

Description

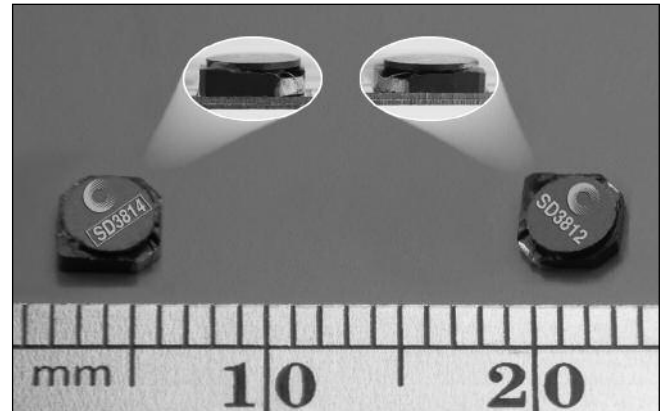
- 3.8mm x 3.8mm shielded drum cores available in two heights: 1.2mm and 1.4mm
- Current range from 4.44 to 0.100 Amps
- Inductance range from 0.47 uH to 680 uH
- Ferrite shielded, low EMI
- RoHS compliant (-R option)

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
- Infrared reflow temperature: +240°C for 30 seconds maximum



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	0.47	0.405	A	2.53	3.89	0.030	2.52
SD3812-1R0	1.0	0.845	B	2.00	2.69	0.048	3.64
SD3812-1R2	1.2	1.125	C	1.71	2.33	0.066	4.20
SD3812-1R5	1.5	1.445	D	1.58	2.06	0.078	4.76
SD3812-2R2	2.2	2.205	E	1.32	1.67	0.111	5.88
SD3812-3R3	3.3	3.125	F	1.10	1.40	0.159	7.0
SD3812-4R7	4.7	4.805	G	0.87	1.13	0.256	8.7
SD3812-6R8	6.8	6.845	H	0.80	0.95	0.299	10.4
SD3812-8R2	8.2	8.405	I	0.690	0.854	0.406	11.5
SD3812-100	10.0	10.125	J	0.662	0.778	0.441	12.6
SD3812-150	15.0	15.125	K	0.539	0.636	0.665	15.4
SD3812-220	22.0	21.125	L	0.499	0.538	0.776	18.2
SD3812-330	33.0	32.805	M	0.399	0.432	1.212	22.7
SD3812-470	47.0	47.045	N	0.327	0.361	1.809	27.2
SD3812-680	68.0	68.445	O	0.269	0.299	2.666	32.8
SD3812-820	82.0	80.645	P	0.259	0.276	2.885	36
SD3812-101	100.0	99.405	Q	0.217	0.248	4.099	39
SD3812-151	150.0	149.645	R	0.178	0.202	6.130	48
SD3812-221	220.0	218.405	S	0.160	0.167	7.585	59
SD3814-R47	0.47	0.360	A	2.81	4.44	0.020	2.16
SD3814-R82	0.82	0.752	B	2.18	3.08	0.033	3.12
SD3814-1R2	1.2	1.001	C	1.85	2.67	0.046	3.60
SD3814-1R5	1.5	1.286	D	1.76	2.35	0.051	4.08
SD3814-2R2	2.2	1.962	E	1.43	1.90	0.077	5.04
SD3814-3R3	3.3	2.781	F	1.31	1.60	0.093	6.0
SD3814-4R7	4.7	4.276	G	1.06	1.29	0.141	7.4
SD3814-6R8	6.8	6.768	H	0.87	1.03	0.207	9.4
SD3814-8R2	8.2	8.228	I	0.753	0.930	0.279	10.3
SD3814-100	10.0	9.830	J	0.713	0.851	0.311	11.3
SD3814-150	15.0	14.458	K	0.574	0.702	0.481	13.7
SD3814-220	22.0	21.186	L	0.519	0.580	0.589	16.6
SD3814-330	33.0	32.151	M	0.418	0.471	0.908	20.4
SD3814-470	47.0	47.210	N	0.346	0.388	1.322	24.7
SD3814-680	68.0	67.324	O	0.285	0.325	1.951	29.5
SD3814-820	82.0	81.101	P	0.270	0.296	2.174	32
SD3814-101	100.0	98.794	Q	0.228	0.268	3.048	36
SD3814-151	150.0	149.026	R	0.191	0.219	4.359	44

(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	Irms (2) Amperes	Isat (3) Amperes	DCR (4) (Ω) Typ.	Volt (5) u-sec Typ.
SD3814-221	220.0	217.342	S	0.170	0.181	5.480	53
SD3814-331	330.0	326.812	T	0.136	0.148	8.59	65
SD3814-471	470.0	470.031	U	0.111	0.123	12.85	78
SD3814-681	680.0	680.320	V	0.100	0.102	15.78	94

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

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

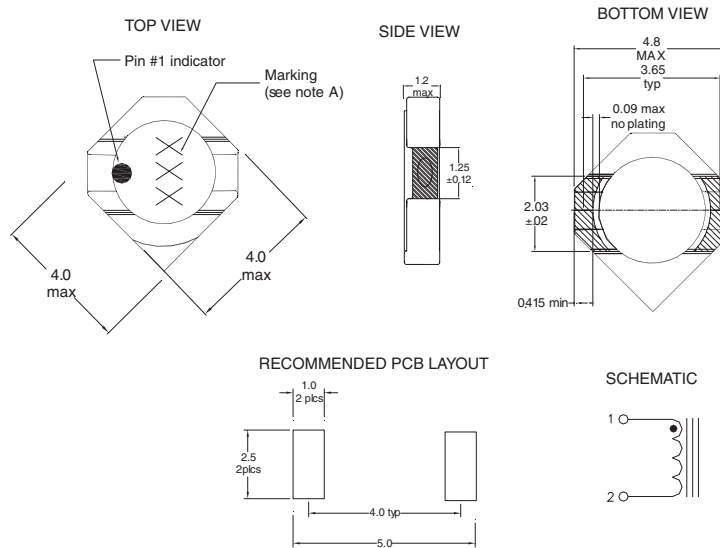
(4) DCR limits @ 20°C.

(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.

OPTION CODE	
Option Code	Description
-R	RoHS compliant version

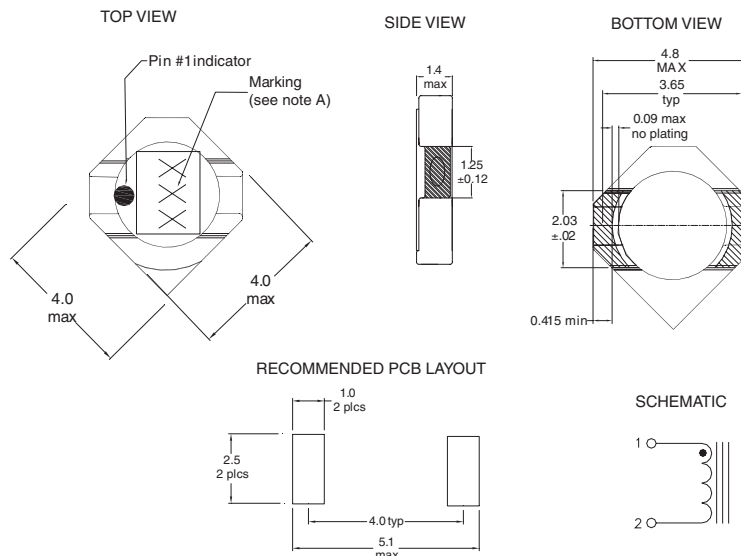
Mechanical Diagrams

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

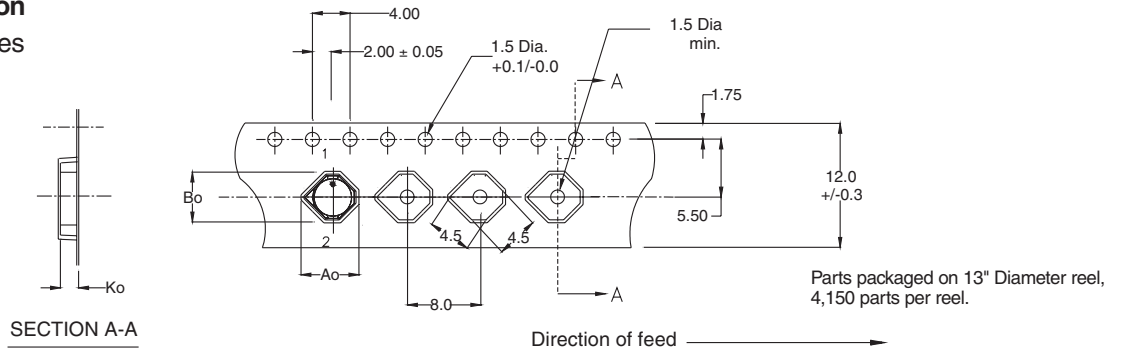


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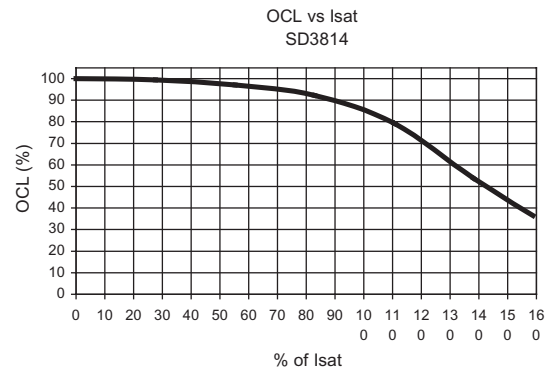
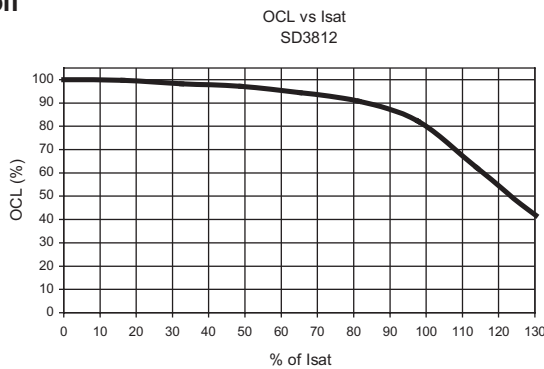
Packaging Information

SD3812/SD3814 Series

$A_0=5.1\text{mm}$
 $B_0=4.6\text{mm}$
 $K_0=1.6\text{mm}$



Rolloff



Core Loss

