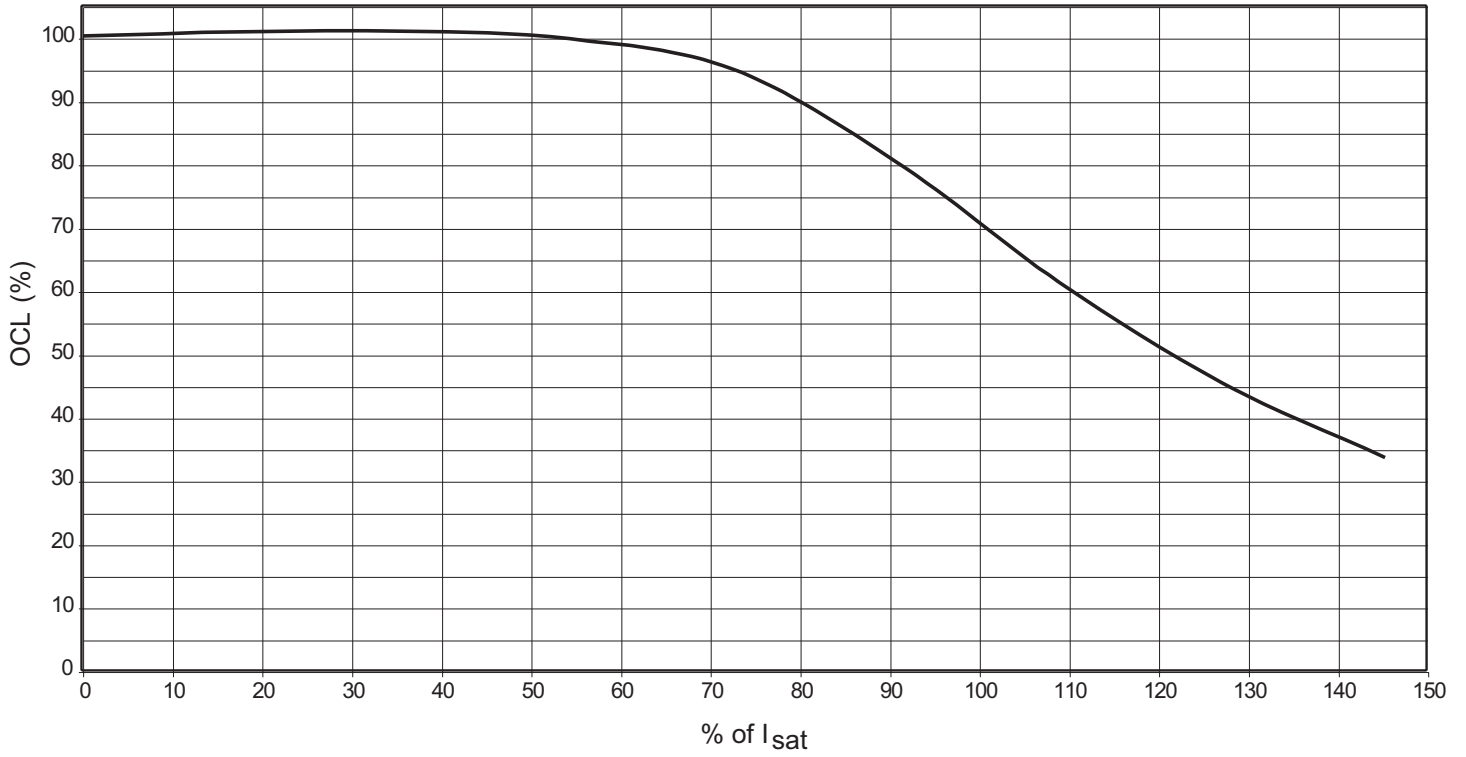


OCL vs I_{sat} DRQ74

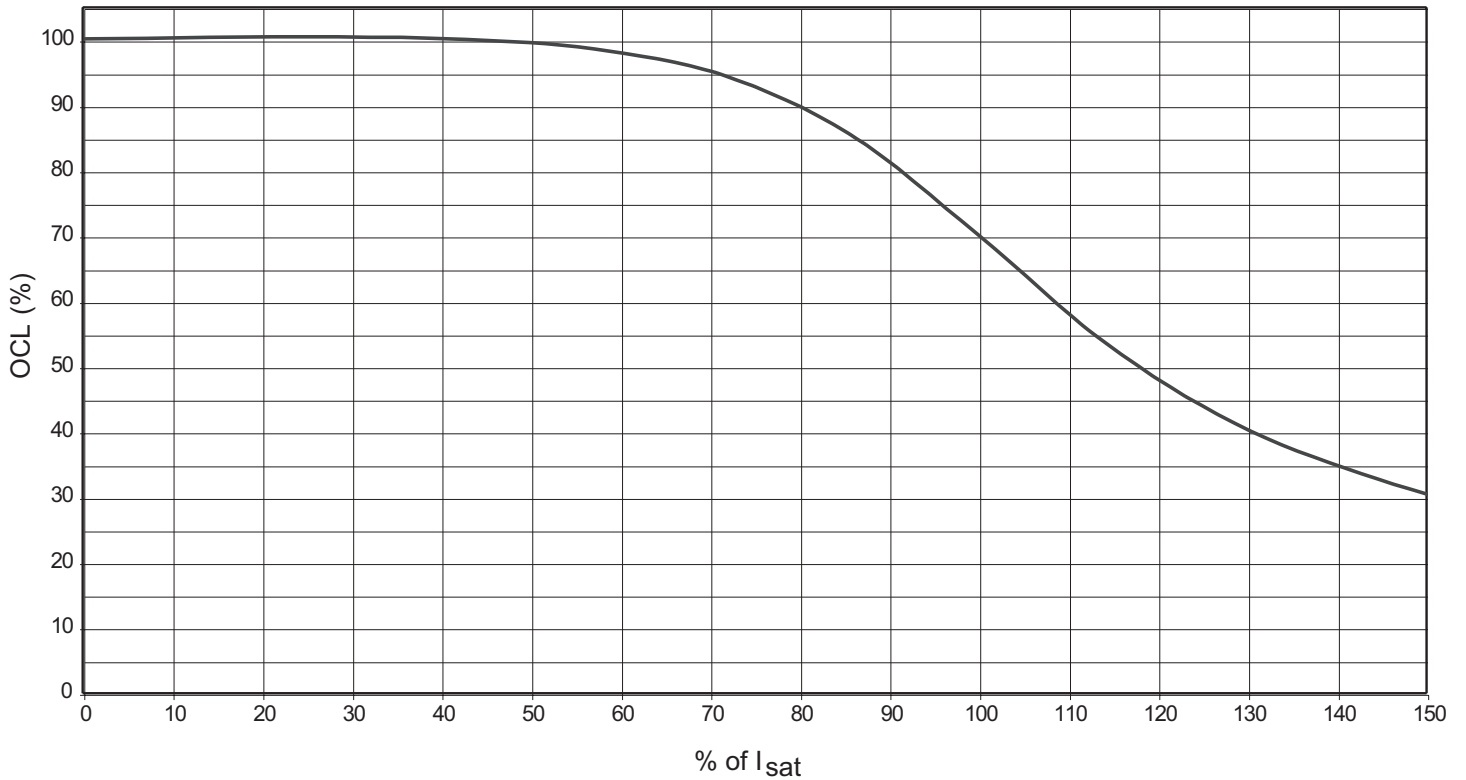


Inductance characteristics

OCL vs I_{sat} DRQ125

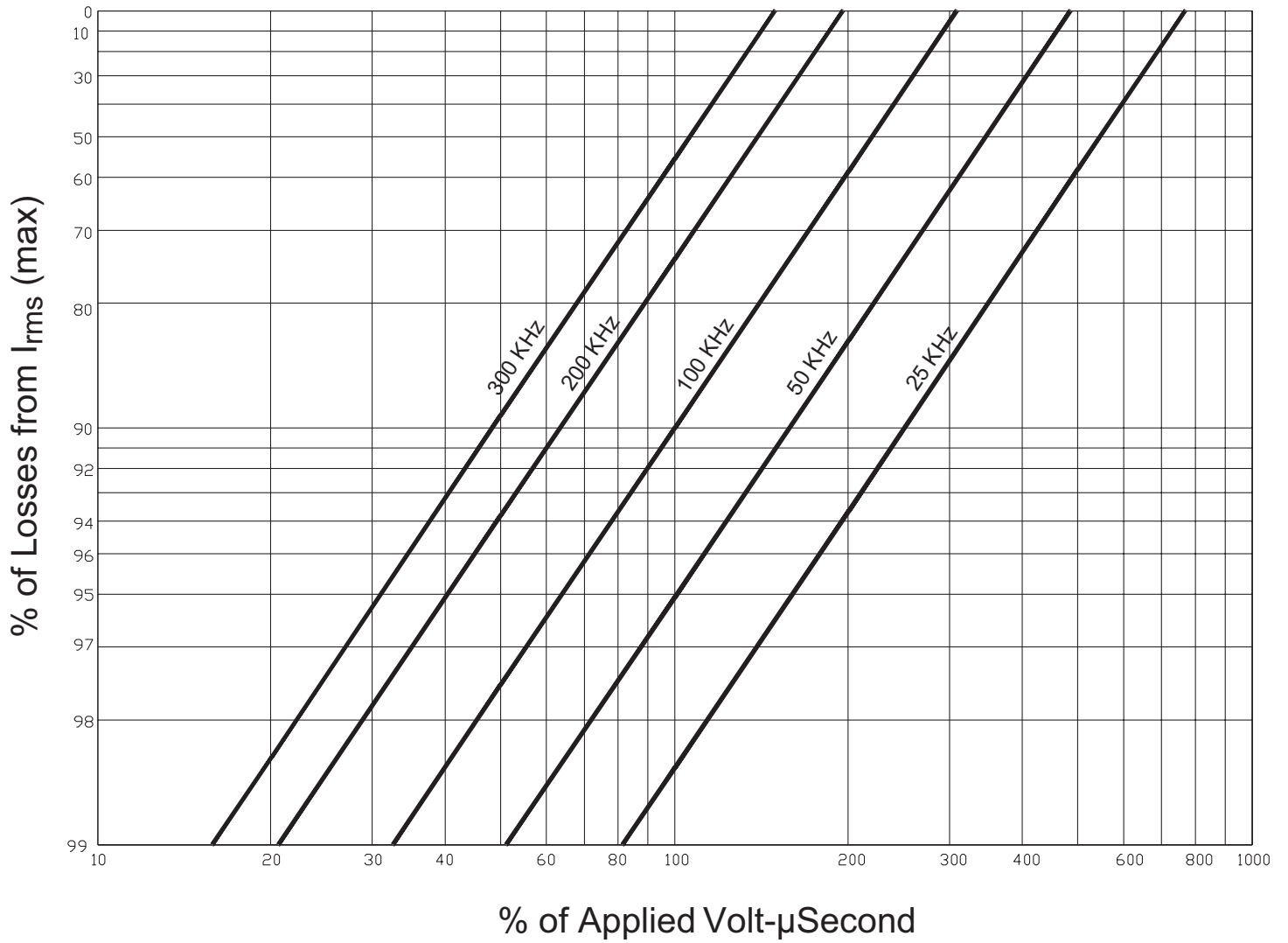


OCL vs I_{sat} DRQ127



Core loss

I_{rms} Derating with Core Loss



Solder reflow profile

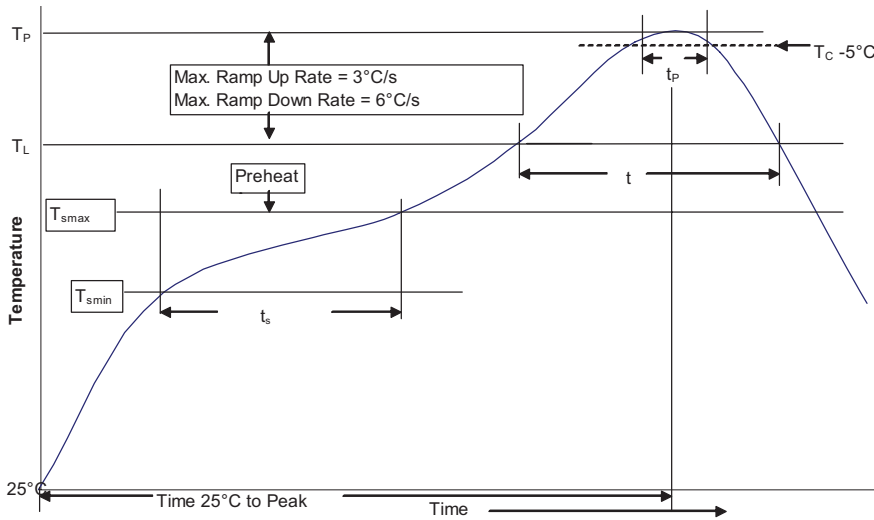


Table 1 - Standard SnPb Solder (T_c)

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

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

| 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-020D

| 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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