			Produc	t Specifications			
Part Number	OCL ± 10% (nH)	FLL ² Min. (nH)	I _{rms} ³ (Amps	I _{sat} 1⁴ @ 25°C (Amps)	I _{sat} 2 ⁵ @ 125°C (Amps)	DCR (mΩ) @ 20°C	K-factor
R1 Version							
FP1107R1-R07-R	70	50		140	123		361.1
FP1107R1-R12-R	120	86		90	72		361.1
FP1107R1-R15-R	150	108		70	56		361.1
FP1107R1-R23-R	230	166	55	45	36	$0.29 \pm 8\%$	361.1
FP1107R1-R30-R	300	217		35	28		361.1
FP1107R1-R40-R	400	288		25	20		361.1
FP1107R1-R51-R	510	364		18	14.5		361.1
R2 Version							
FP1107R2-R07-R	70	50		140	123		363.3
FP1107R2-R12-R	120	86		90	72		363.3
FP1107R2-R15-R	150	108		70	56		363.3
FP1107R2-R23-R	230	166	42	45	36	0.47 ± 6.4%	363.3
FP1107R2-R30-R	300	217		35	28		363.3
FP1107R2-R40-R	400	288		25	20		363.3
FP1107R2-R51-R	510	364		18	14.5		363.3

- 1 Open Circuit Inductance (OCL) Test Parameters: 100kHz, 0.10V_{rms}, 0.0Adc
- 2~ Full Load Inductance (FLL) Test Parameters: 100kHz, 0.1V $_{\rm rms},$ $\rm I_{\rm sat}1$
- 3 I_{rms}: DC current for an approximate temperature rise of 40°C without core loss. Derating is

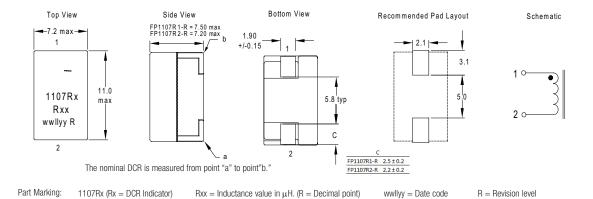
necessary for AC currents. PCB pad layout, trace thickness and width, air-flow and proximity of other heat generating components will affect the temperature rise. It is recommended the part temperature not exceed 125°C under worst case operating conditions verified in the end application.

- 4 I_{sat}1: Peak current for approximately 20% rolloff at +25°C. 5 I_{sat}2:
- 5 Peak current for approximately 20% rolloff at +125°C.

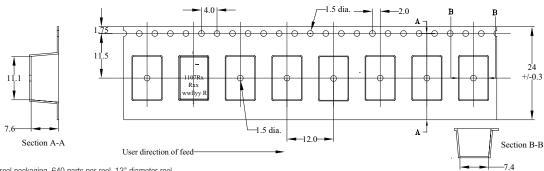
6 K-factor: Used to determine B_{D-D} for core loss (see graph). B_{D-D} = K * L * △I * 10⁻³, B_{D-D} : (Gauss), K: (K-factor from table), L: (Inductance in nH), △I (peak-to-peak ripple current in amps):

- 7 Part Number Definition: FP1107Rx-Rxx-R
- FP1107 = Product code and size
- Rx is the DCR indicator
- Rxx= Inductance value in $\mu\text{H, R} = \text{decimal point}$
- "-R" suffix = RoHS compliant

Dimensions- mm

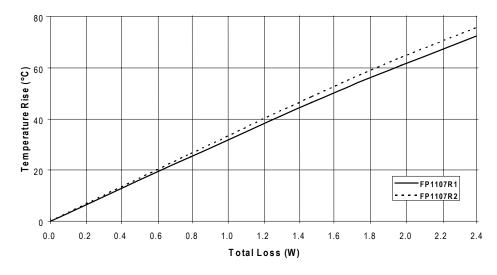


Packaging information - mm

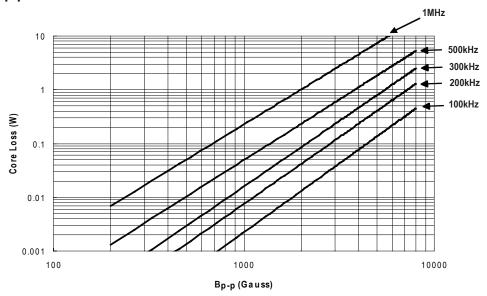


Supplied in tape-and-reel packaging, 640 parts per reel, 13" diameter reel.

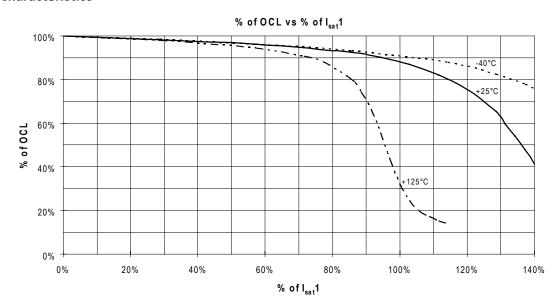
Temperature rise vs total loss



Core loss vs Bp-p



Inductance characteristics



Solder Reflow Profile

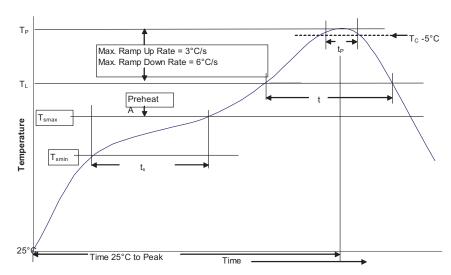


Table 1 - Standard SnPb Solder (T_c)

	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 (Tc)

Package	Volume mm³	Volume mm³	Volume mm³
Thickness	<350	350 - 2000	>2000
<1.6mm	260°C	260°C	260°C
1.6 - 2.5mm	260°C	250°C	245°C
>2.5mm	250°C	245°C	245°C

Reference JDEC J-STD-020

Profile Feature		Standard SnPb Solder	Lead (Pb) Free Solder	
Preheat and Soak	• Temperature min. (T _{smin})	100°C	150°C	
	Temperature max. (T _{smax})	150°C	200°C	
	• Time (T _{smin} to T _{smax}) (t _s)	60-120 Seconds	60-120 Seconds	
Average ramp up ra	te T _{smax} to T _p	3°C/ Second Max.	3°C/ Second Max.	
Liquidous temperature (TL)		183°C	217°C	
Time at liquidous (t _L)		60-150 Seconds	60-150 Seconds	
Peak package body	temperature (T _P)*	Table 1	Table 2	
Time $(t_p)^{**}$ within 5 °C of the specified classification temperature (T_c)		20 Seconds**	30 Seconds**	
Average ramp-down	rate (T _p to T _{smax})	6°C/ Second Max.	6°C/ Second Max.	
Time 25°C to Peak Temperature		6 Minutes Max.	8 Minutes Max.	

 $^{^{\}star}$ Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.

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^{**} Tolerance for time at peak profile temperature (t_p) is defined as a supplier minimum and a user maximum.