

Description

- 3.8mm x 3.8mm shielded drum cores available in two heights: 1.2mm and 1.4mm
- Current range from 4.44 to 0.100 Amps
- Inductance range from 0.47 uH to 680 uH
- Ferrite shielded, low EMI
- Ferrite core material

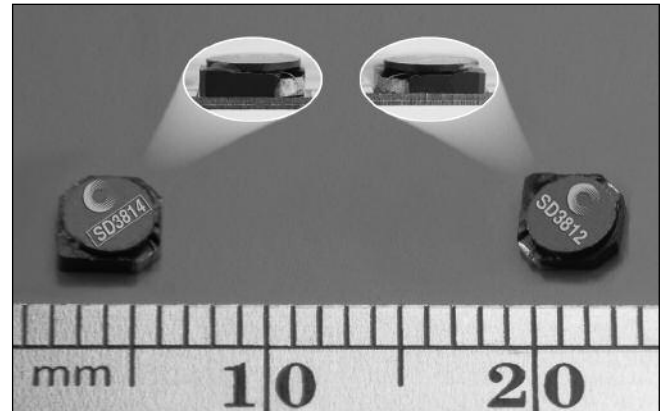


Applications

- Digital cameras, cellular phones, CD players, and PDAs
- PCMCIA cards
- GPS systems

Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating ambient temperature range: -40°C to +85°C (range is application specific). Temperature rise is approximately 40°C at rated rms current
- Solder reflow temperature: +260°C max for 10 seconds max.



Packaging

- Supplied in tape and reel packaging, 4,150 parts per 13" reel

| Part Number | Rated Inductance (µH) | OCL (1) +/-15% (µH) | Part Marking Designator | I _{rms} (2) Amperes | I _{sat} (3) Amperes | DCR (4) (Ω) Typ. | Volt (5) u-sec Typ. |
|--------------|-----------------------|---------------------|-------------------------|------------------------------|------------------------------|------------------|---------------------|
| SD3812-R47-R | 0.47 | 0.405 | A | 2.53 | 3.89 | 0.030 | 2.52 |
| SD3812-1R0-R | 1.0 | 0.845 | B | 2.00 | 2.69 | 0.048 | 3.64 |
| SD3812-1R2-R | 1.2 | 1.125 | C | 1.71 | 2.33 | 0.066 | 4.20 |
| SD3812-1R5-R | 1.5 | 1.445 | D | 1.58 | 2.06 | 0.078 | 4.76 |
| SD3812-2R2-R | 2.2 | 2.205 | E | 1.32 | 1.67 | 0.111 | 5.88 |
| SD3812-3R3-R | 3.3 | 3.125 | F | 1.10 | 1.40 | 0.159 | 7.0 |
| SD3812-4R7-R | 4.7 | 4.805 | G | 0.87 | 1.13 | 0.256 | 8.7 |
| SD3812-6R8-R | 6.8 | 6.845 | H | 0.80 | 0.95 | 0.299 | 10.4 |
| SD3812-8R2-R | 8.2 | 8.405 | I | 0.690 | 0.854 | 0.406 | 11.5 |
| SD3812-100-R | 10.0 | 10.125 | J | 0.662 | 0.778 | 0.441 | 12.6 |
| SD3812-150-R | 15.0 | 15.125 | K | 0.539 | 0.636 | 0.665 | 15.4 |
| SD3812-220-R | 22.0 | 21.125 | L | 0.499 | 0.538 | 0.776 | 18.2 |
| SD3812-330-R | 33.0 | 32.805 | M | 0.399 | 0.432 | 1.212 | 22.7 |
| SD3812-470-R | 47.0 | 47.045 | N | 0.327 | 0.361 | 1.809 | 27.2 |
| SD3812-680-R | 68.0 | 68.445 | O | 0.269 | 0.299 | 2.666 | 32.8 |
| SD3812-820-R | 82.0 | 80.645 | P | 0.259 | 0.276 | 2.885 | 36 |
| SD3812-101-R | 100.0 | 99.405 | Q | 0.217 | 0.248 | 4.099 | 39 |
| SD3812-151-R | 150.0 | 149.645 | R | 0.178 | 0.202 | 6.130 | 48 |
| SD3812-221-R | 220.0 | 218.405 | S | 0.160 | 0.167 | 7.585 | 59 |
| SD3814-R47-R | 0.47 | 0.360 | A | 2.81 | 4.44 | 0.020 | 2.16 |
| SD3814-R82-R | 0.82 | 0.752 | B | 2.18 | 3.08 | 0.033 | 3.12 |
| SD3814-1R2-R | 1.2 | 1.001 | C | 1.85 | 2.67 | 0.046 | 3.60 |
| SD3814-1R5-R | 1.5 | 1.286 | D | 1.76 | 2.35 | 0.051 | 4.08 |
| SD3814-2R2-R | 2.2 | 1.962 | E | 1.43 | 1.90 | 0.077 | 5.04 |
| SD3814-3R3-R | 3.3 | 2.781 | F | 1.31 | 1.60 | 0.093 | 6.0 |
| SD3814-4R7-R | 4.7 | 4.276 | G | 1.06 | 1.29 | 0.141 | 7.4 |
| SD3814-6R8-R | 6.8 | 6.768 | H | 0.87 | 1.03 | 0.207 | 9.4 |
| SD3814-8R2-R | 8.2 | 8.228 | I | 0.753 | 0.930 | 0.279 | 10.3 |
| SD3814-100-R | 10.0 | 9.830 | J | 0.713 | 0.851 | 0.311 | 11.3 |
| SD3814-150-R | 15.0 | 14.458 | K | 0.574 | 0.702 | 0.481 | 13.7 |
| SD3814-220-R | 22.0 | 21.186 | L | 0.519 | 0.580 | 0.589 | 16.6 |
| SD3814-330-R | 33.0 | 32.151 | M | 0.418 | 0.471 | 0.908 | 20.4 |
| SD3814-470-R | 47.0 | 47.210 | N | 0.346 | 0.388 | 1.322 | 24.7 |
| SD3814-680-R | 68.0 | 67.324 | O | 0.285 | 0.325 | 1.951 | 29.5 |

(1) Test Parameters: 100KHz, 0.100Vrms, 0.0Adc.

(2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C. De-rating is necessary for AC currents.

(3) Peak current for approximately 30% rolloff at 20°C.

(4) DCR limits @ 20°C.

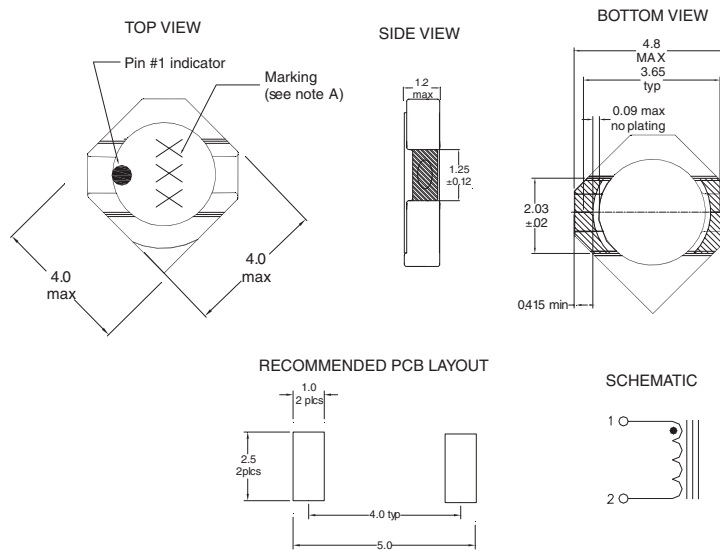
(5) Applied Volt-Time product (V-uS) across the inductor at 100kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise. De-rating of the I_{rms} is required to prevent excessive temperature rise.

| Part Number | Rated Inductance (μH) | OCL (1) $\pm 15\%$ (μH) | Part Marking Designator | I _{rms} (2) Amperes | I _{sat} (3) Amperes | DCR (4) (Ω) Typ. | Volt (5) u-sec Typ. |
|--------------|------------------------------------|--------------------------------------|-------------------------|------------------------------|------------------------------|---------------------------|---------------------|
| SD3814-820-R | 82.0 | 81.101 | P | 0.270 | 0.296 | 2.174 | 32 |
| SD3814-101-R | 100.0 | 98.794 | Q | 0.228 | 0.268 | 3.048 | 36 |
| SD3814-151-R | 150.0 | 149.026 | R | 0.191 | 0.219 | 4.359 | 44 |
| SD3814-221-R | 220.0 | 217.342 | S | 0.170 | 0.181 | 5.480 | 53 |
| SD3814-331-R | 330.0 | 326.812 | T | 0.136 | 0.148 | 8.59 | 65 |
| SD3814-471-R | 470.0 | 470.031 | U | 0.111 | 0.123 | 12.85 | 78 |
| SD3814-681-R | 680.0 | 680.320 | V | 0.100 | 0.102 | 15.78 | 94 |

- (1) Test Parameters: 100KHz, 0.100Vrms, 0.0Adc.
- (2) RMS current for an approximate ΔT of 40°C without core loss. It is recommended that the temperature of the part not exceed 125°C. De-rating is necessary for AC currents.
- (3) Peak current for approximately 30% rolloff at 20°C.
- (4) DCR limits @ 20°C.
- (5) Applied Volt-Time product (V-uS) across the inductor at 100kHz necessary to generate a core loss equal to 10% of the total losses for 40°C temperature rise. De-rating of the I_{rms} is required to prevent excessive temperature rise.

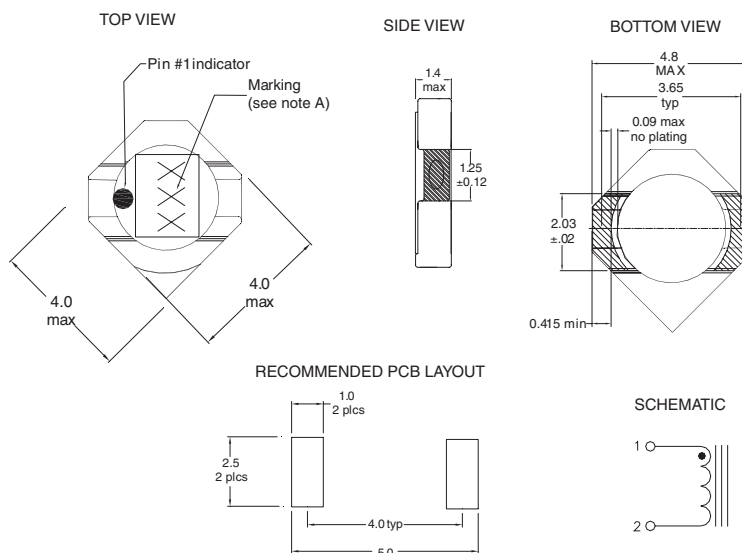
Mechanical Diagrams

SD3812 Series



Note A: 3 digit marking. First digit indicates inductance value per chart above.
 Second digit indicates bi-weekly date code.
 Third digit of year produced. Box indicates SD3814 part.

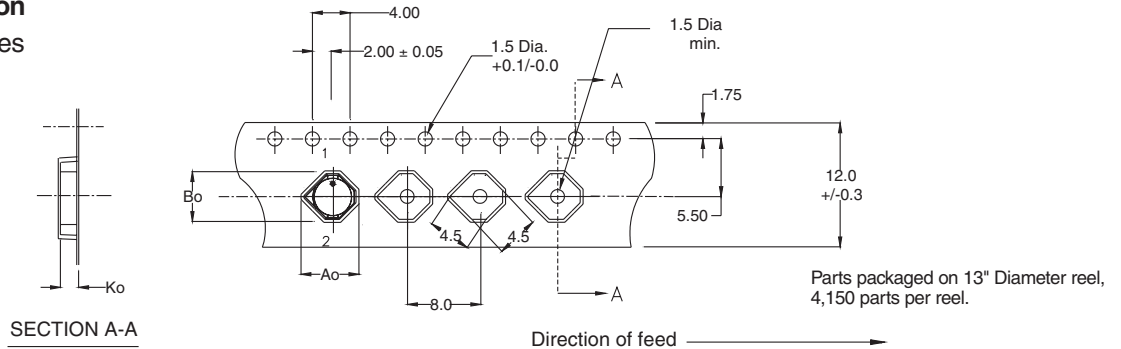
SD3814 Series



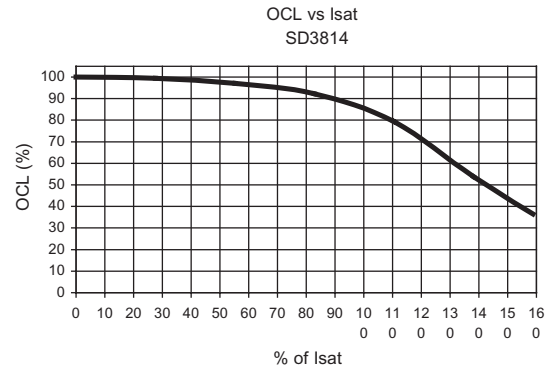
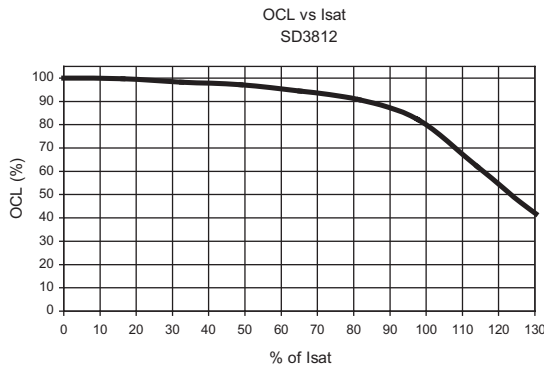
Note A: 3 digit marking. First digit indicates inductance value per chart above.
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Packaging Information SD3812/SD3814 Series

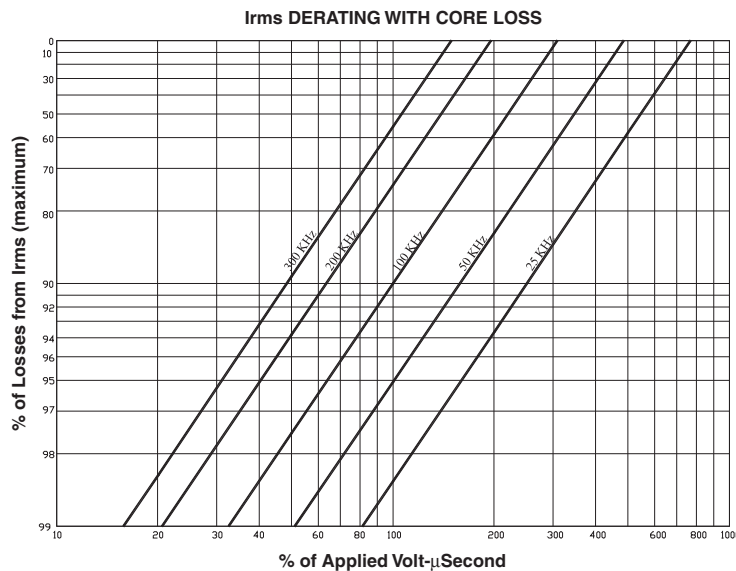
A₀=5.1mm
B₀=4.6mm
K₀=1.6mm



Inductance Characteristics



Core Loss



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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[MLZ1608M150WTD25](#) [MLZ1608M3R3WTD25](#) [MLZ1608M3R3WT000](#) [MLZ1608M150WT000](#) [MLZ1608A1R5WT000](#)

[MLZ1608N1R5LT000](#) [B82432C1333K000](#) [PCMB053T-1R0MS](#) [PCMB053T-1R5MS](#) [PCMB104T-1R5MS](#) [CR32NP-100KC](#) [CR32NP-](#)

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[CR32NP-8R2MC](#) [CR43NP-390KC](#) [CR43NP-560KC](#) [CR43NP-680KC](#) [CR54NP-181KC](#) [CR54NP-470LC](#) [CR54NP-820KC](#) [CR54NP-8R5MC](#)

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[62892NL](#) [PE-92100NL](#) [PG0434.801NLT](#) [PG0936.113NLT](#) [PM06-2N7](#) [PM06-39NJ](#) [HC2LP-R47-R](#) [HC2-R47-R](#) [HC3-2R2-R](#) [HC8-1R2-R](#)