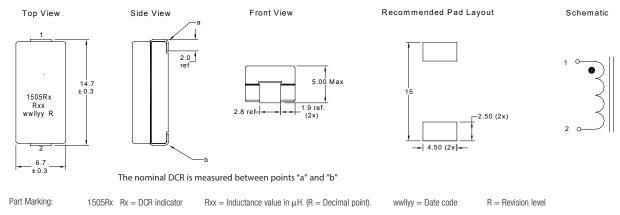
Product specifications

Dt	0011	FIL 2		1 44	1 05	DOD (O)	
Part	OCL1	FLL ²	^I rms [°]	l _{sat} 1⁴	l _{sat} 2⁵	DCR (m Ω)	
Number ⁷	± 10% (nH)	Min. (nH)	(A)	(A) @+25 °C	(Amps) @+125 °C	@+20 °C	K-factor ⁶
FP1505R1-R10-R	100	72		105	90		356.3
FP1505R1-R12-R	120	86		87	75		356.3
FP1505R1-R15-R	150	108	53	72	60	$0.47 \pm 7\%$	356.3
FP1505R1-R25-R	250	180	55	42	32	0.47 ± 7 /0	356.3
FP1505R1-R30-R	300	217		35	26		356.3
FP1505R1-R40-R	400	288		24	19.5		356.3

- 1 Open Circuit Inductance (OCL) Test Parameters: 100 kHz, 1.0 V_{rms}, 0.0 Adc
- 2 Full Load Inductance (FLL) Test Parameters: 100 kHz, 1.0 V_{rms}, I_{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 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.
- 4 I_{sat}1: Peak current for approximately 20% rolloff at +25 °C.

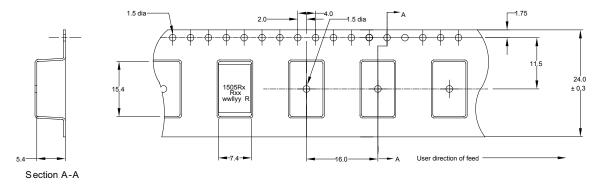
- 5 I_{sat}2: Peak current for approximately 20% rolloff at +125 °C.
- Saturation: Used to determine B_{p-p} for core loss (see graph). $B_{p-p} = K * L * \Delta I * 10^3$. B_{p-p} :(Gauss), K: (K-factor from table), L: (Inductance in nH), ΔI (Peak-to-peak ripple current in amps).
- 7 Part Number Definition: FP1505Rx-Rxx-R
 - FP1505 = Product code and size
 - Rx= DCR indicator
 - Rxx= Inductance value in uH, R = decimal point
 - -R suffix = RoHS compliant

Dimensions- mm



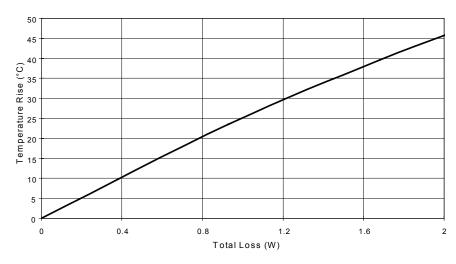
Do not route traces or vias underneath the inductor

Packaging information - mm

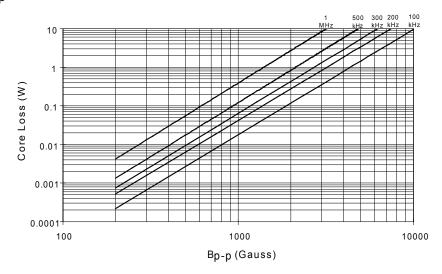


Supplied in tape-and-reel packaging, 744 parts per reel, 13" diameter reel.

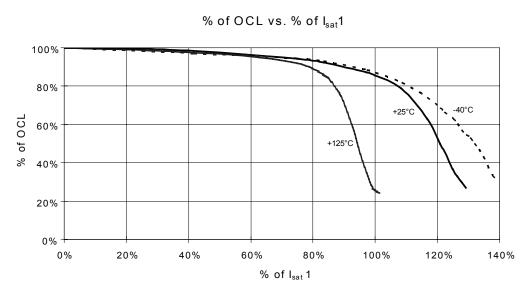
Temperature rise vs total loss



Core loss vs Bp-p



Inductance characteristics



Solder Reflow Profile

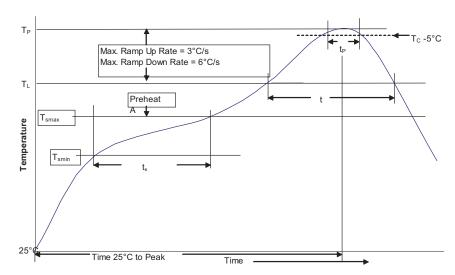


Table 1 - Standard SnPb Solder (T_c)

	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.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

Eaton Electronics Division 1000 Eaton Boulevard Cleveland, OH 44122 United States

www.eaton.com/electronics

© 2017 Eaton All Rights Reserved Printed in USA Publication No. 4365 BU-SB09350 July 2017



All other trademarks are property of their respective owners.



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