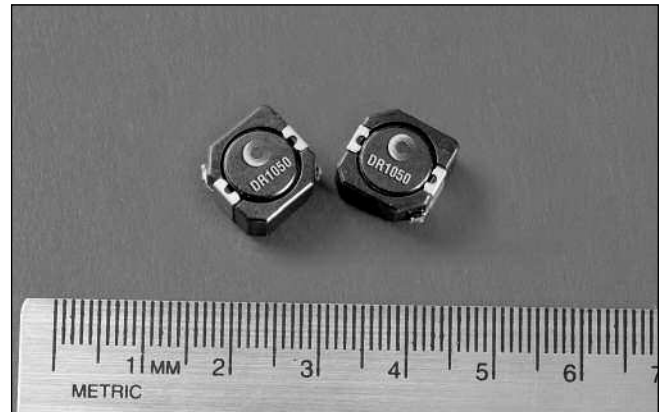


## Description

- 125°C maximum total temperature operation
- Low profile surface mount inductor
- 10.3mm x 10.5mm x 5.0mm shielded drum core
- Ferrite core material
- Inductance range from 0.7µH to 1000µH
- Current range from 13.5 Amps to 0.43 Amps
- Frequency range up to 1MHz



## Applications

- Computer, DVD players, and portable power devices
- Notebook power, LCD panels
- DC-DC converters
- Buck, boost, forward, and resonant converters
- Noise filtering and filter chokes

## Environmental Data

- Storage temperature range: -40°C to +125°C
- Operating temperature range: -40°C to +125°C (range is application specific)
- Solder reflow temperature: +260°C max. for 10 seconds maximum

## Packaging

- Supplied in tape and reel packaging, 500 per reel

Part Number	Rated Inductance (µH)	OCL (1) µH±30%	I <sub>rms</sub> (2) Amperes	I <sub>sat</sub> (3) Amperes	DCR (Ω) mΩ @20°C (Typical)	DCR (Ω) mΩ @20°C (Maximum)	K-factor (4)
DR1050-R80-R	0.8	0.70	9.70	13.50	3.2	4.0	20.47
DR1050-1R5-R	1.5	1.37	8.60	10.50	4.0	5.0	14.62
DR1050-2R2-R	2.2	2.27	7.52	9.25	5.6	6.8	11.37
DR1050-3R3-R	3.3	3.21	6.50	8.20	8.0	10.0	9.30
DR1050-4R7-R	4.7	4.43	6.13	6.70	9.5	11.9	7.87
DR1050-6R8-R	6.8	6.30	5.45	5.80	13.0	16.5	6.82
DR1050-8R2-R	8.2	8.09	5.24	5.00	15.1	19.0	6.02
DR1050-100-R	10	10.1	4.80	4.58	18.0	22.5	5.39
DR1050-120-R	12	11.6	3.94	4.10	24.3	30.4	4.87
DR1050-150-R	15	14.8	3.80	3.70	26.0	32.5	4.45
DR1050-180-R	18	17.5	3.39	3.30	32.8	41.0	4.09
DR1050-220-R	22	23.5	3.12	3.00	38.7	48.4	3.53
DR1050-270-R	27	26.9	2.82	2.80	42.6	53.3	3.30
DR1050-330-R	33	34.3	2.56	2.50	57.5	71.9	2.92
DR1050-390-R	39	38.3	2.35	2.35	60.7	75.9	2.77
DR1050-470-R	47	47.1	2.06	2.10	89.0	111	2.50
DR1050-560-R	56	56.7	1.96	1.94	98.0	123	2.27
DR1050-680-R	68	67.2	1.84	1.70	111	139	2.09
DR1050-820-R	82	84.4	1.60	1.58	147	184	1.86
DR1050-101-R	100	97.5	1.52	1.45	164	205	1.73
DR1050-121-R	120	118.3	1.30	1.30	223	279	1.57
DR1050-151-R	150	149.2	1.26	1.15	238	298	1.40
DR1050-181-R	180	183.7	1.18	1.08	273	341	1.26
DR1050-221-R	220	221.8	1.00	0.98	377	472	1.15
DR1050-271-R	270	263.5	0.96	0.90	410	513	1.06
DR1050-331-R	330	320.6	0.83	0.80	554	693	0.96
DR1050-391-R	390	396.5	0.76	0.72	648	810	0.86
DR1050-471-R	470	480.5	0.64	0.62	855	1069	0.78
DR1050-561-R	560	572.6	0.62	0.60	970	1213	0.72
DR1050-681-R	680	707.9	0.56	0.55	1095	1369	0.64
DR1050-821-R	820	818.7	0.54	0.50	1185	1481	0.60
DR1050-102-R	1000	1000.2	0.43	0.48	1528	1950	0.54

(1) Open Circuit Inductance Test Parameters: 100kHz, 0.1V, 0.0Adc.

(2) I<sub>rms</sub>: DC current for an approximate ΔT of 40°C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow, and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125°C under worst case operating conditions verified in the end application.

(3) I<sub>sat</sub> Amperes peak for approximately 35% rolloff (@25°C)

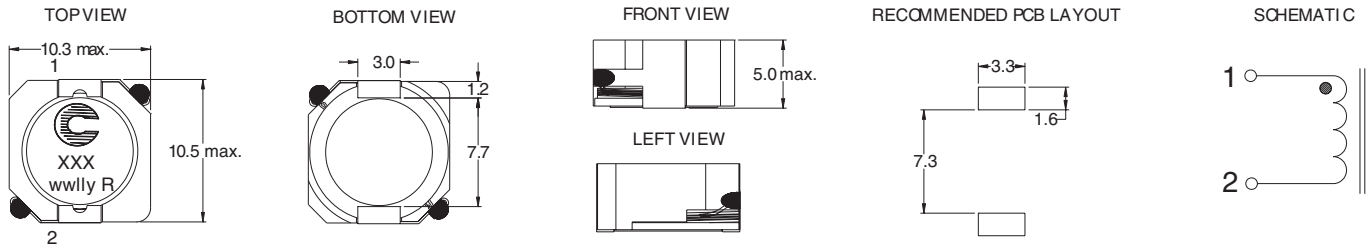
(4) K-factor: Used to determine B p-p for core loss (see graph).

B p-p = K<sup>2</sup>L<sup>2</sup>ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in µH), ΔI (Peak to peak ripple current in Amps).

(5) Part Number Definition: DR1050-xxx-R

DR1050 = Product code and size; -xxx = Inductance value in µH; R = decimal point; If no R is present, third character = # of zeros. -R suffix = RoHS compliant

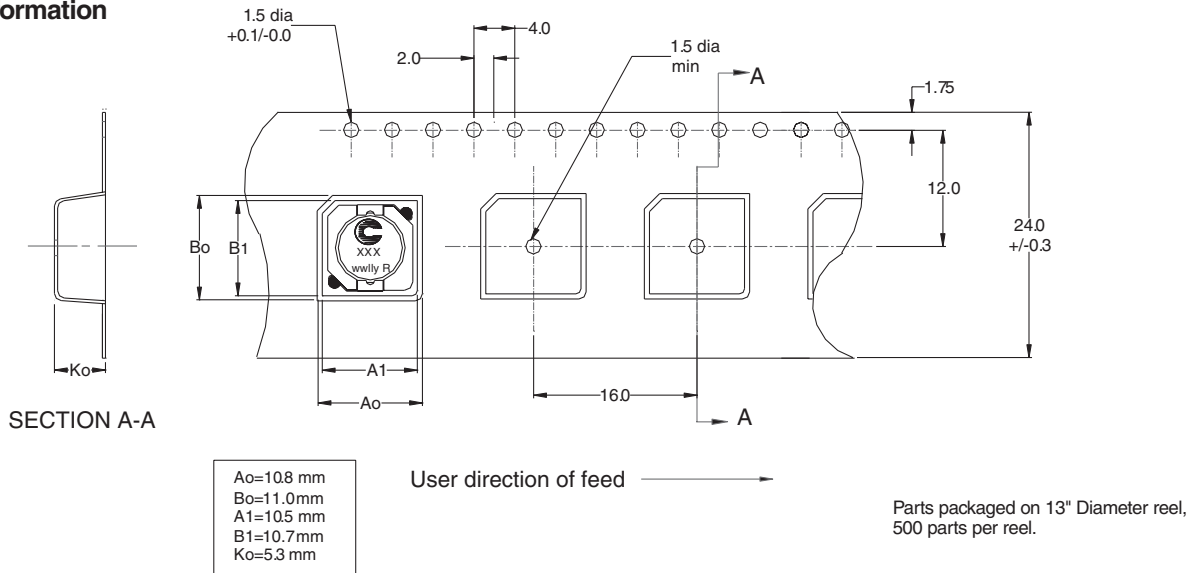
### Mechanical Diagrams



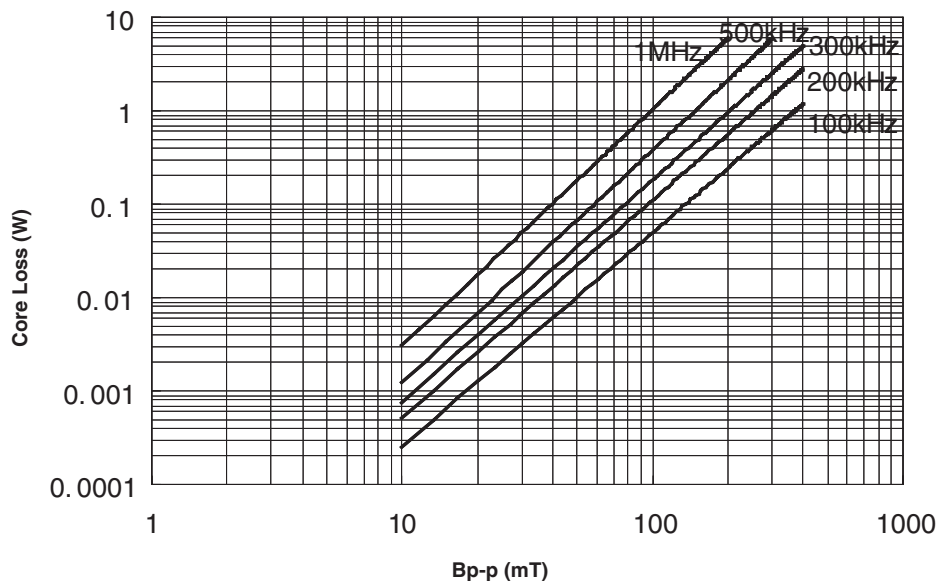
Dimensions are in millimeters.

xxx = Inductance value in uH. R = decimal point. If no R is present third character = # of zeros. wwllly = Date code, R = Revision level.

### Packaging Information

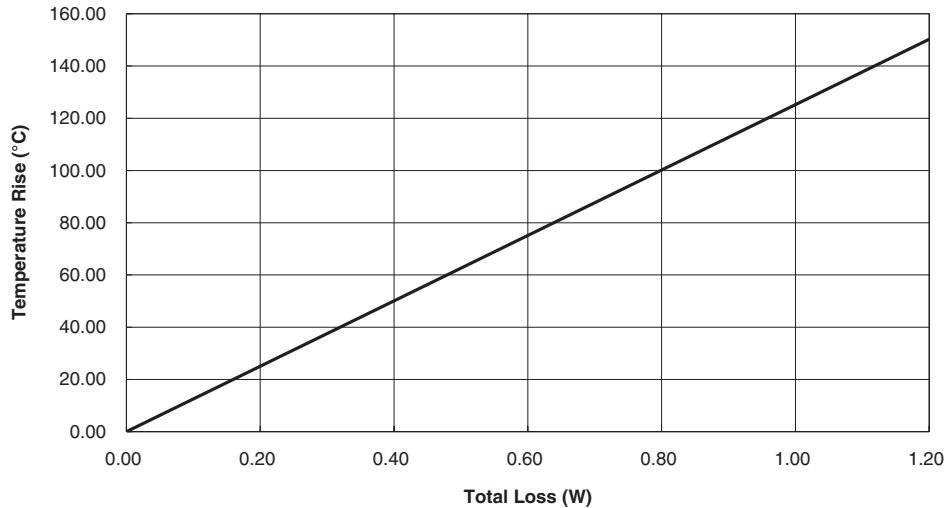


### Core Loss



**Temperature Rise vs. Loss**

**Temperature Rise vs. Total Loss**



**Inductance Characteristics**

**OCL vs. ISAT**

