



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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### Description

- 125°C maximum temperature operation
- Low profile surface mount inductors
- 6.0mm x 6.0mm x 2.0mm shielded drum core
- Ferrite core material
- Inductance range from 4.1uH to 100uH
- Current range from 2.0 Amps to 0.36 Amps
- Frequency range up to 1MHz

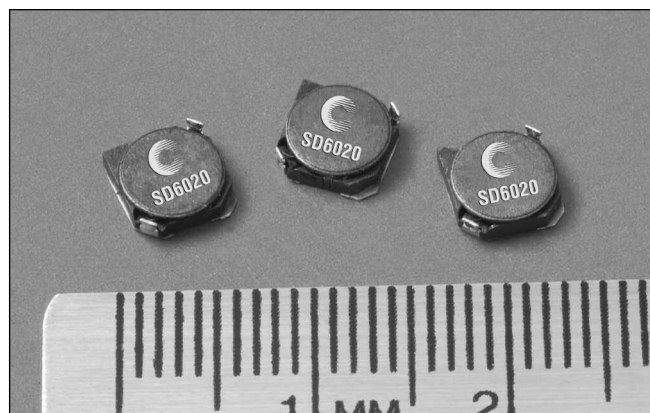


### Applications

- Palmtop Computers
- Digital Cameras
- Digital Cordless Phones, PCS Phones
- Cable/DSL Modems, PC Cards
- Wireless Handsets, Hand-Held Instruments
- Battery Backup/power
- DC-DC converters, Buck/Boost regulators

### 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, 2600 per reel

Part Number	Rated Inductance (μH)	OCL (1) μH ± 30%	I <sub>rms</sub> (2) Amperes	I <sub>sat</sub> (3) Amperes	DCR mΩ@20°C (Typical)	DCR mΩ@20°C (Maximum)	K-factor (4)
SD6020-4R1-R	4.1	3.9	2.22	1.95	47.5	57.0	28.5
SD6020-5R4-R	5.4	5.5	1.80	1.60	63.3	76.0	24.0
SD6020-6R2-R	6.2	6.5	1.63	1.40	80.0	96.0	22.2
SD6020-8R9-R	8.9	8.5	1.47	1.25	96.7	116.0	19.3
SD6020-100-R	10	9.7	1.39	1.20	103.3	124.0	18.1
SD6020-120-R	12	11	1.31	1.10	115.0	138.0	17.1
SD6020-150-R	15	13	1.07	0.97	163.3	196.0	15.4
SD6020-180-R	18	16	1.10	0.85	175.0	210.0	13.9
SD6020-220-R	22	20	0.94	0.80	241.7	290.0	12.7
SD6020-270-R	27	27	0.82	0.75	275.0	330.0	10.9
SD6020-330-R	33	29	0.76	0.65	320.8	385.0	10.5
SD6020-390-R	39	37	0.63	0.57	416.7	500.0	9.2
SD6020-470-R	47	45	0.61	0.54	495.8	595.0	8.2
SD6020-560-R	56	55	0.57	0.50	515.0	618.0	7.8
SD6020-680-R	68	68	0.50	0.43	700.0	840.0	6.7
SD6020-820-R	82	80	0.48	0.41	815.0	978.0	6.3
SD6020-101-R	100	94	0.42	0.36	1000.0	1200.0	5.8

(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 35% rolloff (@25°C)

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

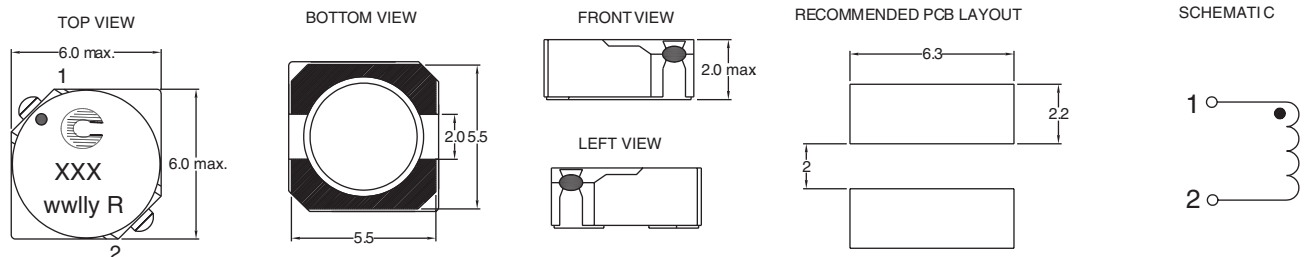
B p-p = K\*L\*ΔI, B p-p(mT), K: (K factor from table), L: (Inductance in uH), ΔI (Peak to peak ripple current in Amps).

(5) Part Number Definition: SD6020-xxx-R

SD6020 = Product code and size; -xxx = Inductance value in uH;  
R = decimal point; If no R is present, third character = # of zeros.  
-R suffix = RoHS compliant



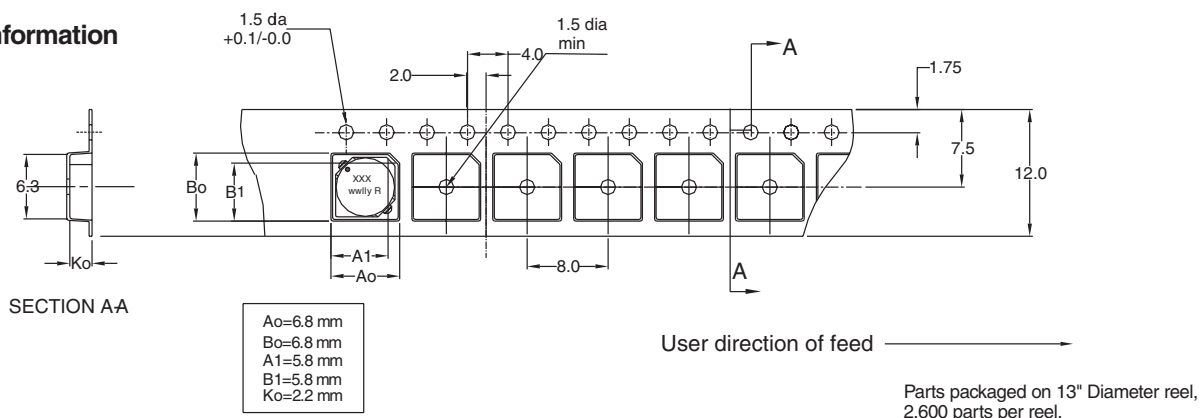
## Mechanical Diagrams



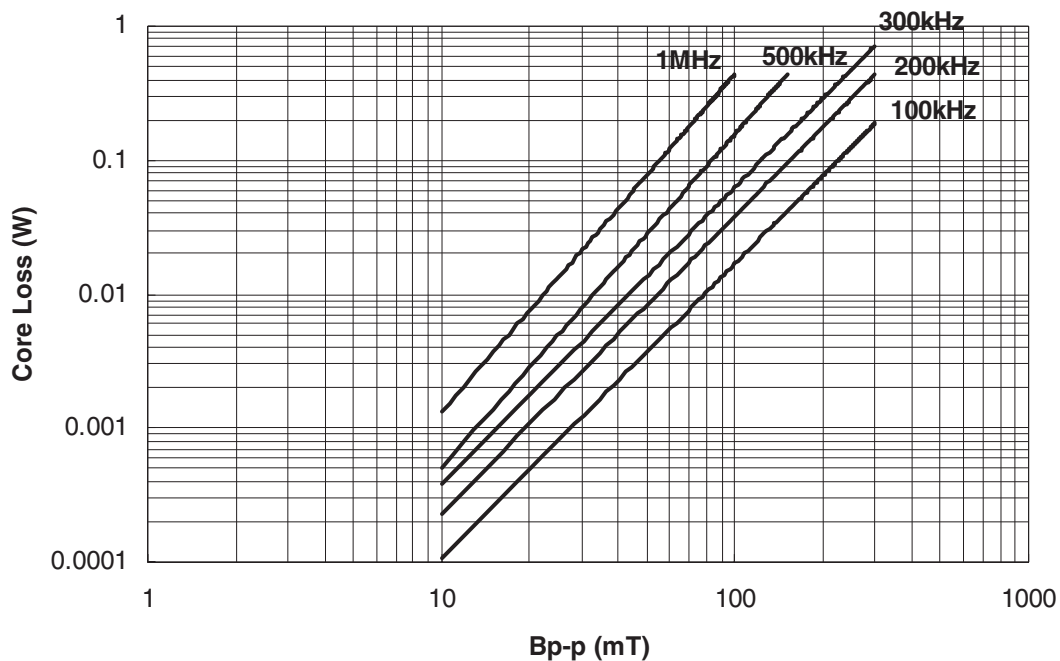
Dimensions are in millimeters.

xxx = Inductance value in  $\mu\text{H}$ . R = decimal point. If no R is present third character = #0f zeros.  
wwlly = Date code, R = Revision level.

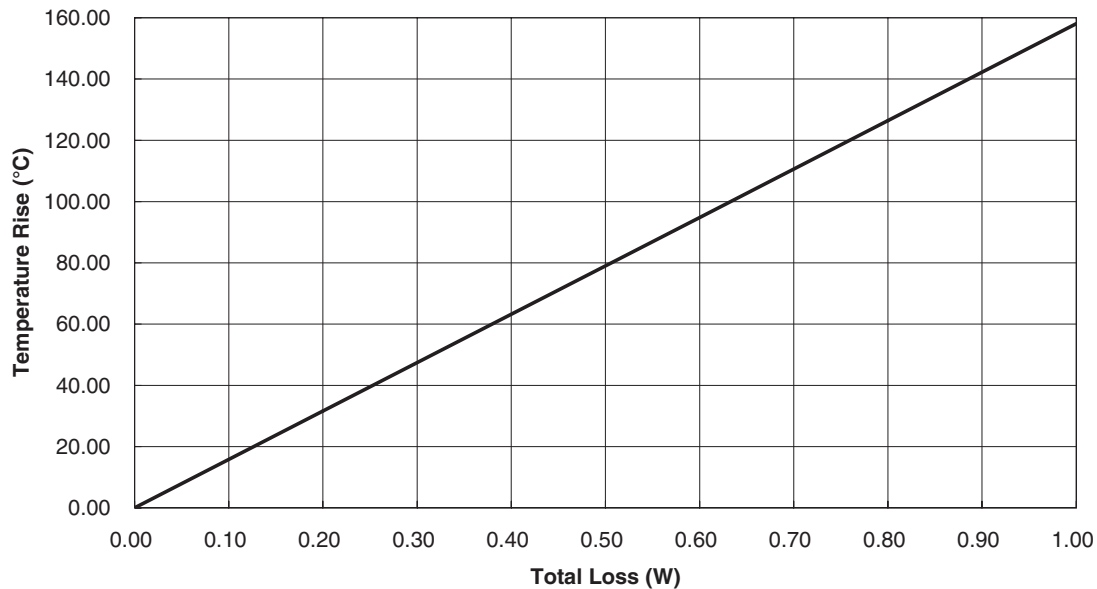
## Packaging Information



## Core Loss



### Temperature Rise vs. Loss



### Inductance Characteristics

#### OCL Vs. Isat

