

1. Features of RL111008A Series :

- Ferrite-Based Resonant Inductors or Chokes.
- The inductance tolerance of 5%.
- Inductance range: 3.0uH to 65.0uH, custom values are welcomed.
- High current output chokes, up to 64.0Amp with approx. 30% roll off.
- Maximum footprint: 27.5 x 21.0 mm, with a maximum height of 26.0 mm.
- Rated voltage: 600V_{AC}, 1000V_{DC}.
- Dielectric strength: 4500V_{DC} (winding to core).
- Operating temperature range: -55 °C to +130 °C, RoHs & HF compliant.



2. Electrical Characteristic of RL111008A Series:

ITG Part Number	OCL ¹ (μH) ±5%	DCR ² (mΩ) Max.	ACR ³ (mΩ) Typ.	Isat1 ⁴ (A) @25°C	Isat2 ⁴ (A) @75°C	Isat3 ⁴ (A) @100°C	Irms ⁵ (A) @25°C
RL111008A-3R0J	3.00	1.7	20.00	64.00	55.00	50.00	38
RL111008A-4R3J	4.30	1.7	25.00	46.00	40.00	37.00	38
RL111008A-5R3J	5.30	1.7	28.00	37.00	32.00	30.00	38
RL111008A-8R0J	8.00	3.0	42.00	37.50	32.00	30.00	25
RL111008A-9R7J	9.70	3.0	46.00	31.00	27.00	25.00	25
RL111008A-120J	12.00	3.0	53.00	25.00	21.00	20.00	25
RL111008A-200J	20.00	7.4	125.00	25.00	21.00	19.00	15
RL111008A-270J	27.00	7.4	160.00	18.00	15.50	13.00	15
RL111008A-330J	33.00	7.4	170.00	14.00	12.00	11.50	15
RL111008A-370J	37.00	19.0	230.00	18.50	16.00	14.50	10
RL111008A-530J	53.00	19.0	290.00	13.00	11.00	10.00	10
RL111008A-650J	65.00	19.0	320.00	10.00	9.00	8.00	10

Notes:

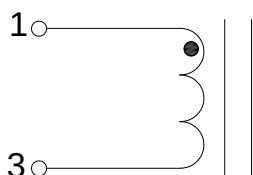
1. Open Circuit Inductance (OCL) test condition: 200kHz, 0.25Vrms, 0A_{dc}, at 25 °C.
2. DCR test conditions: Ta=25°C.
3. ACR test conditions: 200kHz, 3.00Vrms, 0A_{dc}, Ta=25°C. The ACR represents the equivalent resistance of an inductor, and its value is influenced by factors such as conversion frequency, coil design, core material, and air gap. Refer to the 'ACR vs Frequency Curve' for additional Information.
4. Isat1, Isat2 & Isat3 : DC current that will cause inductance to drop approximately by 30%.
5. Irms : 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 130 °C under worst case operating conditions verified in the end application.

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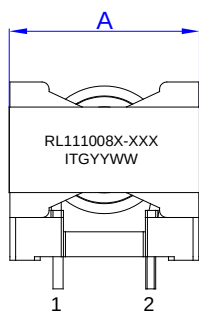
*Due to continuous product improvement, all specifications are subject to change without prior notice. Kindly contact an ITG field application engineer or a sales representative prior to purchase.

3. Mechanical Dimension(Unit : mm):

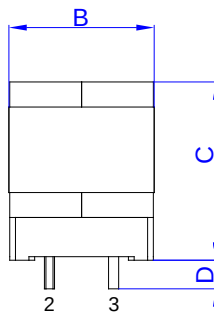
ITG Part Number	A Max.	B Max.	C Max.	D ± 0.5	E1 ± 0.5	E2 ± 0.5	F1 ± 0.3	F2 ± 0.15	PCB Layout Fig.
RL111008A-3R0J/4R3J/5R3J	27.5	21.0	26.0	4.0	13.00	9.00	2.60	1.0	1
RL111008A-8R0J/9R7J/120J	27.5	21.0	26.0	4.0	13.00	9.00	2.50	1.0	1
RL111008A-200J/270J/330J	27.5	21.0	26.0	4.0	13.00	9.00	2.00	1.0	2
RL111008A-370J/530J/650J	27.5	21.0	26.0	4.0	13.00	9.00	1.40	1.0	3



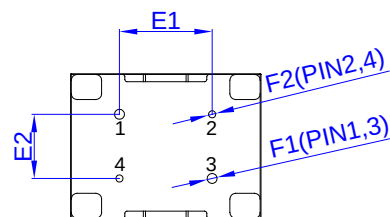
Schematic



Front View



Side View



Bottom View

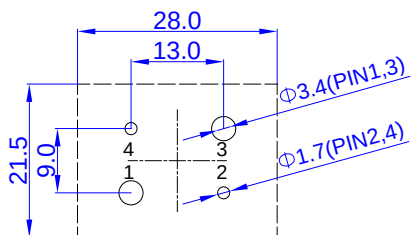


Fig.1

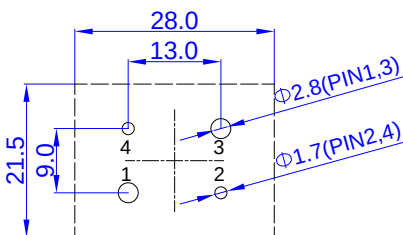


Fig.2

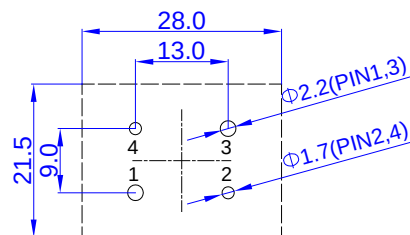


Fig.3

Suggested PCB Layout

Part Marking:

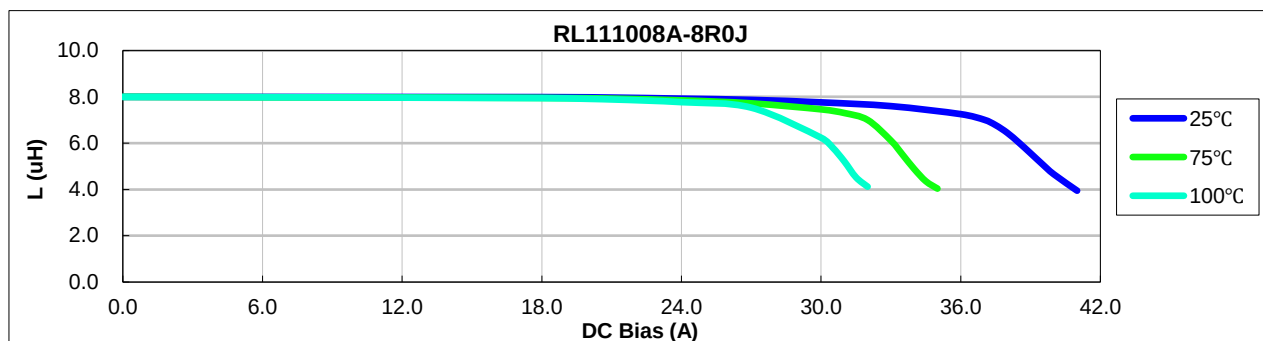
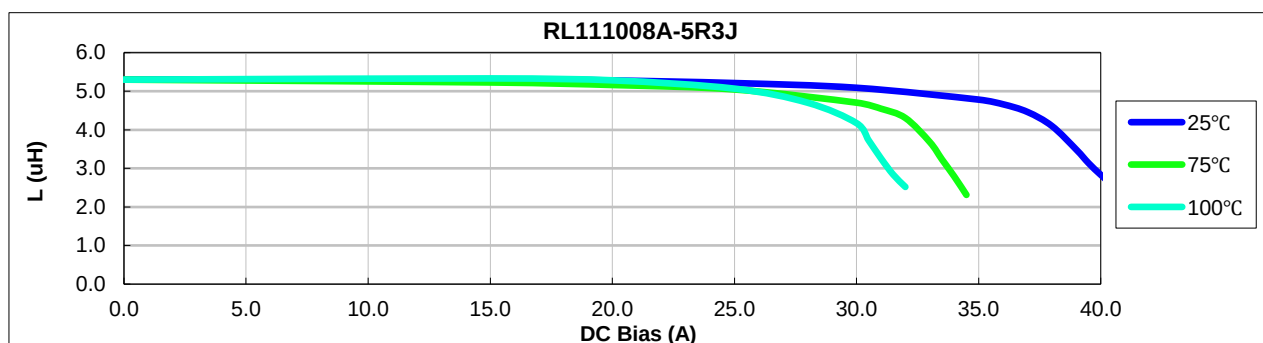
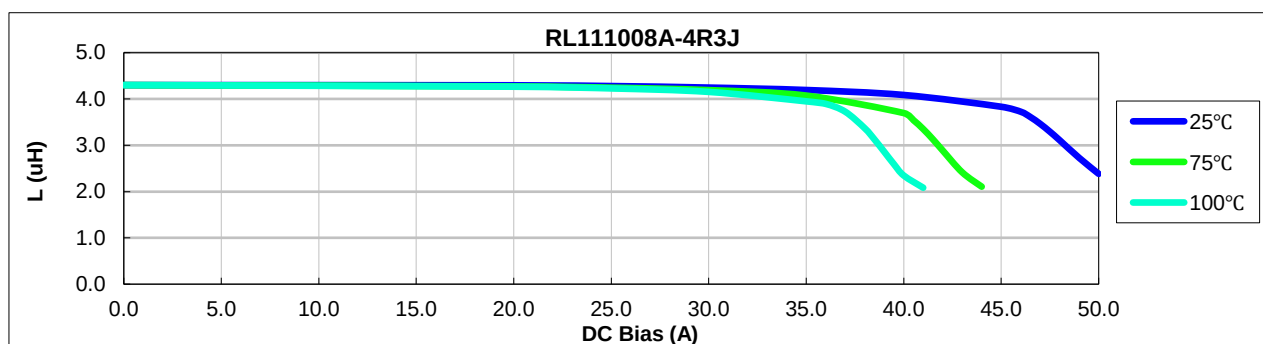
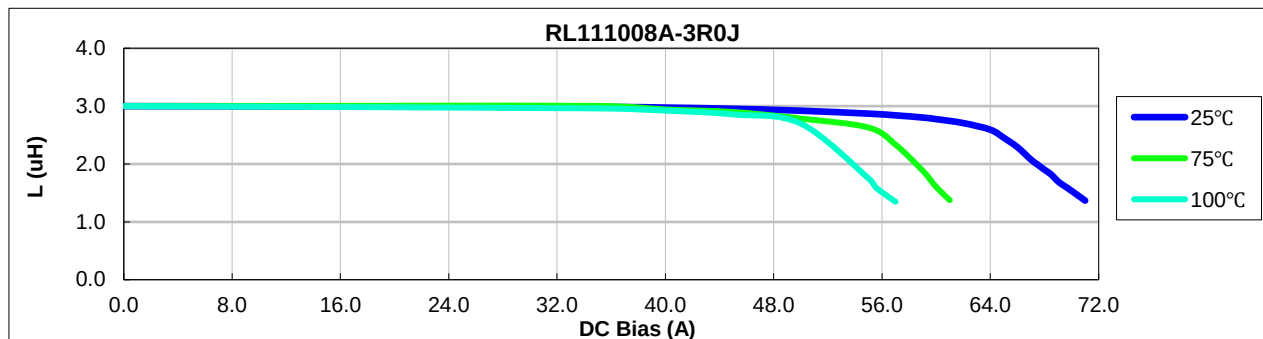
RL111008X-XXX: Part Number.

ITGYYYWW: ITG is Company Name, YYWW is Date Code

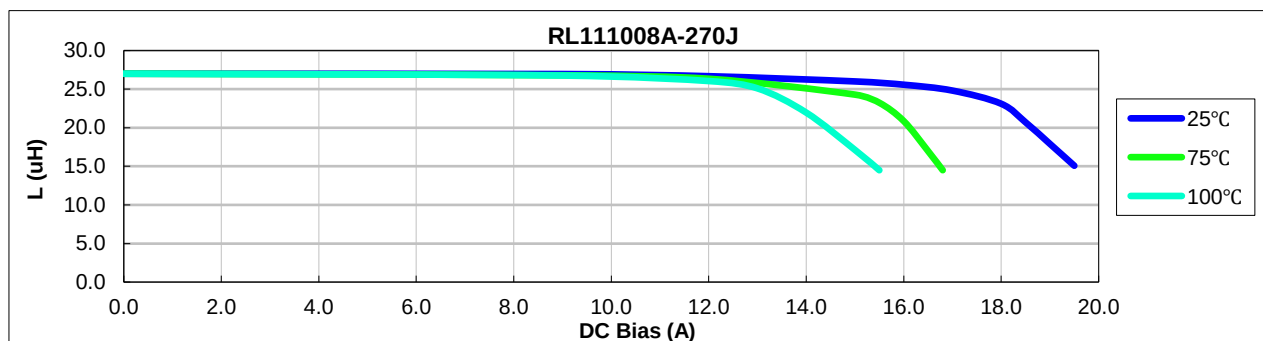
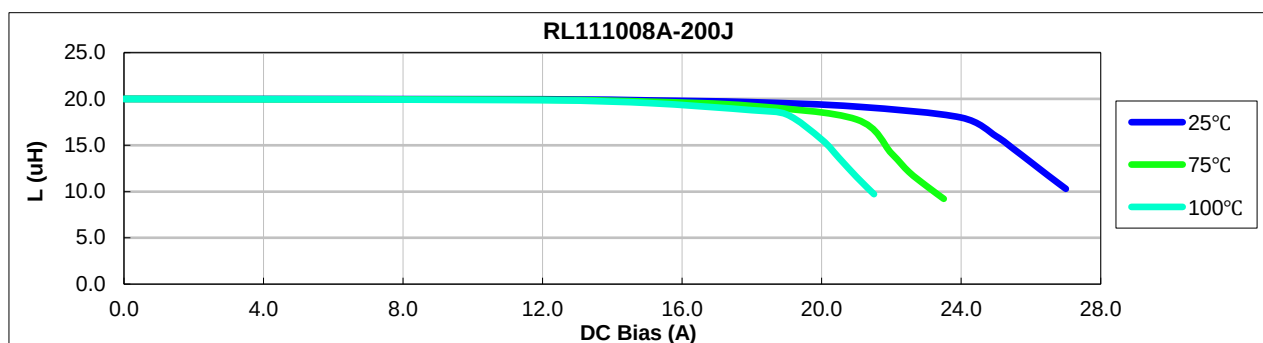
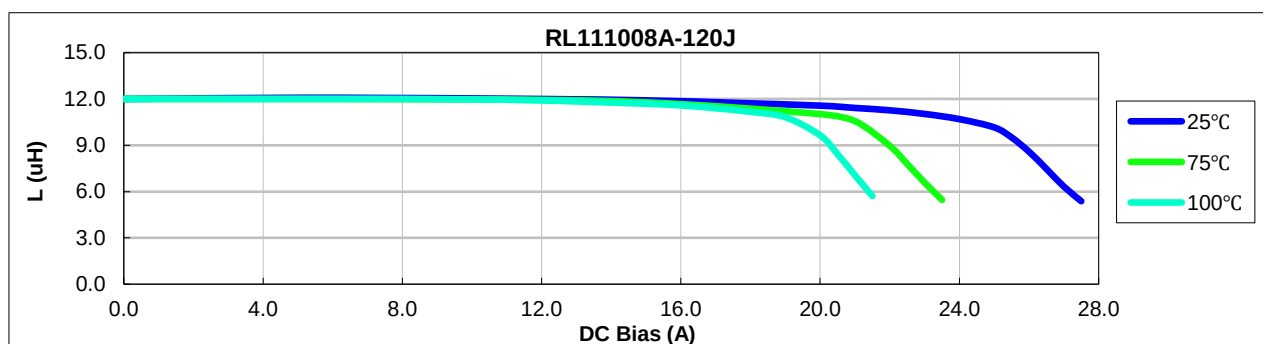
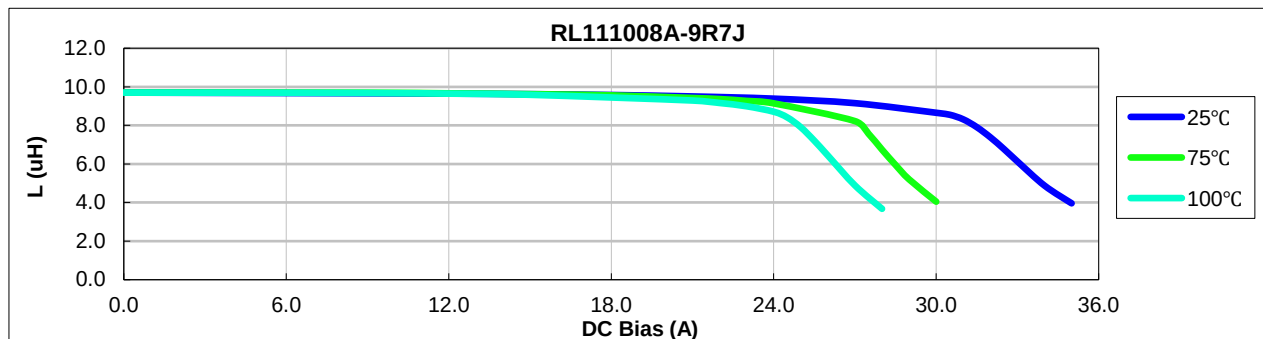
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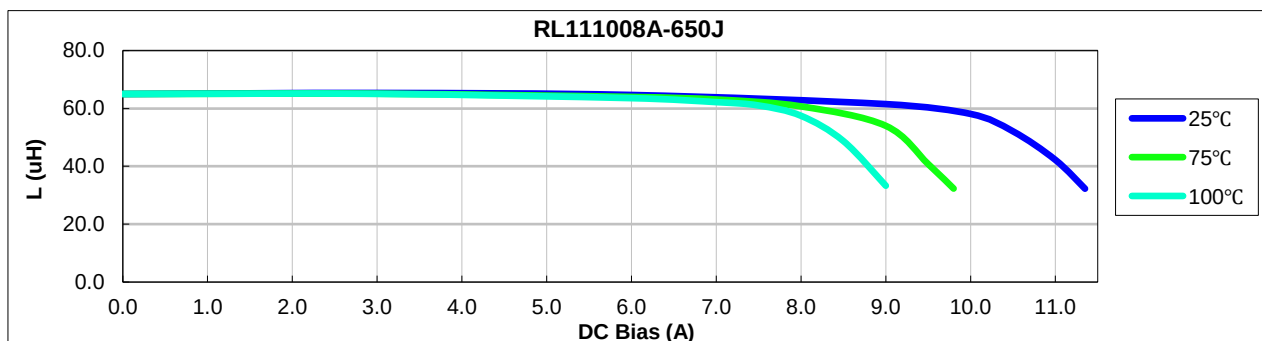
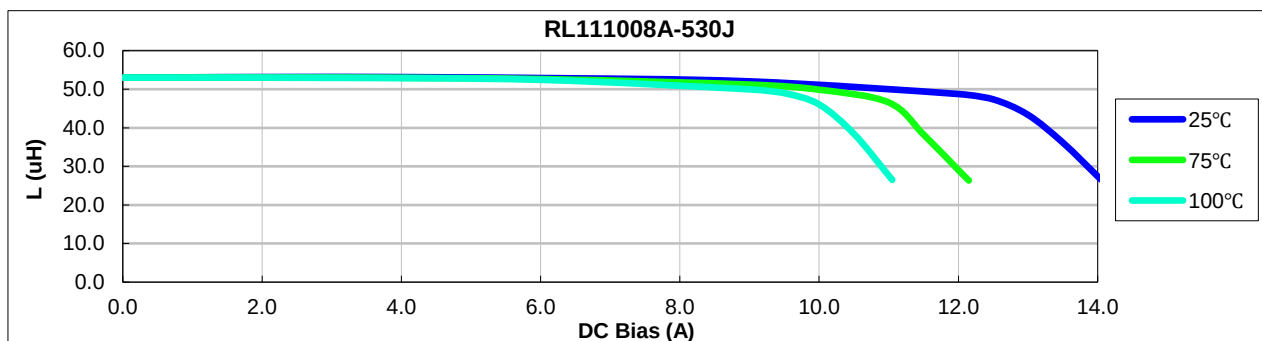
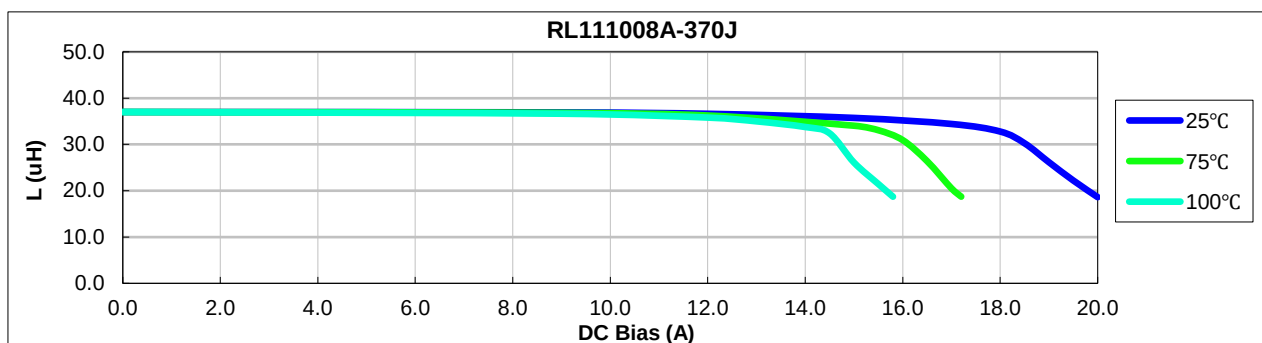
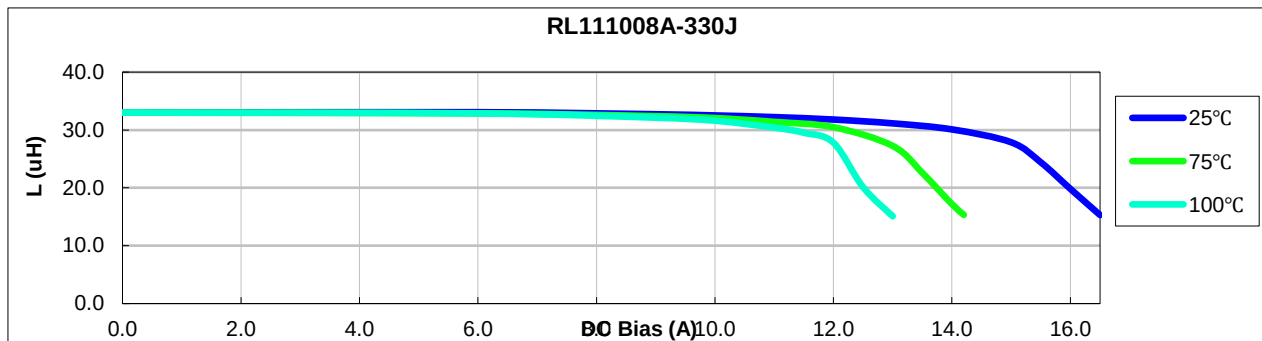
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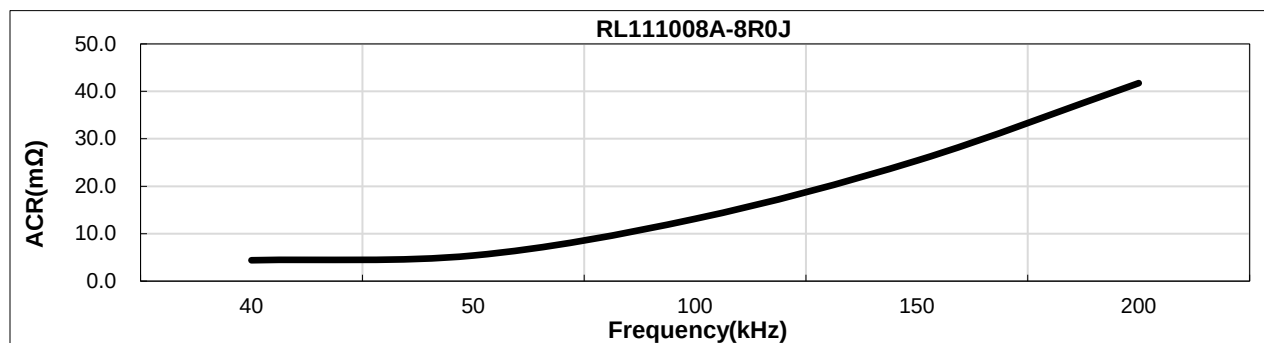
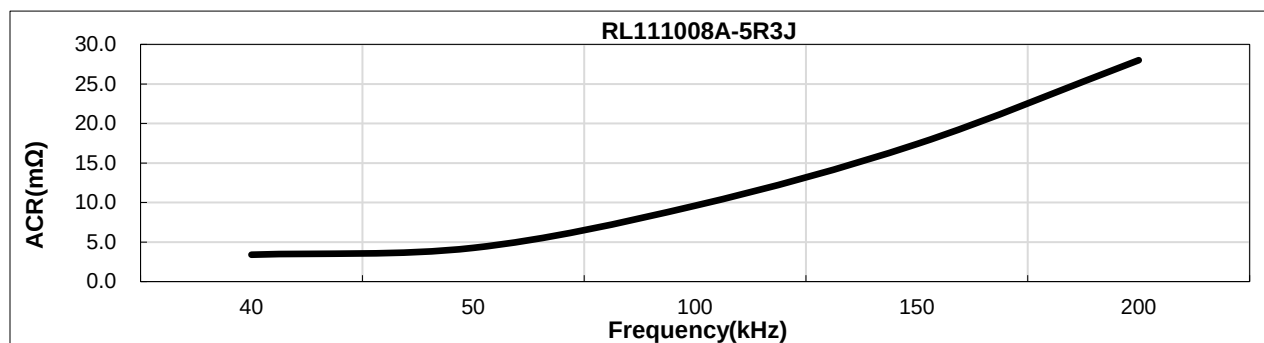
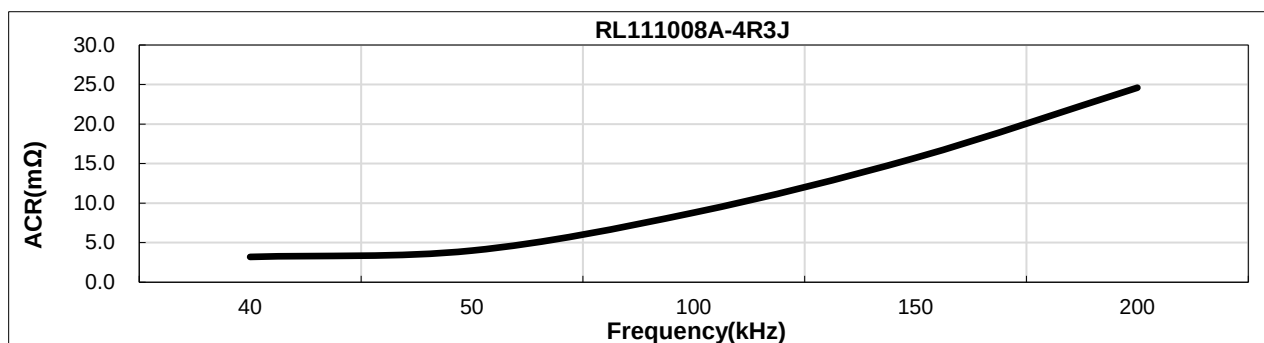
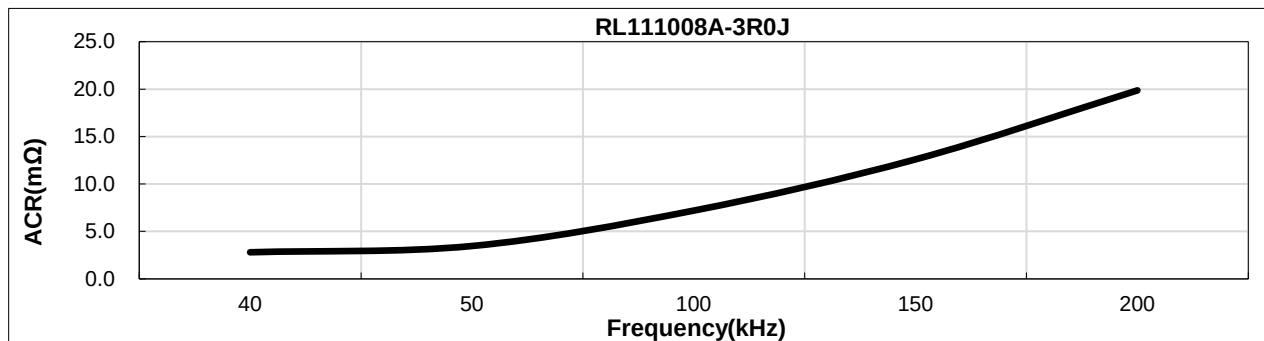
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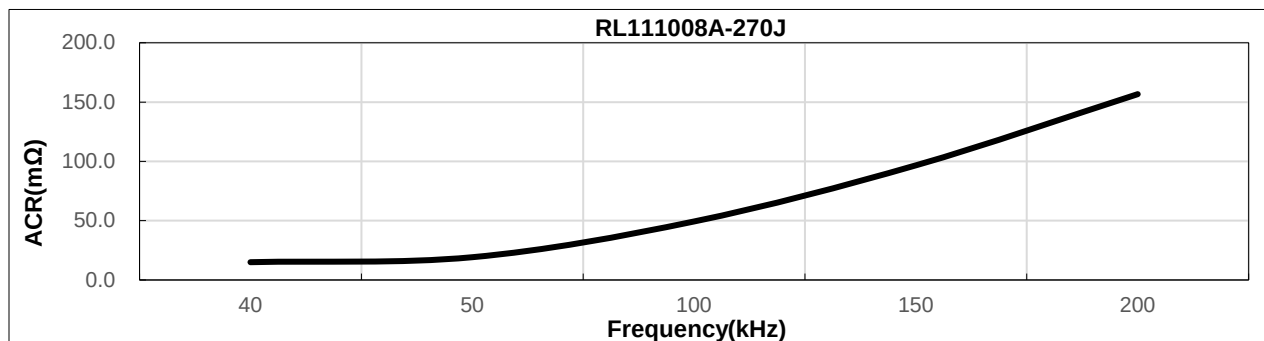
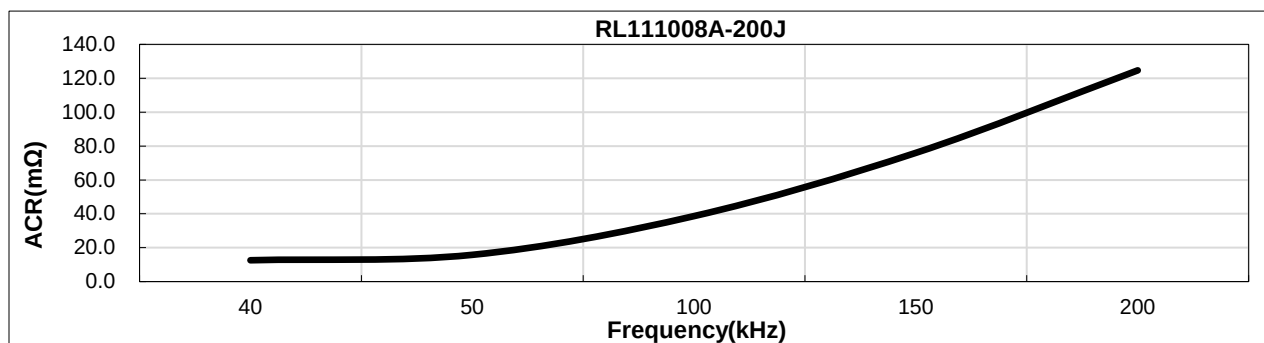
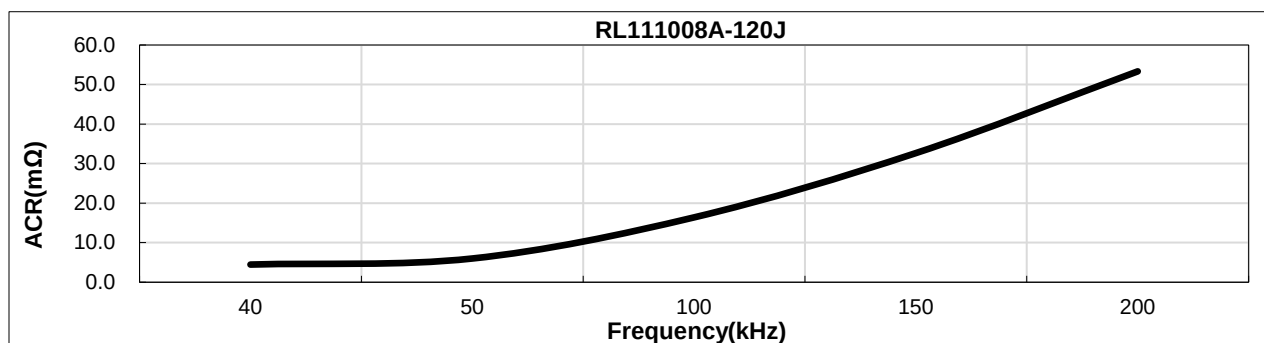
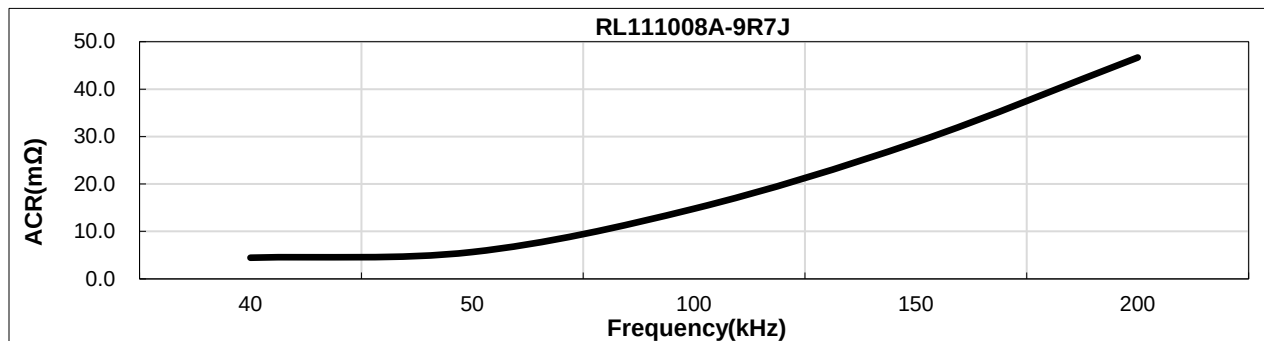
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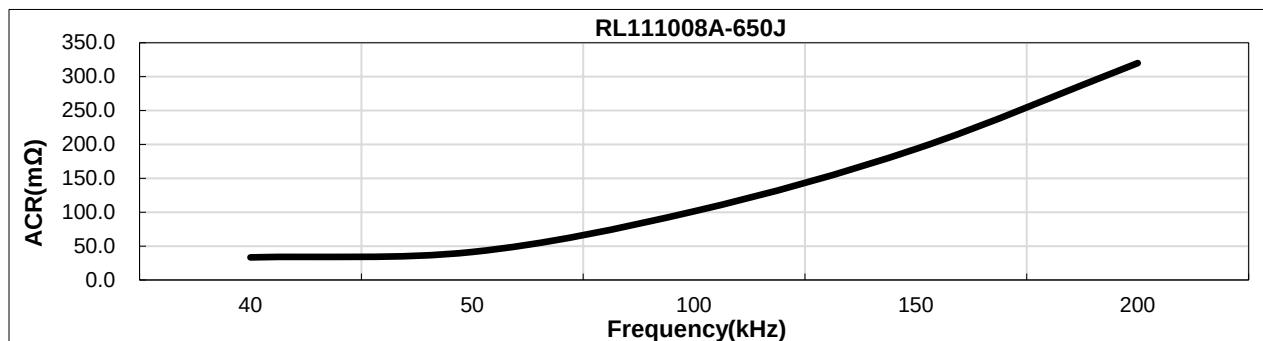
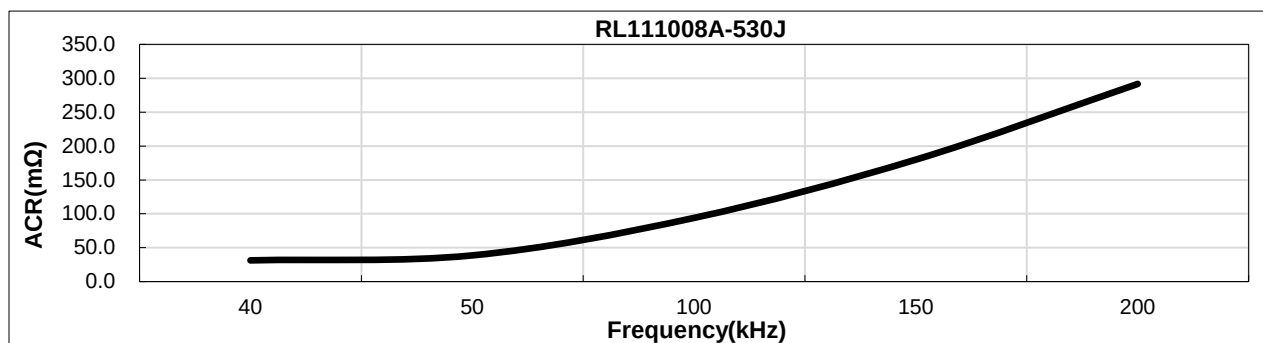
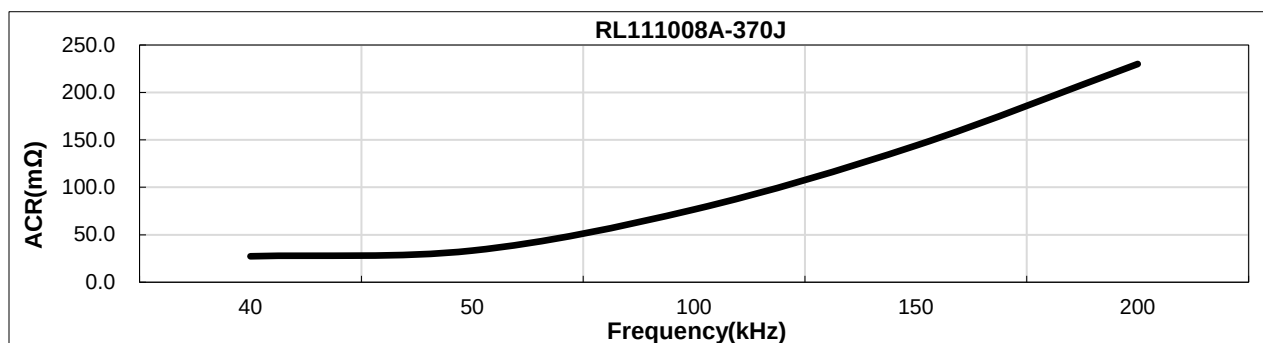
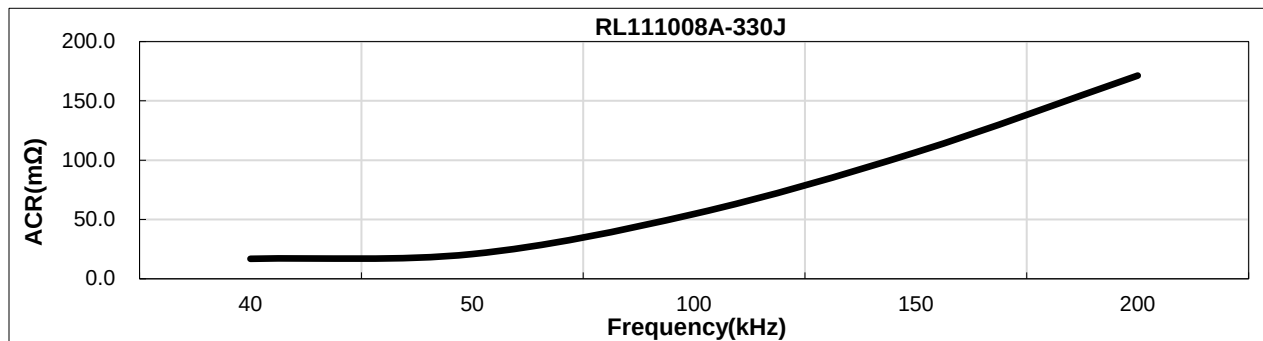
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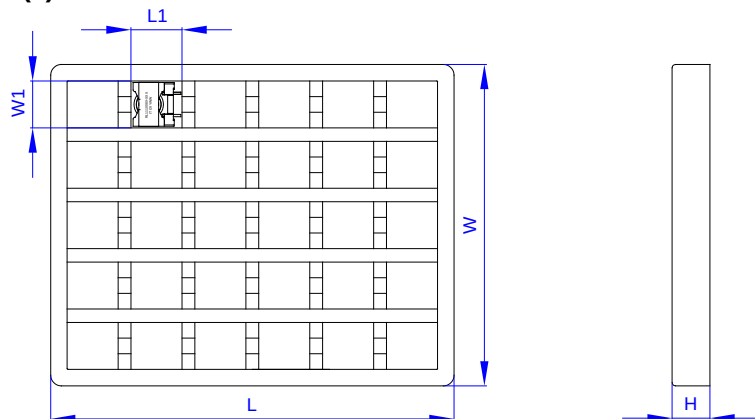


5. Inductance Characteristics (ACR vs Frequency):



1.RELIABILITY TEST:

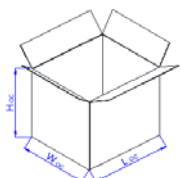
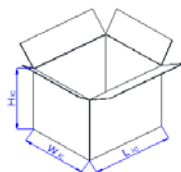
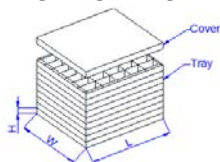
(1).ENCAPSULATION MODE:



(2).DIMENSION(mm):

Dimension	L (mm)	W (mm)	H (mm)	L1 (mm)	W1 (mm)	Quantity per tray	Material
Tolerance	Typ.	Typ.	Typ.	Typ.	Typ.	pcs.	/
Value	245	195	23.0	31	28.5	30	PET

(3).PACKAGE MODE:



(4).PACKAGING LIST:

1.Tray

/	L (mm)	W (mm)	H (mm)	Quantity per tray	No. of tray	Material
Tolerance	Typ.	Typ.	Typ.	pcs.	pcs.	/
Value	245	195	23.0	30	8	PET

2.Inner Carton

/	L _{IC} (mm)	W _{IC} (mm)	H _{IC} (mm)	Total quantity	Material
Tolerance	Typ.	Typ.	Typ.	pcs.	/
Value	260	210	217	240	Paper(A=B)

3.Inner Carton

/	L _{OC} (mm)	W _{OC} (mm)	H _{OC} (mm)	Total quantity	Material
Tolerance	Typ.	Typ.	Typ.	pcs.	/
Value	275	232	255	240	Paper(A=A)

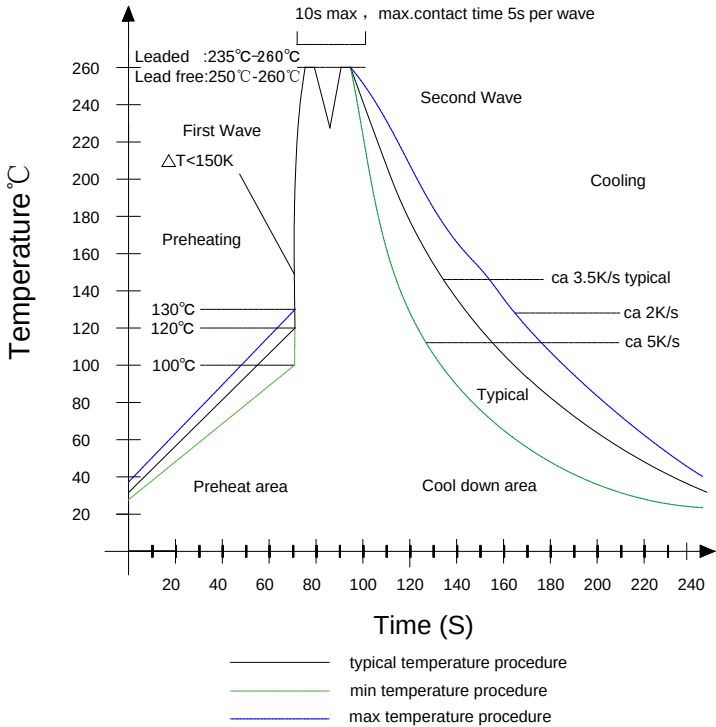
(5).WEIGHT: N.W: 41.00g/pcs TOTAL 9.84Kg(APPROX),G.W:TOTAL 11.34Kg (APPROX).

(6).Storage conditions: -10°C~40°C, 70%RH (Max.).

1.RELIABILITY TEST:

TEST ITEMS	SPECIFICATIONS	TEST METHOD AND REMARKS
Solderability	The electrodes shall be at least 95% covered with new solder coating	According to IEC68-2-20 Method T(Tb) 1. Soldering temperature:260±5°C 2. Solder: 99.3%Sn/0.7%Cu 3. Flux: Rosin 4. Immersion time:5±1Sec
Resistance to solder heat	1. Appearance : no damage 2. Inductance change:within±10%of initial value	According to MIL-STD-202Method210 1. Preheat temperature150°C 2. Preheat time:1min 3. Solder temperature260±5°C 4. Dipping time:10±1Sec 5. Measured at room temperature after placing for 24hours
Humidity resistance	1. Appearance : no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-3 Method Ca 1. Temp:40±2°C 2. Humidity:93 +2/-3%RH 3. Test time:500±2H 4. The component should be stabilized at normal condition for24 Hours before test
High temperature resistance	1. Appearance : no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-2 Method B(Bd) 1. Temperature:85±3°C 2. Test time:500+24H/-0H 3. The component should be stabilized at normal condition for 24hours before test
Low Temperature resistance	1. Appearance : no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-1 Method A(Ad); 1. Temperature:-40±3°C 2. Test time:500+24H/-0H 3. The component should be stabilized at normal condition for 24hours before test
Temperature cycles	1. Appearance : no damage 2. All Electrical and mechanical parameters within tolerance	According to IEC68-2-14 Method N(Nb); 1. Low-temp:-40±3°C duration 30min 2. room -temp:25±2°C duration 3H 3. High-temp:85±3°C duration 30min 4. room-temp:25±2°C duration3H 5. Number of cycle:10 cycles 6. The component should be stabilized at normal condition for 24hours before test

Wave Soldering Chart

Stage	Precaution	Recommended temperature profile
Wave soldering	Temperature profile can be referenced after confirming of adhesion , temperature of resistance to soldering heat , component size , soldering etc. sufficient . Note: Refer to the EN 61760-1:2020. You can adjust the temperature and time parameters to get a more suitable installation.	 The chart shows Temperature (°C) on the Y-axis (20 to 260) versus Time (S) on the X-axis (20 to 240). It illustrates the temperature profile for wave soldering, including preheating, first and second waves, and cooling. Key parameters include: - Leaded: 235°C-260°C - Lead free: 250°C-260°C 10s max, max.contact time 5s per wave - First Wave: $\Delta T < 150K$ - Preheating: 100°C, 120°C, 130°C - Second Wave: ca 3.5K/s typical, ca 2K/s, ca 5K/s - Cooling: Typical - Preheat area: 20-80s - Cool down area: 80-240s