Number ⁷ FP1007R6-R15-R FP1007R6-R18-R FP1007R6-R22-R FP1007R6-R27-R FP1007R6-R33-R

FP1007R6-R39-R

FP1007R6-R47-R

		Product S	pecifications			
OCL 1 ±10%	FLL ² Min.	I _{rms} ³	I _{sat} 1 ⁴ @25°C	I _{sat} 2 ⁵ @100°C	DCR @20°C	
(nH)	(nH)	(Amps)	(Amps)	(Amps)	(mΩ)	K-Factor 6
150	108		75.0	60.0		
180	129		60.0	50.0		
220	158		50.0	40.0		
270	194	61	41.0	33.0	0.29 ± 5%	348.8

33.0

28.0

23.5

1. Open Circuit Inductance (OCL) Test Parameters: 100kHz, 0.10V_{rms}, 0.0Adc

330

390

470

237

280

338

- 2. Full Load Inductance (FLL) Test Parameters: 100kHz, 0.1V_{rms}, I_{sat1}
- 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. lsat2: Peak current for approximately 20% rolloff at +100°C.
- 6. K-factor: Used to determine Bp-p for core loss (see graph). Bp-p = K * L
- $^*\Delta I * 10^{-3}$. Bp-p:(Gauss), K: (K-factor from table), L: (Inductance in nH), ΔI (peak-to-peak ripple current in Amps).
- 7. Part Number Definition: FP1007R6-Rxx-R
 FP1007R6 = Product code and size
 Rxx= Inductance value in uH, R = decimal point
 -R suffix = RoHS compliant

26.5

22.5

19.0

Dimensions- mm

Top VIew	Side View	Bottom View	Recommended Pad Layout	Schematic
8.0 max 1	7.0 Max	2.10 +/-0.15 2.2 +/-0.2	2.6	10
1007R6 10.5 max RXX wwilyy R	×	5.6 typ	5,0	20
	В			

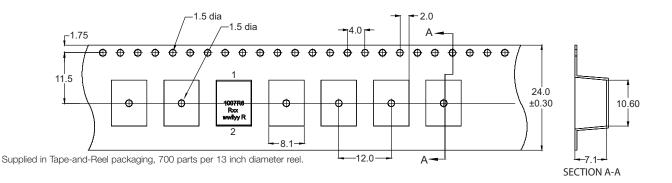
The nominal DCR is measured from point "A" to point "B"

Part Marking: 1007R6, Rxx = Inductance value in μ H. (R = Decimal point) wwllyy = Date code R = Revision level Tolerance are ± 0.15 mm unless otherwise specified.

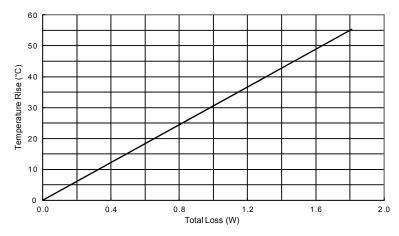
Soldering surfaces to be coplanar within 0.1016mm.

PCB tolerance ± 0.1 mm unless otherwise specified.

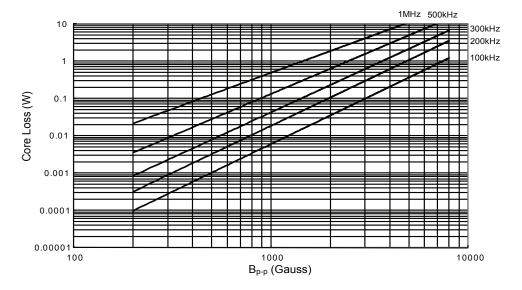
Packaging information - mm



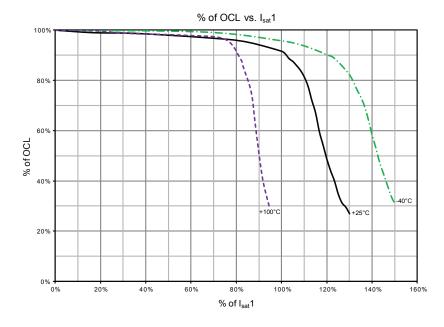
Temperature rise vs total loss



Core loss vs Bp-p



Inductance characteristics



Solder Reflow Profile

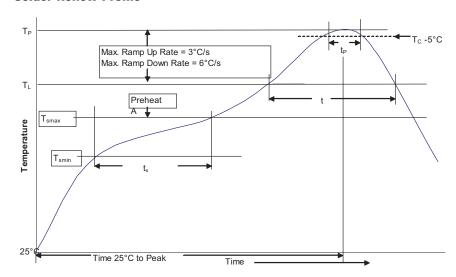


Table 1 - Standard SnPb Solder (T_c)

	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)

	Volume	Volume	Volume
Package	mm³	mm³	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 rat	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.