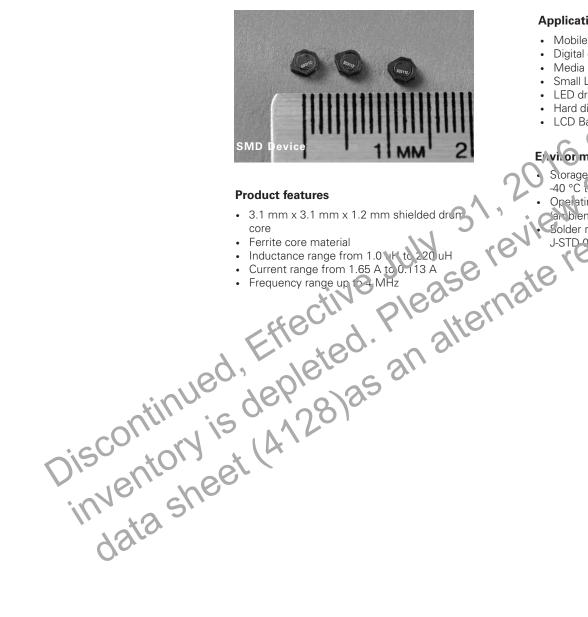
SD3112

Low profile metalized shielded drum core power inductors



Applications

- Mobile phones
- Digital cameras
- Media players
- Small LCD displays
- LED driver and LED flash circuits
- Hard disk drives
- LCD Backlighting

Envilor mental dat

- Storage ton per iture range (contronent): -40 °C to +125 °C
- Operating temperature range: -40 °C to +125 °C 'an bient plus sell-te inperature rise)
 Solder reflow temperature:
 J-STD 929 (alest revision) compliant

RoHS

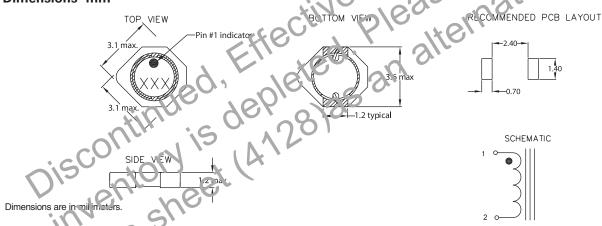


Product specifications

Part Number	Rated Inductance (µH)	OCL (1) (μΗ)	Part Marking Designator	Irms (2) (A)	Isat (3) (A)	DCR (Ω) typ. @ +20 °C	K-factor (4)
SD3112-1R0-R	1.0	1.11+/-30%	Α	1.39	1.65	0.069	135
SD3112-1R5-R	1.5	1.70+/-30%	В	1.16	1.33	0.099	110
SD3112-2R2-R	2.2	2.41+/-30%	С	0.97	1.12	0.140	92
SD3112-3R3-R	3.3	3.24+/-30%	D	0.90	0.97	0.165	79
SD3112-4R7-R	4.7	4.72+/-30%	E	0.74	0.80	0.246	66
SD3112-6R8-R	6.8	6.47+/-30%	F	0.68	0.68	0.291	56
SD3112-8R2-R	8.2	8.50+/-30%	G	0.57	0.60	0.408	49
SD3112-100-R	10.0	10.01+/-30%	Н	0.55	0.55	0.446	45
SD3112-150-R	15.0	15.28+/-20%	I	0.45	0.44	0.654	37
SD3112-220-R	22.0	21.66+/-20%	J	0.37	0.37	0.953	31
SD3112-330-R	33.0	33.30+/-20%	K	0.30	0.30	1.48	25
SD3112-470-R	47.0	47.44+/-20%	L	0.270	0.25	1.85	21
SD3112-680-R	68.0	68.10+/-20%	M	0.228	0.211	2.56	17
SD3112-820-R	82.0	83.19+/-20%	N	0.213	0.190	2,93	16
SD3112-101-R	100.0	99.8+/-20%	0	0.184	0.174	3.95	14
SD3112-151-R	150.0	149.4+/-20%	Р	0.149	0.142	6.01	12
SD3112-221-R	220.0	219.9+/-20%	Q	0.121	0.117	9.12	10
proximity of other he is recommended that	an approximate DT of irrents. PCB layout, tra eat generating compor	f 40 °C without core los ace thickness and width nents will affect the tem ne part not exceed +12	s. Derating is n, air-flow, and perature rise. It	(4) K-factor: Used B p-p = K*L* 1,	peak for appro (imately to (, etermine 5 p-p for 3 p-t (mT), K: (K facto (r.)ple current in Ar in	core loss (see graph)	6/,

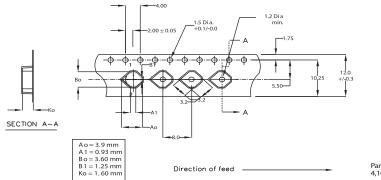
⁽¹⁾ Open Circuit Inductance Test Parameters: 100 kHz, 0.1 V, 0.0 Adc.

Dimensions- mm



Part Marking: 3 Digit Marking: (1st digit: no cates inductance value per letter in Part Marking Designator); (2nd digit: Bi-weekly production date code); (3rd digit: Last digit of the year produced). Do not route trace ia. underneath the inductor

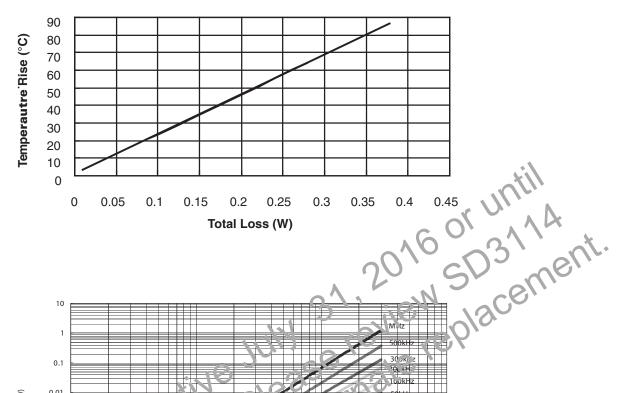
Packaging information- mm



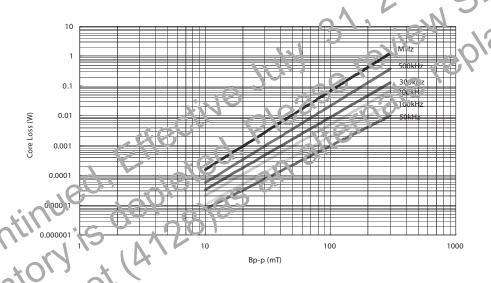
Parts packaged on 13" Diameter reel, 4,100 parts per reel.

⁽²⁾ Irms: DC current for an approximate DT 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.

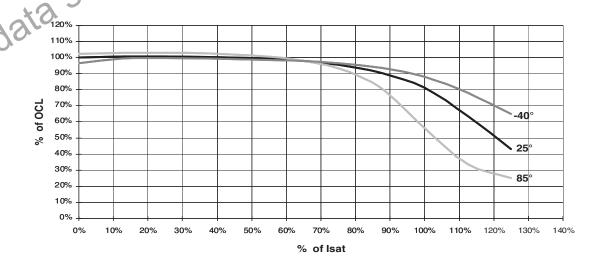
Temperature rise vs total loss loss



Core loss vs Bp-p



Inductance characteristics



Solder Reflow Profile

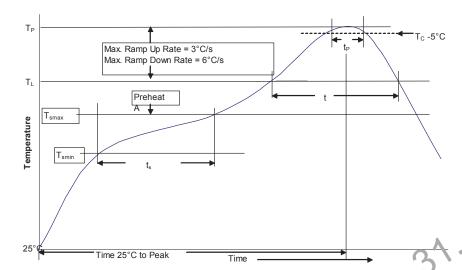


Table 1 - Standard SnPb Solder (T_c)

	Volume	Volume
Package	mm³	mm³
Thickness	<350	≥350
<2.5mm	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder

			.01.	*
		Volume	V plume	Volume
`	Package	mm³	mm³	mm³
	Thickness	√.350	350 - 2000	>2000
	<1.6mm	260°C	260°C	260°C
	1.6 - 2.5nm	260°C	250°C	245°0
	>?.5 mm	250°C	245°C	245°C
A		7	7/0	
0 1	ALO:		CO,	
D	16		20	
	N	-101	O	
<u> </u>	1	<u> 27</u>		
Standard SnF	Pb Scider	Lead (Pb) Free So	lder
			,	

Reference JDEC J-STD-020

Profile Feature	70.	Standard SnPb Scioer	Lead (Pb) Free Solder
Preheat and Soak	Temperature min. (T _{smin})	100°6	150°C
	 Temperature max. (T_{smax}) 	1100	200°C
	• Time (T _{smin} to T _{st 2a} /) (t _s)	62120 Seconds	60-120 Seconds
Average ramp up rat	e T _{smax} to T _p	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperatur	re (TL)	183°C	217°C
Time at liquidous (t _L)	30, 78, 31,	60-150 Seconds	60-150 Seconds
Peak package body t	temperature (Tp)*	Table 1	Table 2
Ρ	C of the specific d Nassification (Pm) Frature (Tc)	20 Seconds**	30 Seconds**
Average ramp- do vir	rate (T _p to T _{schax})	6°C/ Second Max.	6°C/ Second Max.
Time 25°C to Peak T	emperature	6 Minutes Max.	8 Minutes Max.

Tolerance for time at peak profile an perature (t_p) is defined as a supplier minimum and a user maximum.

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