FEATURES

- Metal material for large current and low loss.
- High performance (Isat) realized by metal dust core.
- Low loss realized with low Rdc.
- Closed magnetic circuit design reduces leakage flux.
- Vinyl thermal spray, better surface compactness.
- Operating Temp：-55℃~+125℃(Including self heating)



APPLICATIONS

- DC/DC converters, Pad, Smart phone,Notebooks, VR, AR.
- Portable gaming devices, Smart wear, Wi-Fi module, LCD displays, HDDs, DVCs, DSCs, etc
- Baseband power supply, Amplifier, Power management, Module power supply, Camera power Management.

PART NUMBERING

AWLU	0420	F	-	R47	M	P	A
①	②	③		④	⑤	⑥	⑦

① Series Name	
AWLU	Molded SMD Power Inductors

③ Feature Type
F Type

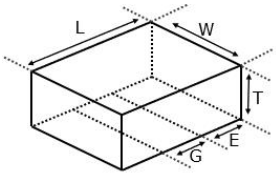
④ Inductance	
Code (example)	Nominal inductance［μH］
R47	0.47
1R0	1.0
100	10

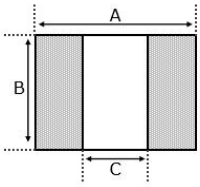
⑤ Inductance Tolerance	
M	±20%

⑥ Coating Color Code	
P	Black
G	Gray
⑦ Design Code	
Routine	A
Special	B~Y

② External Dimensions [LxWxT mm]			
0412	4.1x4.1x1.2	0660	6.2x6.0x6.0
0415	4.1x4.1x1.5	6615	6.4x6.6x1.5
0420	4.1x4.1x2.0	6620	6.4x6.6x2.0
0421	4.1x4.1x2.1	6630	6.4x6.6x3.0
0430	4.1x4.1x3.0	0715	7.2x7.0x1.5
0512	5.2x5.0x1.2	0720	7.2x7.0x2.0
0520	5.2x5.0x2.0	0730	7.2x7.0x3.0
0524	5.2x5.0x2.4	0740	7.2x7.0x4.0
0528	5.2x5.0x2.8	0750	7.2x7.0x5.0
0530	5.2x5.0x3.0	0760	7.2x7.0x6.0
0531	5.2x5.0x3.1	1030	10.2x10.0x3.0
0540	5.2x5.0x4.0	1040	10.2x10.0x4.0
5524	5.3x5.5x2.4	1050	10.2x10.0x5.0
5530	5.3x5.5x3.0	1060	10.2x10.0x6.0
0630	6.2x6.0x3.0	1230	12.2x12.0x3.0
0631	6.2x6.0x3.1	1260	12.2x12.0x6.0
0640	6.2x6.0x4.0	1265	12.2x12.0x6.5
0650	6.2x6.0x5.0		

DIMENSIONS & RECOMMENDED LAND PATTERN





Recommended Land Pattern

Unit: mm

Series	Dimensions					Recommended Land Pattern		
	L	W	T	G	E	A	B	C
	±0.2	±0.2	Max.	±0.2		Typ.	Typ.	Typ.
AWLU0412F	4.10	4.10	1.20	1.30	1.40±0.2	4.10	4.10	1.10
AWLU0415F	4.10	4.10	1.50	1.30	1.40±0.2	4.10	4.10	1.10
AWLU0420F	4.10	4.10	2.00	1.30	1.40±0.2	4.10	4.10	1.10
AWLU0421F	4.10	4.10	2.10	1.30	1.40±0.2	4.10	4.10	1.10
AWLU0430F	4.10	4.10	3.00	1.30	1.40±0.2	4.10	4.10	1.10
AWLU0512F	5.20	5.00	1.20	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0520F	5.20	5.00	2.00	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0524F	5.20	5.00	2.40	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0528F	5.20	5.00	2.80	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0530F	5.20	5.00	3.00	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0531F	5.20	5.00	3.10	2.00	1.60±0.2	5.50	5.30	1.60
AWLU0540F	5.20	5.00	4.00	2.00	1.60±0.2	5.50	5.30	1.60
AWLU5524F	5.30	5.50	2.40	1.90	1.80±0.3	5.60	6.00	1.30
AWLU5530F	5.30	5.50	3.00	1.90	1.80±0.3	5.60	6.00	1.30
AWLU0630F	6.20	6.00	3.00	2.60	1.80±0.2	6.50	6.30	2.00
AWLU0631F	6.20	6.00	3.10	2.60	1.80±0.2	6.50	6.30	2.00
AWLU0640F	6.20	6.00	4.00	2.60	1.80±0.2	6.50	6.30	2.00
AWLU0650F	6.20	6.00	5.00	2.60	1.80±0.2	6.50	6.30	2.00
AWLU0660F	6.20	6.00	6.00	2.60	1.80±0.2	6.50	6.30	2.00
AWLU6615F	6.40	6.60	1.50	2.40	2.00±0.3	6.80	7.00	2.00
AWLU6620F	6.40	6.60	2.00	2.40	2.00±0.3	6.80	7.00	2.00
AWLU6630F	6.40	6.60	3.00	2.40	2.00±0.3	6.80	7.00	2.00
AWLU0715F	7.20	7.00	1.50	2.60	2.30±0.2	7.50	7.30	2.40
AWLU0720F	7.20	7.00	2.00	2.60	2.30±0.2	7.50	7.30	2.40
AWLU0730F	7.20	7.00	3.00	2.60	2.30±0.2	7.50	7.30	2.40
AWLU0740F	7.20	7.00	4.00	2.60	2.30±0.2	7.50	7.30	2.40
AWLU0750F	7.20	7.00	5.00	2.60	2.30±0.2	7.50	7.30	2.40
AWLU0760F	7.20	7.00	6.00	2.60	2.30±0.2	7.50	7.30	2.40
AWLU1030F	10.2	10.0	3.00	3.60	3.30±0.2	10.50	10.30	3.20
AWLU1040F	10.2	10.0	4.00	3.60	3.30±0.2	10.50	10.30	3.20
AWLU1050F	10.2	10.0	5.00	3.60	3.30±0.2	10.50	10.30	3.20
AWLU1060F	10.2	10.0	6.00	3.60	3.30±0.2	10.50	10.30	3.20
AWLU1230F	12.2	12.0	3.00	4.60	3.80±0.2	12.50	12.30	3.60
AWLU1260F	12.2	12.0	6.00	4.60	3.80±0.2	12.50	12.30	3.60
AWLU1265F	12.2	12.0	6.50	4.60	3.80±0.2	12.50	12.30	3.60

ELECTRICAL CHARACTERISTICS

- AWLU04xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU0412F-R22MPA	0.22	±20%	7.5	14.00	15.00	13.00	14.00
AWLU0412F-R47MPD	0.47	±20%	8.5	10.00	11.00	11.00	12.00
AWLU0415F-R10MGA	0.1	±20%	2.2	27.00	30.00	26.00	29.00
AWLU0415F-R12MGA	0.12	±20%	2.3	25.00	27.00	15.00	17.00
AWLU0415F-R47MPA	0.47	±20%	7	12.00	13.00	12.00	13.00
AWLU0415F-1R0MPA	1	±20%	15	8.00	9.00	10.00	11.00
AWLU0420F-R10MPA	0.1	±20%	1.6	30.00	35.00	30.50	34.00
AWLU0420F-R12MPA	0.12	±20%	1.7	29.00	31.00	30.50	34.00
AWLU0420F-R15MPA	0.15	±20%	2.2	24.00	28.00	25.50	28.50
AWLU0420F-R22MPA	0.22	±20%	2.7	19.00	20.00	19.00	20.00
AWLU0420F-R33MPD	0.33	±20%	3.85	17.00	18.00	17.50	18.00
AWLU0420F-R33MPB	0.33	±20%	3.3	18.00	19.00	20.50	23.00
AWLU0420F-R47MPB	0.47	±20%	4.8	14.20	15.20	16.00	17.00
AWLU0420F-R47MPD	0.47	±20%	4.9	14.00	15.00	16.00	17.00
AWLU0420F-R56MPA	0.56	±20%	5.6	13.00	14.00	16.50	18.50
AWLU0420F-R68MPA	0.68	±20%	6.2	12.00	13.00	13.00	14.00
AWLU0420F-R82MPA	0.82	±20%	8	11.00	12.00	12.00	13.00
AWLU0420F-1R0MPD	1	±20%	9	9.50	11.00	11.50	12.50
AWLU0420F-1R2MPA	1.2	±20%	12	9.00	10.00	9.00	10.00
AWLU0420F-1R5MGA	1.5	±20%	16	8.50	9.50	7.00	8.00
AWLU0420F-3R3MPA	3.3	±20%	28	4.70	5.60	6.50	8.00
AWLU0421F-1R0MPA	1	±20%	8.5	11.00	11.50	11.50	12.50
AWLU0430F-R47MGA	0.47	±20%	4	20.00	24.00	17.00	19.00
AWLU0430F-1R5MGA	1.5	±20%	11.3	10.50	12.50	7.00	8.50
AWLU0430F-2R2MGA	2.2	±20%	17	9.00	11.00	6.50	7.30
AWLU0430F-3R3MGA	3.3	±20%	30	7.00	8.50	5.50	6.50
AWLU0430F-4R7MPA	4.7	±20%	32.4	6.50	7.80	5.90	6.60
AWLU0430F-6R8MGA	6.8	±20%	48	6.00	7.00	4.00	5.00

ELECTRICAL CHARACTERISTICS

● AWLU05xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU0512F-R10MGA	0.1	±20%	2.5	30.00	35.00	20.00	22.00
AWLU0512F-R15MGA	0.15	±20%	5	26.00	30.00	15.30	17.00
AWLU0512F-1R0MGA	1	±20%	18	8.50	9.50	7.50	8.50
AWLU0520F-1R0MGA	1	±20%	8.4	14.00	16.00	13.00	14.00
AWLU0520F-1R5MGA	1.5	±20%	17	10.00	12.00	10.00	13.00
AWLU0520F-2R2MGA	2.2	±20%	29	8.50	9.50	6.50	7.00
AWLU0524F-2R2MGA	2.2	±20%	16	8.00	10.00	7.00	8.50
AWLU0528F-1R5MGA	1.5	±20%	11.2	12.60	14.00	10.60	12.00
AWLU0528F-3R3MGA	3.3	±20%	30	5.00	5.70	5.50	6.50
AWLU0530F-R15MGA	0.15	±20%	1.45	41.00	43.00	24.00	25.00
AWLU0530F-R16MGA	0.16	±20%	1.5	40.00	42.00	23.00	24.00
AWLU0530F-R22MGA	0.22	±20%	1.65	34.00	36.00	20.00	22.00
AWLU0530F-R30MGA	0.3	±20%	1.8	27.00	29.00	21.00	22.00
AWLU0530F-R33MGA	0.33	±20%	2	26.00	28.00	19.00	21.00
AWLU0530F-R47MGA	0.47	±20%	3	23.00	26.00	18.00	21.00
AWLU0530F-R56MGA	0.56	±20%	3.6	21.00	24.00	18.00	20.00
AWLU0530F-R68MGA	0.68	±20%	4.6	18.50	21.00	16.00	19.00
AWLU0530F-1R0MGA	1	±20%	7.6	16.50	19.00	10.00	12.20
AWLU0530F-1R2MGA	1.2	±20%	6	13.50	15.00	11.00	13.00
AWLU0530F-2R2MGA	2.2	±20%	14	10.00	12.00	9.00	10.00
AWLU0530F-3R3MGA	3.3	±20%	27	9.00	10.00	8.00	9.00
AWLU0530F-4R7MGA	4.7	±20%	32	8.00	9.00	6.00	7.00
AWLU0530F-6R8MGA	6.8	±20%	40	7.00	8.00	5.00	6.00
AWLU0531F-1R5MGA	1.5	±20%	11	10.60	11.00	12.60	14.00
AWLU0540F-1R0MGA	1	±20%	5.5	16.00	18.00	15.00	17.00
AWLU0540F-4R7MGA	4.7	±20%	36	7.00	8.50	5.50	7.00
AWLU0540F-6R8MGA	6.8	±20%	44	7.00	9.00	5.00	7.00
AWLU0540F-220MGA	22	±20%	115	4.00	4.60	2.50	3.30

ELECTRICAL CHARACTERISTICS

AWLU55xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU5524F-R15MGA	0.15	±20%	1.15	41.00	45.00	23.00	27.00
AWLU5524F-R68MGA	0.68	±20%	5	18.00	21.00	14.00	16.00
AWLU5530F-R33MGA	0.33	±20%	2.1	30.00	34.00	18.00	22.00
AWLU5530F-R47MGA	0.47	±20%	2.7	24.00	28.00	16.00	19.00
AWLU5530F-R68MGA	0.68	±20%	4.2	22.00	26.00	14.00	17.00
AWLU5530F-1R5MGA	1.5	±20%	8.6	12.00	15.00	13.00	14.50
AWLU5530F-2R2MGA	2.2	±20%	12	10.00	12.50	8.00	10.00
AWLU5530F-3R3MGA	3.3	±20%	21	8.50	11.00	7.50	9.00

AWLU06xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU0630F-R33MGA	0.33	±20%	2.2	33.00	36.00	16.00	18.00
AWLU0630F-R56MGA	0.56	±20%	2.9	25.00	28.00	14.00	16.00
AWLU0630F-R68MGA	0.68	±20%	4.5	24.00	27.00	13.00	15.50
AWLU0630F-3R3MGA	3.3	±20%	18	11.00	13.50	7.50	9.00
AWLU0630F-4R7MGA	4.7	±20%	19	9.50	11.00	7.00	8.30
AWLU0630F-5R6MGA	5.6	±20%	24	8.00	10.00	5.30	6.20
AWLU0630F-100MGA	10	±20%	58	5.50	6.30	3.70	4.30
AWLU0631F-2R2MGA	2.2	±20%	10	12.20	14.00	11.00	12.00
AWLU0640F-R15MGA	0.15	±20%	1.32	60.00	65.00	30.00	35.00
AWLU0640F-1R0MGA	1	±20%	5.8	18.00	20.00	14.00	16.00
AWLU0640F-2R2MGA	2.2	±20%	7	15.00	18.00	14.00	16.00
AWLU0640F-4R7MGA	4.7	±20%	18	8.50	10.50	8.00	9.50
AWLU0640F-100MGA	10	±20%	42	7.50	9.00	5.30	6.20
AWLU0650F-1R5MGA	1.5	±20%	6.3	19.00	21.00	16.00	18.00
AWLU0650F-3R3MGA	3.3	±20%	8	12.00	14.00	12.00	13.00
AWLU0650F-4R7MGA	4.7	±20%	10.5	10.00	12.00	11.00	12.50
AWLU0650F-8R2MGA	8.2	±20%	23	7.00	7.50	8.00	10.00
AWLU0660F-1R0MGA	1	±20%	3.1	26.00	29.00	18.00	21.00
AWLU0660F-2R2MGA	2.2	±20%	5.4	17.00	20.00	13.00	14.50
AWLU0660F-3R3MGA	3.3	±20%	8.4	13.00	14.00	12.00	13.00
AWLU0660F-4R7MGA	4.7	±20%	10.8	11.50	13.00	11.50	12.80
AWLU0660F-150MGA	15	±20%	43.5	5.00	5.80	4.50	6.00
AWLU0660F-220MGA	22	±20%	60	4.80	5.60	3.80	5.00

ELECTRICAL CHARACTERISTICS

AWLU66xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU6615F-1R0MPA	1	±20%	12.5	12.00	15.00	10.00	12.00
AWLU6620F-R15MGA	0.15	±20%	1.3	39.00	43.00	32.00	37.00
AWLU6630F-1R0MGA	1	±20%	6	22.00	24.00	13.00	15.00

AWLU07xx Series

Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU0715F-R68MGA	0.68	±20%	10.5	14.50	16.00	10.00	11.00
AWLU0715F-2R2MGA	2.2	±20%	36	6.30	6.80	5.00	5.50
AWLU0715F-100MGA	10	±20%	145	3.50	3.80	2.50	3.00
AWLU0720F-1R5MGA	1.5	±20%	12	15.00	16.00	10.00	11.00
AWLU0720F-2R2MGA	2.2	±20%	15	10.50	12.00	9.00	11.00
AWLU0730F-R47MGA	0.47	±20%	3.2	31.00	33.00	27.00	28.00
AWLU0730F-R68MPA	0.68	±20%	4	26.00	28.00	23.00	24.00
AWLU0730F-1R0MGA	1	±20%	4.5	21.00	26.00	17.00	20.00
AWLU0730F-1R5MGA	1.5	±20%	8.3	19.00	22.00	12.00	15.00
AWLU0730F-2R2MGA	2.2	±20%	13	18.00	21.00	10.00	13.00
AWLU0730F-3R3MPA	3.3	±20%	15	12.00	14.00	9.50	12.00
AWLU0730F-4R7MGA	4.7	±20%	19	9.50	12.00	8.50	10.00
AWLU0730F-100MGA	10	±20%	45	6.50	8.00	5.00	6.00
AWLU0730F-220MGA	22	±20%	120	4.50	5.50	3.30	3.80
AWLU0740F-R22MGA	0.22	±20%	1.05	45.00	50.00	28.00	32.00
AWLU0740F-4R7MPA	4.7	±20%	16.5	13.50	14.50	8.00	9.00
AWLU0750F-1R0MGA	1	±20%	3.2	29.00	32.00	19.00	20.00
AWLU0750F-2R2MGA	2.2	±20%	6.6	23.00	26.00	17.00	20.00
AWLU0750F-4R7MGA	4.7	±20%	12.5	14.50	17.00	12.00	13.00
AWLU0750F-100MGA	10	±20%	26	9.00	11.00	8.00	9.00
AWLU0750F-220MPA	22	±20%	60.5	6.50	7.50	4.50	5.00
AWLU0750F-470MGA	47	±20%	140	4.50	5.30	3.00	3.30
AWLU0760F-4R7MGA	4.7	±20%	14.5	16.00	18.00	12.00	13.00
AWLU0760F-6R8MGA	6.8	±20%	17	13.00	15.00	8.00	9.50

ELECTRICAL CHARACTERISTICS

- AWLU10xx Series

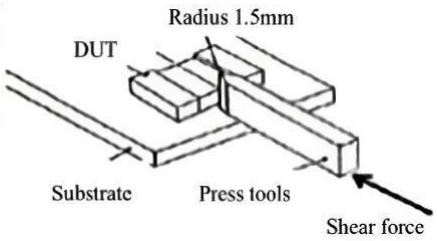
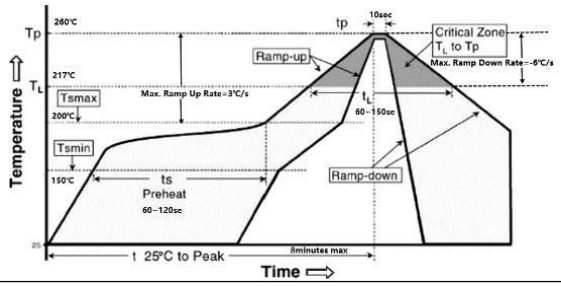
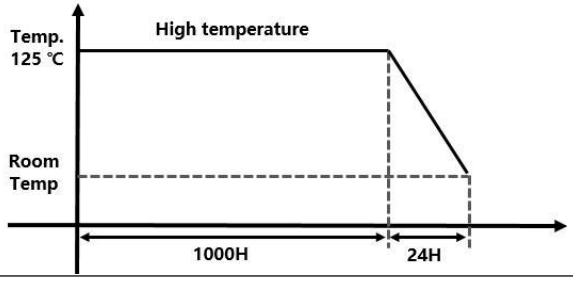
Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU1030F-3R3MGA	3.3	±20%	12	15.00	16.00	15.00	16.00
AWLU1030F-4R7MGA	4.7	±20%	18	13.00	14.00	12.00	13.00
AWLU1030F-6R8MGA	6.8	±20%	25	10.00	11.00	10.00	11.00
AWLU1030F-100MGA	10	±20%	38	9.00	10.00	7.00	8.00
AWLU1040F-R47MGA	0.47	±20%	1.3	40.00	42.00	30.00	32.00
AWLU1040F-1R0MGA	1	±20%	3	30.00	32.00	24.00	26.00
AWLU1040F-2R2MGA	2.2	±20%	6	23.00	25.00	16.00	17.00
AWLU1040F-3R3MGA	3.3	±20%	7.8	19.00	21.00	15.00	16.00
AWLU1040F-4R7MGA	4.7	±20%	12.5	17.00	19.00	13.00	14.00
AWLU1040F-6R8MGA	6.8	±20%	16	14.00	15.00	11.00	12.00
AWLU1040F-100MGA	10	±20%	19.5	10.00	13.00	9.00	11.00
AWLU1040F-220MGA	22	±20%	51	5.50	6.50	5.50	6.50
AWLU1050F-1R0MPA	1	±20%	2.2	32.00	34.00	26.00	28.00
AWLU1050F-2R2MGA	2.2	±20%	4.2	29.00	32.00	25.00	28.00
AWLU1050F-3R3MGA	3.3	±20%	6.5	22.00	24.00	17.00	18.00
AWLU1050F-4R7MGA	4.7	±20%	8	19.00	21.00	15.00	16.00
AWLU1050F-100MPA	10	±20%	20	10.00	11.00	11.00	12.00
AWLU1050F-220MGA	22	±20%	38	8.00	9.50	7.50	9.00
AWLU1060F-100MPA	10	±20%	15	16.00	20.00	12.00	14.00

- AWLU12xx Series

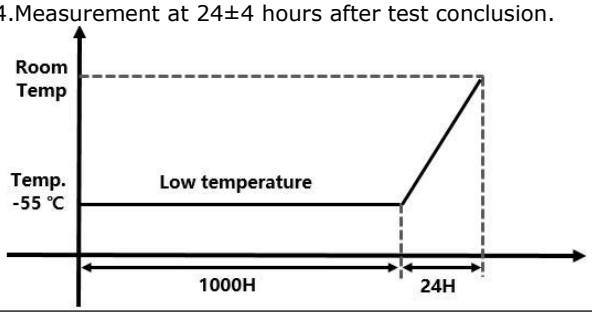
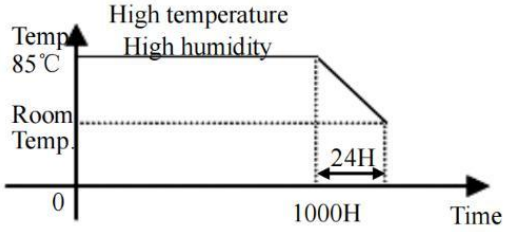
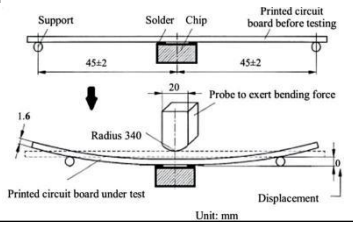
Part Number	Inductance	Inductance Tolerance	DC Resistance	Saturation Current		Heat Rating Current	
	@1MHz,1V		Max.	Max.	Typ.	Max.	Typ.
Unit	μH	-	mΩ	A		A	
Symbol	L	-	DCR	Isat		Irms	
AWLU1230F-1R0MGA	1	±20%	3	32.00	35.00	24.00	28.00
AWLU1230F-1R5MGA	1.5	±20%	4.2	28.00	32.00	21.00	24.00
AWLU1230F-2R2MGA	2.2	±20%	5.5	25.00	28.00	18.00	20.00
AWLU1260F-100MPA	10	±20%	12	13.00	15.00	12.00	15.00
AWLU1260F-220MGA	22	±20%	25	10.00	12.00	12.00	14.00
AWLU1265F-3R3MGA	3.3	±20%	4.5	30.00	33.00	18.00	20.00

- All test data is referenced to 25 ℃ ambient.
- Irms:DC current (A) that will cause an approximate △T of 40 ℃.
- Isat:DC current (A) that will cause L0 to drop approximately 30%.
- The rated current as listed is either the saturation current or the heating current depending on which value is lower.

RELIABILITY TEST

Item	Requirements	Test Methods and Remarks
1. Solderability	1.No case deformation or change in appearance. 2.Terminal area must have 95% min. Solder coverage.	1.Temperature:245± 5℃. 2.Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free). 3.Sample immersion tin furnace 5 ±0.5s.
2. Adhesion of teral electrode	1.Strong bond between the pad and the core, without come off PCB.	1.Preconditioning：245℃Reflow 3 times 2.Inductors shall be subjected to (260+0/-5℃.)℃ for (10±5)s Soldering in the base whit 0.3mm solder. 3.Apply electrode way plus tax X N for (10±1) seconds. 
3. Reflow test	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.The peak temperature: 260+0/-5℃. 2.Reflow:3times. 3.Temperature curve is as below. 
4. High temperature	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning: Bake at 125+5℃ for 24±0.5H, 245℃Reflow 3 times 2.Temperature: 125±2℃. 3.Time ：1000 hours. 4.Measurement at 24±4 hours after test conclusion. 

RELIABILITY TEST

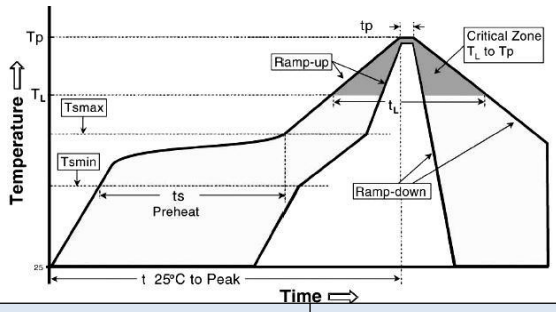
Item	Requirements	Test Methods and Remarks
5. Low temperature	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning: Bake at 125+5℃ for 24±0.5H，245℃Reflow 3 times 2.Temperature: -55±2℃. 3.Time：1000 hours. 4.Measurement at 24±4 hours after test conclusion. 
6. Thermal shock	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning: Bake at 125+5℃ for 24±0.5H，245℃Reflow 3 times 2.Repeat 500 cycle as follow： (-55±2 ℃ ,30±3minutes) (Room temperature, 5 minutes) (+125 ± 2 ℃ ,30 ± 3minutes) (Room temperature, 5 minutes) 3.Measurement at 24±4 hours after test conclusion.
7. Resistance to Soldering Heat	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Solder Composition: Sn/Ag3.0/Cu0.5(Pb-Free). 2.Solder Temperature: 260±5℃. 3.Immersion Time: 10±1sec.
8. Static Humidity	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning: Bake at 125+5℃ for 24±0.5H，245℃Reflow 3 times 2.1000 hours, 85°C/85%RH. 3.Unpowered. 4.Measurement at 24±4 hours after test conclusion. 
9. Board Flex	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning：245℃Reflow 3 times 2.Part mounted on a 100mm*40mm FR4 PCB board, which is 1.6±0.2 mm thick and as a Layer-thickness 35μm ± 10 μm. 3.Bending speed is 1mm/s. 4.Keeping the P.C Board 2 mm minimum for 60 seconds. 

RELIABILITY TEST

Item	Requirements	Test Methods and Remarks
10. Vibration	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning：245℃Reflow 3 times 2.Frequency range : 10~2000Hz. 3.Amplitude: 1.5mm or 20g. 4.Sweep time and duration: 10~2000~10Hz for 20 minutes. 5.Each four hours in X,Y,Z direction, 12hours in total.
11. Mechanical Shock	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning：245℃Reflow 3 times 2.Peak acceleration:100G/S 3.Duration of pulse:6ms 4.3times in each of 6(±X, ±Y, ±Z) axes.
12. Loading at High Temperature	1.No physical damage. 2.｜ΔL0/L0｜≤10%	1.Preconditioning: Bake at 125+5℃ for 24±0.5H, 245℃Reflow 3 times 2.Temperature: 85±2℃. 3.Time : 1000 hours. 4.Applied Current : Rated current. 5.Measurement at 24±4 hours after test conclusion

SOLDERING CONDITINON

- (This is for recommendation, please customer perform adjustment according to actual application)
- Recommend Reflow Soldering Profile：(solder : Sn96.5 / Ag3 / Cu0.5).

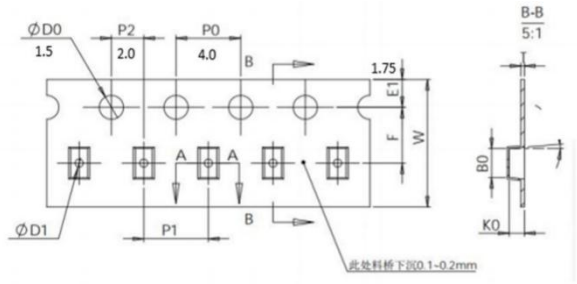


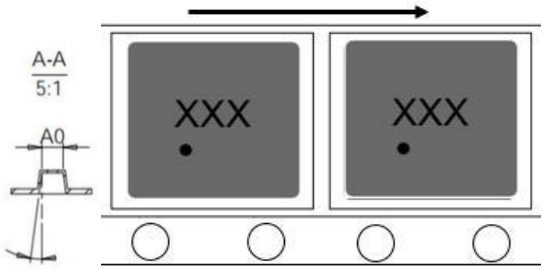
Profile Feature	Lead (Pb)-Free solder
Preheat: Temperature Min (Ts_{min}) Temperature Max (Ts_{max}) Time (Ts_{min} to Ts_{max}) (ts)	150℃ 200℃ 60 -120 seconds
Average ramp-up rate: (Ts max to Tp)	3℃ / second max.
Time maintained above : Temperature (T_L) Time (t_L)	217℃ 60-150 seconds
Peak Temperature (Tp)	260℃
Time within $^{+0}_{-5}$℃ of actual peak Temperature $(tp)^2$	10 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8minutes max.

- Allowed Re-flow times : 2 times
- Remark : To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow Furnace.

PACKAGING

- Dimension of plastic taping: (Unit: mm)
  The following dimensions are related to the actual fit of the machine，for reference only.
- 0412-1030 Series





Series	W	A0	B0	D1	F	K0	P1	T	Packing Quantity
Tolerance	/	/	/	±0.20	±0.10	/	±0.10	±0.05	
0412	12.0±0.30	4.40±0.10	4.40±0.10	1.50	5.50	1.30±0.10	8.0	0.30	3K
0415	12.0±0.30	4.40±0.10	4.40±0.10	1.50	5.50	1.70±0.10	8.0	0.30	
0420	12.0±0.30	4.40±0.10	4.40±0.10	1.50	5.50	2.20±0.10	8.0	0.30	
0421	12.0±0.30	4.40±0.10	4.40±0.10	1.50	5.50	2.20±0.10	8.0	0.30	
0430	12.0±0.30	4.40±0.10	4.40±0.10	1.50	5.50	3.20±0.10	8.0	0.35	2K
0512	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	1.45±0.10	8.0	0.35	3K
0520	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	2.25±0.10	8.0	0.35	2K
0524	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	2.6±0.10	8.0	0.35	
0528	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	3.05±0.10	8.0	0.35	
0530	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	3.25±0.10	8.0	0.35	
0531	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	3.25±0.10	8.0	0.35	
0540	12.0±0.30	5.20±0.10	5.40±0.10	1.50	5.50	4.25±0.10	8.0	0.35	1.5K
5524	16.0±0.30	5.70±0.10	5.50±0.10	1.50	7.50	2.6±0.10	12.0	0.35	2.5K
5530	16.0±0.30	5.70±0.10	5.50±0.10	1.50	7.50	3.2±0.10	12.0	0.40	2K
0630	16.0±0.30	6.20±0.10	6.40±0.10	1.50	7.50	3.35±0.10	12.0	0.35	1K
0631	16.0±0.30	6.20±0.10	6.40±0.10	1.50	7.50	3.35±0.10	12.0	0.35	
0640	16.0±0.30	6.20±0.10	6.40±0.10	1.50	7.50	4.25±0.10	12.0	0.35	
0650	16.0±0.30	6.20±0.10	6.40±0.10	1.50	7.50	5.25±0.10	12.0	0.50	0.8K
0660	16.0±0.30	6.20±0.10	6.40±0.10	1.50	7.50	6.25±0.10	12.0	0.50	0.6K
6615	16.0±0.30	6.80±0.10	6.60±0.10	1.50	7.50	1.7±0.10	12.0	0.35	2.5K
6620	16.0±0.30	6.80±0.10	6.60±0.10	1.50	7.50	2.2±0.10	12.0	0.35	2K
6630	16.0±0.30	6.80±0.10	6.60±0.10	1.50	7.50	3.2±0.10	12.0	0.35	1K
0715	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	1.7±0.10	12.0	0.40	2K
0720	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	2.20±0.10	12.0	0.40	1.5K
0730	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	3.20±0.10	12.0	0.40	1K
0740	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	4.20±0.10	12.0	0.40	
0750	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	5.20±0.10	12.0	0.40	
0760	16.0±0.30	7.20±0.10	7.40±0.10	1.50	7.50	6.20±0.10	12.0	0.50	0.8K
1030	24.0±0.30	10.50±0.10	10.50±0.10	1.50	11.5	3.20±0.10	16.0	0.40	1K

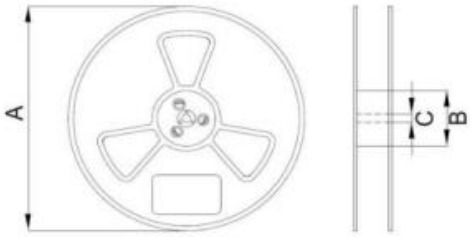
PACKAGING

- 1040-1265 Series

Series	W	A0	B0	D1	F	K0	P1	T	Packing Quantity
Tolerance	/	/	/	±0.20	±0.10	/	±0.10	±0.05	
1040	24.0±0.30	10.50±0.10	10.50±0.10	1.50	11.5	4.20±0.10	16.0	0.40	0.5K
1050	24.0±0.30	10.20±0.10	10.40±0.10	1.50	11.5	5.20±0.10	16.0	0.40	
1060	24.0±0.30	10.20±0.10	10.40±0.10	1.50	11.5	6.20±0.10	16.0	0.40	
1230	24.0±0.30	12.20±0.10	12.40±0.10	1.50	11.5	3.20±0.10	16.0	0.50	0.5K
1260	24.0±0.30	12.20±0.10	12.40±0.10	1.50	11.5	6.20±0.10	16.0	0.50	
1265	24.0±0.30	12.20±0.10	12.40±0.10	1.50	11.5	6.70±0.10	16.0	0.50	

- Dimension of Reel：(Unit: mm)
- Packing size "W=8mm" using 178mm Reel
- Packing size "W⩾12mm" using 330mm Reel

Type	A±2.0	B±2.0	C±2.0
All	178	60	13
Type	A±2.0	B±2.0	C±2.0
All	330	100	13



PRECAUTIONS

- 1.Storage Conditions
  Store products in a warehouse in compliance with the following condition:
  Temperature：Inductors (product with taping) +15 to +35℃；Humidity：25~70%RH.
  If the product is not used up 24H after opening, desiccant should be placed in the package and sealed
- 2.Do not subject products to rapid changes in temperature and humidity.
- 3.Do not store the products in chemical atmosphere such as one containing sulfurous acid gas or alkaline gas, that will causes poor solderability and corrosion of inductors.
- 4.Do not store products in bulk packaging to prevent collision among inductors which causes core chipping and wire breakage.
- 5.Store products on pallets to protect from humidity, dust, etc.
- 6.Avoid heat shock, vibration, direct sunlight, etc.
- 7.When designing the PCB, please consider the installation position of the non-magnetic shielded components to avoid failures caused by magnetic interference.
- 8.Do not place this product near magnets or objects with magnetic force.
- 9.The product will self-heat (temperature rise) due to power-on, and sufficient margin should be left in thermal design.
- 10.Mounting density
  If this product is placed near heat-generating products, be sure to implement sufficient heat-dissipating measures. If this product is subjected to a significant amount of heat from other products, this could adversely affect product quality, resulting in a circuit malfunction or failure of the mounted section. Also, be sure that the product is used in a manner so that the heat that the product is subjected to from other products does not exceed the upper limit of the rated operating temperature for the product.
- 11.Since the static electricity carried by the human body will be transmitted to the ground wire, please use an anti-static wrist strap.
- 12.Grease on human hands may lead to decreased solderability. Please avoid direct contact with the terminals.
- 13.This product refers to the general standard used in audio-visual entertainment, home appliances, computers,office automation, communications, power modules, LED lighting, measuring equipment.Machine tools, industrial control panels and other general electronic equipment. And the general electronicequipment should be used under the usual operation and usage methods.
- 14.Reworking with soldering iron

ITEM	Requirement
Pre-heating	150°C/approx. 1 min
Tip temperature of soldering iron	350°C max.
Soldering time	3 s (+1 s, -0 s)
Number of reworking operations	1 times max.
It is recommended to replace the product directly, rework may cause poor appearance	

- 15.We cannot warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.
- 16.Please approve our product specifications or transact the approval sheet for product specifications before ordering.
- 17.Our specification limits the quality of the component as a single unit. Please ensure the component is thoroughly evaluated in your application circuit.

SAFETY REMINDERS

SAFETY REMINDERS

● All products listed in this specification are developed, designed and intended for use in general electronics equipment. The products are not designed or Warranted to meet the requirements of the applications listed below, whose performance and/or quality require especially high reliability, or whose failure, malfunction or trouble might directly cause damage to society, person, or property. Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below. Please contact us for more details if you intend to use our products in the following applications.

☆ 1.Aerospace/aviation equipment

☆ 2.Transportation equipment (cars, electric trains, ships, etc.)

☆ 3.Medical equipment

☆ 4.Power-generation control equipment

☆ 5.Atomic energy-related equipment

☆ 6.Seabed equipment

☆ 7.Transportation control equipment

☆ 8.Public information-processing equipment

☆ 9.Military equipment

☆ 10.Electric heating apparatus, burning equipment

☆ 11.Disaster prevention/crime prevention equipment

☆ 12.Safety equipment

☆ 13.Other applications that are not considered general-purpose applications

● When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.