

## Product Specifications

Part Number <sup>5</sup>	OCL <sup>1</sup> (μH) ±30%	I <sub>rms</sub> <sup>2</sup> (A)	I <sub>pk</sub> <sup>3</sup> (A)	DCR (mΩ) typical @ 20°C	DCR (mΩ) maximum @ 20°C	K-factor <sup>4</sup>
DR1050-R80-R	0.70	9.70	13.5	3.2	4.0	20.47
DR1050-1R5-R	1.37	8.60	10.5	4.0	5.0	14.62
DR1050-2R2-R	2.27	7.52	9.3	5.6	6.8	11.37
DR1050-3R3-R	3.21	6.50	8.2	8.0	10	9.30
DR1050-4R7-R	4.43	6.13	6.7	10	12	7.87
DR1050-6R8-R	6.30	5.45	5.8	13	17	6.82
DR1050-8R2-R	8.09	5.24	5.0	15	19	6.02
DR1050-100-R	10.1	4.80	4.6	18	23	5.39
DR1050-120-R	11.6	3.94	4.1	24	30	4.87
DR1050-150-R	14.8	3.80	3.7	26	33	4.45
DR1050-180-R	17.5	3.39	3.3	33	41	4.09
DR1050-220-R	23.5	3.12	3.0	39	48	3.53
DR1050-270-R	26.9	2.82	2.8	43	53	3.30
DR1050-330-R	34.3	2.56	2.5	58	72	2.92
DR1050-390-R	38.3	2.35	2.35	61	76	2.77
DR1050-470-R	47.1	2.06	2.10	89	111	2.50
DR1050-560-R	56.7	1.96	1.94	98	123	2.27
DR1050-680-R	67.2	1.84	1.70	111	139	2.09
DR1050-820-R	84.4	1.60	1.58	147	184	1.86
DR1050-101-R	97.5	1.52	1.45	164	205	1.73
DR1050-121-R	118	1.30	1.30	223	279	1.57
DR1050-151-R	149	1.26	1.15	238	298	1.40
DR1050-181-R	184	1.18	1.08	273	341	1.26
DR1050-221-R	222	1.00	0.98	377	472	1.15
DR1050-271-R	264	0.96	0.90	410	513	1.06
DR1050-331-R	321	0.83	0.80	554	693	0.96
DR1050-391-R	397	0.76	0.72	648	810	0.86
DR1050-471-R	481	0.64	0.62	855	1069	0.78
DR1050-561-R	573	0.62	0.60	970	1213	0.72
DR1050-681-R	708	0.56	0.55	1095	1369	0.64
DR1050-821-R	819	0.54	0.50	1185	1481	0.60
DR1050-102-R	1000	0.43	0.48	1528	1950	0.54

1. Open Circuit Inductance (OCL) Test Parameters: 100 kHz, 0.1 Vrms, 0.0 Adc, +25 °C

2. I<sub>rms</sub>: 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.

3. I<sub>pk</sub>: Peak current for approximately 35% rolloff @ +25 °C

4. K-factor: K-factor: Used to determine Bp-p for core loss (see graph). Bp-p = K \* L \* ΔI. Bp-p: (mT), K: (K-factor from table), L: (Inductance in μH), ΔI (Peak to peak ripple current in Amps).

5. Part Number Definition: DR1050-xxx-R

DR1050 = Product code and size

-xxx= inductance value in μH, R= decimal point,

If no R is present then last character equals number of zeros

-R suffix = RoHS compliant

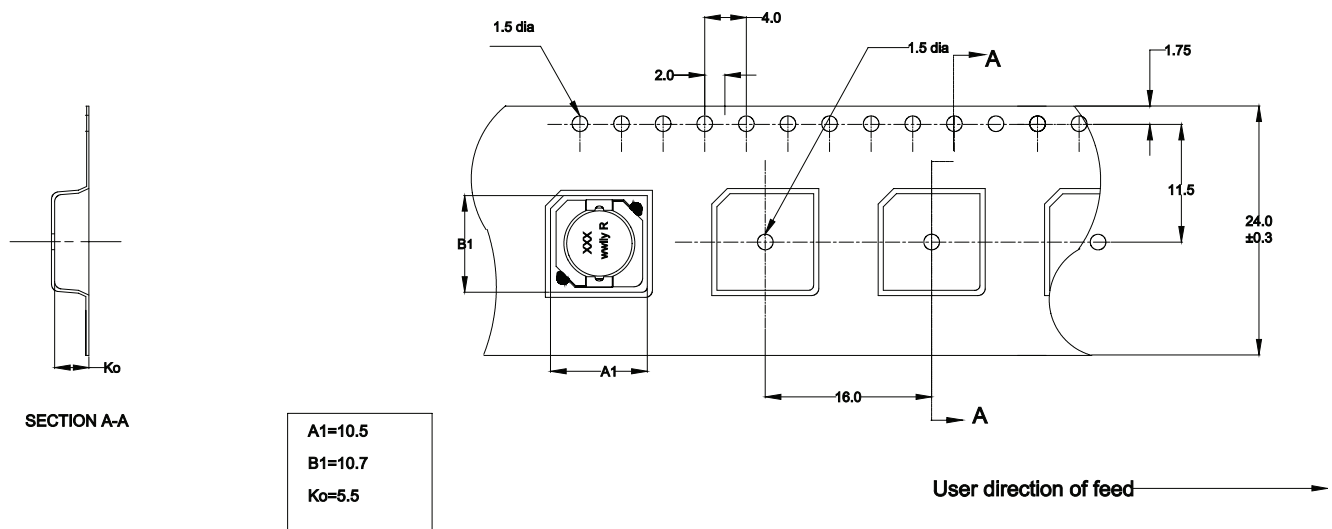
Technical drawing of the 1000mAh battery showing three views: front, top, and side.

- Front View:** Shows a circular battery with a diameter of 10.3 max. The height is 10.5 max. The top surface is labeled "XXX wuffy R". The bottom surface is labeled "2".
- Top View:** Shows the battery's width as 5.0 max.
- Side View:** Shows the battery's profile, indicating a thickness of 5.0 max.

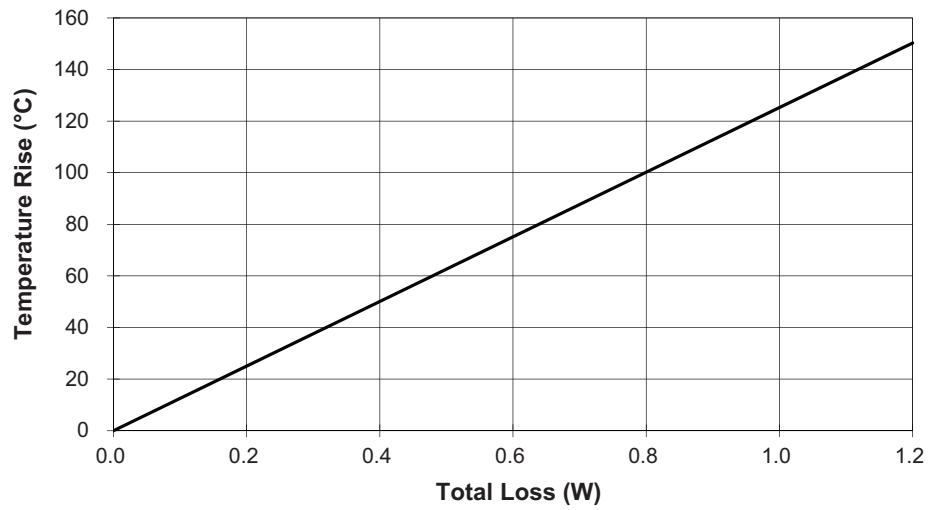
A diagram of a stepped profile. It consists of a horizontal base of length 3.3. From the left end of the base, a vertical line segment of height 1.6 extends upwards. From the top of this segment, a horizontal line segment extends to the right. From the right end of this horizontal segment, a vertical line segment of height 7.3 extends upwards. From the top of this vertical segment, a horizontal line segment extends to the right. The total height of the profile is 1.6 + 7.3 = 8.9.

A schematic diagram of a transformer. The primary winding on the left consists of a single loop with terminals labeled '1' at the top and '2' at the bottom. The secondary winding on the right consists of two loops, with a solid black dot at the top terminal. Three vertical lines to the right of the secondary winding represent the magnetic core.

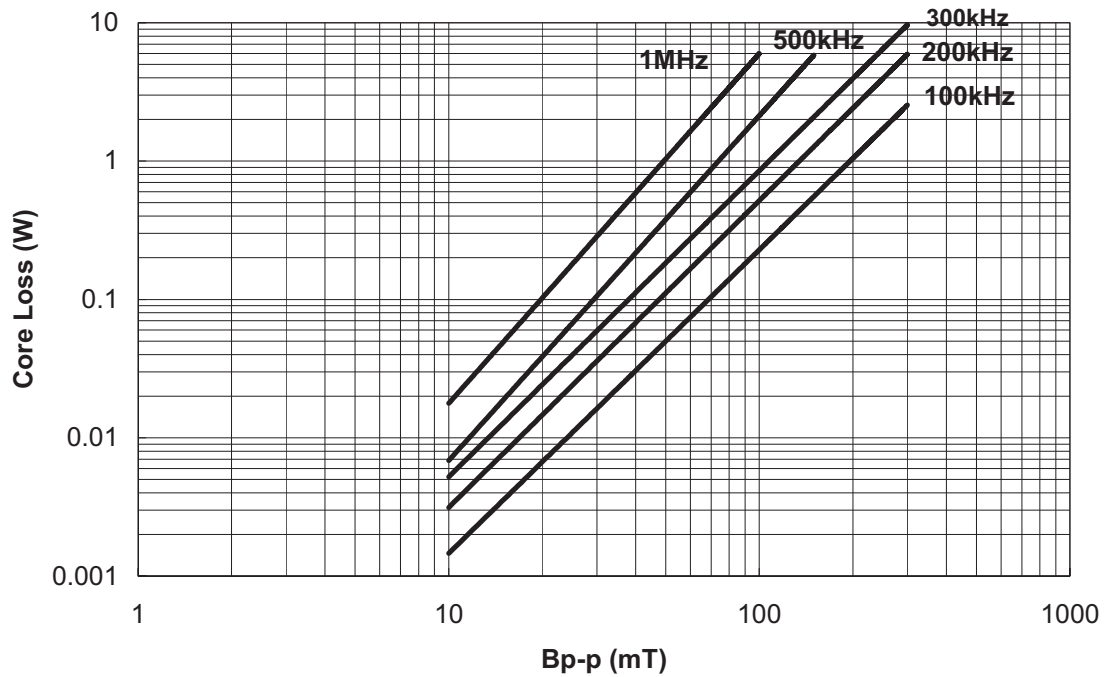
Supplied in tape and reel packaging , 500 parts per 13" diameter reel



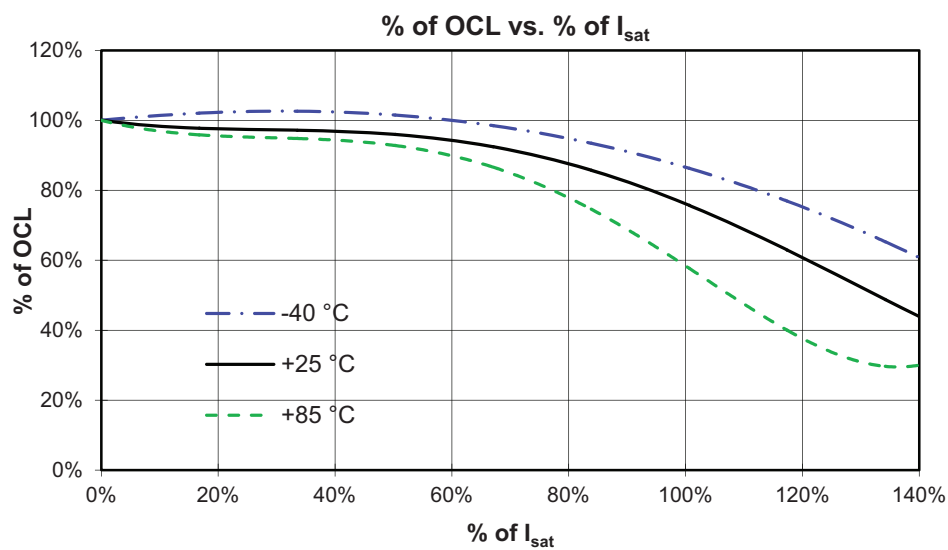
Temperature rise vs. total loss



Core loss vs.  $B_{p-p}$



Inductance characteristics



## Solder reflow profile

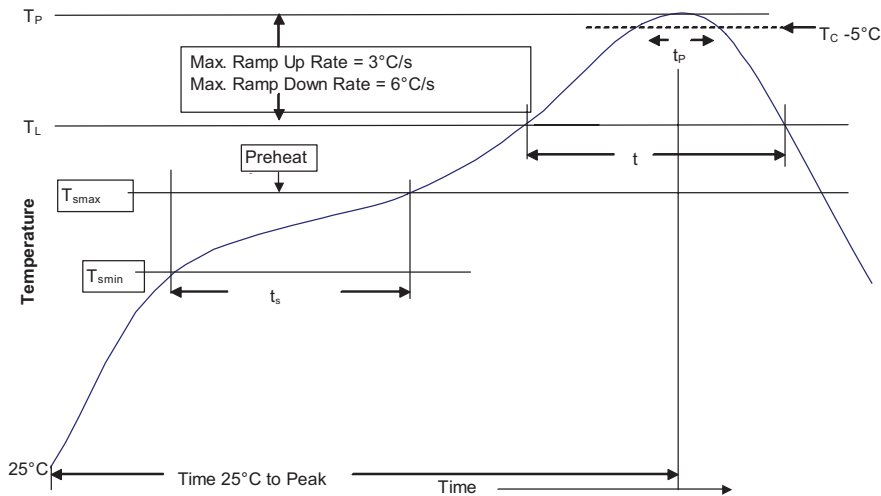


Table 1 - Standard SnPb Solder ( $T_C$ )

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> ≥350
<2.5mm)	235°C	220°C
≥2.5mm	220°C	220°C

Table 2 - Lead (Pb) Free Solder ( $T_C$ )

Package Thickness	Volume mm <sup>3</sup> <350	Volume mm <sup>3</sup> 350 - 2000	Volume mm <sup>3</sup> >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 JEDEC J-STD-020D

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 rate $T_{smax}$ to $T_P$	3°C/ Second Max.	3°C/ Second Max.
Liquidous temperature ( $T_L$ )	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.

\* Tolerance for peak profile temperature ( $T_P$ ) is defined as a supplier minimum and a user maximum.

\*\* Tolerance for time at peak profile temperature ( $t_P$ ) is defined as a supplier minimum and a user maximum.

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