APPROVAL SHEET

WLCM0603
WLCM1005
WLCM1608
Multi-Layer Ceramic High Frequency Inductors

*Contents in this sheet are subject to change without prior notice.

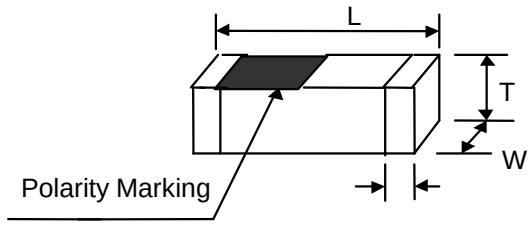
FEATURES

1. Ceramic structure provides high reliability、high productivity.
2. Excellence Q and SRF characteristics for RF application.
3. Wide range inductance and various tolerance options.
4. RoHS compliance.

APPLICATIONS

1. Communication system front-end circuit: GSM/3G/LTE, Wi-Fi, GPS.
2. Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wilreless.
4. EMI solustion in high frequency circuits.

SHAPE and DIMENSION



Unit: mm (inches)

MARKING

Polarity mark

WLCM Series	L	W	T	B (Min/Max)	Packing Quantity (pcs/reel)
					Paper Tape
WLCM0603 (EIA 0201)	0.60±0.03 (0.024±0.001)	0.30±0.03 (0.012±0.001)	0.30±0.03 (0.012±0.001)	0.10/0.20 (0.004/0.008)	15,000
WLCM1005 (EIA 0402)	1.00±0.05 (0.040±0.002)	0.50±0.05 (0.020±0.002)	0.50±0.05 (0.020±0.002)	0.10/0.30 (0.004/0.012)	10,000
WLCM1608 (EIA 0603)	1.60±0.15 (0.063±0.006)	0.80±0.15 (0.031±0.006)	0.80±0.15 (0.031±0.006)	0.20/0.60 (0.008/0.024)	4,000

Ordering Information

WL	CM	0603	Z0	B	1N2	T	B
Product Code	**Series**	**Dimensions**	**Series extension**	**Tolerance**	**Value**	**Packing Code**	
WL: Inductor	Ceramic multilayer inductor.	1608:EIA 0603 1005:EIA 0402 0603:EIA 0201	Z0:STD	B: ± 0.1nH C: ± 0.2nH S: ± 0.3nH G: ± 2% H: ± 3% J: ± 5%	1N2 =1.2nH 12N=12nH R10=100nH =0.10uH	T=7" Reeled (Paper tape)	B:STD

Electrical Characteristics

- WLCM0603 series (EIA 0201)

Operating Temperature range: -55℃ to 125℃

Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM0603Z0□0N3TB	0.3	B	4	100	>13000	0.03	850
WLCM0603Z0□0N4TB	0.4	B	4	100	>13000	0.12	850
WLCM0603Z0□0N5TB	0.5	B	4	100	>13000	0.13	800
WLCM0603Z0□0N6TB	0.6	B	4	100	>13000	0.13	800
WLCM0603Z0□0N7TB	0.7	B	4	100	>13000	0.14	750
WLCM0603Z0□0N8TB	0.8	B	4	100	>13000	0.16	750
WLCM0603Z0□0N9TB	0.9	B	4	100	>13000	0.16	750
WLCM0603Z0□1N0TB	1.0	B、C、S	4	100	>13000	0.17	600
WLCM0603Z0□1N1TB	1.1	B、C、S	4	100	>13000	0.17	600
WLCM0603Z0□1N2TB	1.2	B、C、S	4	100	>13000	0.19	600
WLCM0603Z0□1N3TB	1.3	B、C、S	4	100	>13000	0.19	600
WLCM0603Z0□1N5TB	1.5	B、C、S	4	100	>13000	0.22	550
WLCM0603Z0□1N6TB	1.6	B、C、S	4	100	>13000	0.22	500
WLCM0603Z0□1N8TB	1.8	B、C、S	4	100	>13000	0.24	500
WLCM0603Z0□1N9TB	1.9	B、C、S	4	100	>13000	0.23	450
WLCM0603Z0□2N0TB	2.0	B、C、S	4	100	>13000	0.27	450
WLCM0603Z0□2N1TB	2.1	B、C、S	4	100	>13000	0.27	450
WLCM0603Z0□2N2TB	2.2	B、C、S	4	100	>13000	0.32	450
WLCM0603Z0□2N3TB	2.3	B、C、S	4	100	>13000	0.15	450
WLCM0603Z0□2N4TB	2.4	B、C、S	4	100	11700	0.15	450
WLCM0603Z0□2N7TB	2.7	B、C、S	5	100	11340	0.17	450
WLCM0603Z0□2N9TB	2.9	B、C、S	5	100	11000	0.20	450
WLCM0603Z0□3N0TB	3.0	B、C、S	5	100	11000	0.20	450
WLCM0603Z0□3N2TB	3.2	B、C、S	5	100	10800	0.20	450
WLCM0603Z0□3N3TB	3.3	B、C、S	5	100	10400	0.20	450
WLCM0603Z0□3N4TB	3.4	B、C、S	5	100	10000	0.22	400
WLCM0603Z0□3N6TB	3.6	B、C、S	5	100	9000	0.23	400
WLCM0603Z0□3N9TB	3.9	B、C、S	5	100	8790	0.23	400
WLCM0603Z0□4N3TB	4.3	H、C、S	5	100	8000	0.24	350
WLCM0603Z0□4N7TB	4.7	H、C、S	5	100	7750	0.26	350
WLCM0603Z0□5N1TB	5.1	H、C、S	5	100	7210	0.26	350
WLCM0603Z0□5N6TB	5.6	H、C、S	5	100	6680	0.32	350
WLCM0603Z0□6N2TB	6.2	H、C、S	5	100	6800	0.32	300
WLCM0603Z0□6N8TB	6.8	H、J	5	100	6800	0.34	300
WLCM0603Z0□7N5TB	7.5	H、J	5	100	6000	0.36	300
WLCM0603Z0□8N2TB	8.2	H、J	5	100	5800	0.38	250
WLCM0603Z0□9N1TB	9.1	H、J	5	100	5000	0.38	250
WLCM0603Z0□10NTB	10	H、J	5	100	4860	0.40	250

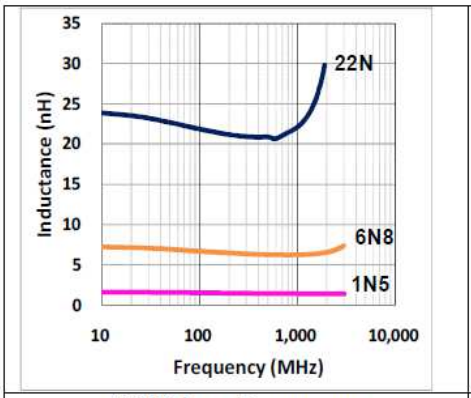
Walsin Part Number	L(nH)	Tolerance	Q Min (MHz)	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM0603Z0□12NTB	12	H、J	5	100	4520	0.50	250
WLCM0603Z0□15NTB	15	H、J	5	100	4820	0.60	250
WLCM0603Z0□18NTB	18	H、J	5	100	3000	0.85	200
WLCM0603Z0□22NTB	22	H、J	5	100	2950	0.86	150
WLCM0603Z0□27NTB	27	H、J	4	100	2610	0.88	140
WLCM0603Z0□33NTB	33	J	4	100	2210	1.05	120
WLCM0603Z0□39NTB	39	J	4	100	1860	1.18	120
WLCM0603Z0□47NTB	47	J	4	100	1800	1.74	100
WLCM0603Z0□56NTB	56	J	4	100	1600	1.85	80
WLCM0603Z0□68NTB	68	J	4	100	1500	2.30	80
WLCM0603Z0□82NTB	82	J	4	100	1400	2.60	70
WLCM0603Z0□R10TB	100	J	4	100	1200	3.00	60

L,Q vs. Frequency Characteristics

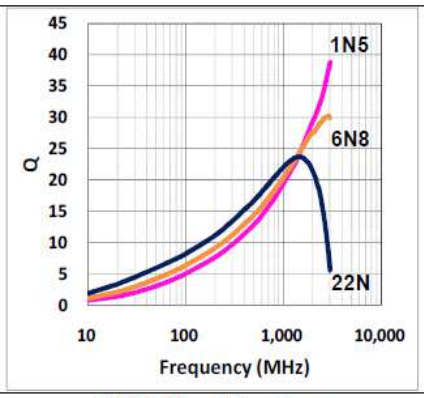
Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM0603Z0□0N3TB	0.3	0.3	0.3	0.3	0.3	0.3	0.3	6	14	19	20	32	35	39
WLCM0603Z0□0N4TB	0.4	0.4	0.4	0.4	0.4	0.4	0.4	6	14	19	20	32	35	39
WLCM0603Z0□0N5TB	0.5	0.5	0.5	0.5	0.5	0.5	0.5	6	14	19	20	33	36	40
WLCM0603Z0□0N6TB	0.6	0.6	0.5	0.5	0.5	0.5	0.5	6	15	19	20	33	36	40
WLCM0603Z0□0N7TB	0.7	0.7	0.6	0.6	0.6	0.6	0.6	6	15	20	21	34	37	41
WLCM0603Z0□0N8TB	0.8	0.8	0.7	0.7	0.7	0.7	0.7	6	14	19	20	32	35	39
WLCM0603Z0□0N9TB	0.9	0.9	0.8	0.8	0.8	0.8	0.8	6	15	20	21	35	37	42
WLCM0603Z0□1N0TB	1.0	1.0	0.9	0.9	0.9	0.9	0.9	5	13	17	18	28	30	33
WLCM0603Z0□1N1TB	1.1	1.0	1.0	1.0	0.9	0.9	0.9	6	14	18	20	30	32	34
WLCM0603Z0□1N2TB	1.2	1.2	1.2	1.2	1.2	1.2	1.2	6	14	18	19	28	30	32
WLCM0603Z0□1N3TB	1.3	1.2	1.2	1.2	1.2	1.2	1.2	6	13	17	18	27	28	31
WLCM0603Z0□1N5TB	1.5	1.4	1.3	1.3	1.4	1.4	1.4	6	14	18	20	30	32	34
WLCM0603Z0□1N6TB	1.6	1.6	1.6	1.6	1.6	1.6	1.6	6	14	18	20	28	30	31
WLCM0603Z0□1N8TB	1.8	1.7	1.7	1.7	1.7	1.7	1.7	6	14	18	20	28	30	31
WLCM0603Z0□1N9TB	1.9	1.8	1.8	1.8	1.9	1.8	1.9	6	14	18	19	28	29	31
WLCM0603Z0□2N0TB	2.0	1.9	1.9	1.9	2.0	1.9	2.0	6	14	18	19	28	29	31
WLCM0603Z0□2N1TB	2.1	2.0	1.9	1.9	2.0	2.0	2.1	6	13	17	18	26	28	30
WLCM0603Z0□2N2TB	2.2	2.1	2.0	2.0	2.1	2.1	2.2	6	13	17	18	26	28	30
WLCM0603Z0□2N3TB	2.3	2.2	2.1	2.1	2.2	2.3	2.4	6	13	17	18	26	28	30
WLCM0603Z0□2N4TB	2.4	2.3	2.2	2.2	2.3	2.4	2.5	6	14	18	20	28	29	31
WLCM0603Z0□2N7TB	2.7	2.5	2.5	2.5	2.6	2.7	2.8	6	14	18	19	28	29	31
WLCM0603Z0□2N9TB	2.9	2.7	2.7	2.7	2.8	2.8	2.9	6	14	18	19	28	29	31
WLCM0603Z0□3N0TB	3	2.8	2.8	2.8	2.9	2.9	3.0	7	15	19	21	30	31	33
WLCM0603Z0□3N2TB	3.2	3.0	3.0	3.0	3.1	3.1	3.2	6	14	19	20	29	30	32
WLCM0603Z0□3N3TB	3.3	3.2	3.1	3.2	3.0	3.4	3.5	6	14	19	2	29	30	32
WLCM0603Z0□3N4TB	3.4	3.3	3.2	3.2	3.1	3.4	3.5	6	14	19	20	29	30	32
WLCM0603Z0□3N6TB	3.6	3.4	3.4	3.4	3.7	3.7	3.9	6	14	18	20	28	29	31
WLCM0603Z0□3N9TB	3.9	3.7	3.7	3.7	3.9	4.0	4.2	6	15	19	20	28	29	31
WLCM0603Z0□4N3TB	4.3	4.1	4.1	4.1	4.4	4.9	4.8	6	14	18	19	27	28	29
WLCM0603Z0□4N7TB	4.7	4.4	4.4	4.4	4.8	4.9	5.2	6	14	19	19	26	27	29
WLCM0603Z0□5N1TB	5.1	4.9	4.9	4.9	5.4	5.6	6.0	6	13	17	18	25	25	26
WLCM0603Z0□5N6TB	5.6	5.3	5.3	5.3	5.8	6.0	6.6	7	14	18	19	26	27	27
WLCM0603Z0□6N2TB	6.2	6.0	6.0	6.1	6.9	7.2	8.1	6	14	18	19	26	26	30

Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM0603Z0□6N8TB	6.8	6.3	6.4	6.4	7.2	7.4	8.2	7	14	18	19	26	26	26
WLCM0603Z0□7N5TB	7.5	7.1	7.2	7.2	8.3	8.7	9.8	6	15	18	20	25	25	25
WLCM0603Z0□8N2TB	8.2	7.8	7.9	8.0	9.2	9.7	11.0	7	15	18	19	19	24	24
WLCM0603Z0□9N1TB	9.1	8.7	8.8	8.9	10.8	11.6	13.9	6	13	16	17	21	20	18
WLCM0603Z0□10NTB	10.0	9.3	9.5	9.6	12.0	13.0	16.1	6	13	16	17	20	20	18
WLCM0603Z0□12NTB	12.0	11.3	11.5	11.7	15.4	17.2	23.2	7	13	16	17	18	17	14
WLCM0603Z0□15NTB	15.0	14.5	15.1	15.4	22.4	26.2	42.3	7	15	18	19	19	17	11
WLCM0603Z0□18NTB	18.0	17.2	18.1	18.6	31.1	39.5	99.3	7	13	16	16	14	11	5
WLCM0603Z0□22NTB	22.0	21.4	22.8	23.5	45.5	64.1	--	7	13	16	16	12	8	--
WLCM0603Z0□27NTB	27.0	26.6	29.2	30.6	108.5	--	--	6	13	15	15	6	--	--
WLCM0603Z0□33NTB	33.0	31.9	34.8	36.0	119.0	--	--	7	14	16	17	6	--	--
WLCM0603Z0□39NTB	39.0	38.2	42.3	45.6	--	--	--	6	12	13	13	--	--	--
WLCM0603Z0□47NTB	47.0	44.0	47.0	49.0	--	--	--	6	11	12	11	--	--	--
WLCM0603Z0□56NTB	56.0	54.0	61.0	66.0	--	--	--	6	11	11	10	--	--	--
WLCM0603Z0□68NTB	68.0	66.0	76.0	82.0	--	--	--	6	11	11	10	--	--	--
WLCM0603Z0□82NTB	82.0	80.0	97.0	108.0	--	--	--	6	11	10	8	--	--	--
WLCM0603Z0□R10TB	100.0	103.0	138.0	164.0	--	--	--	6	10	9	6	--	--	--

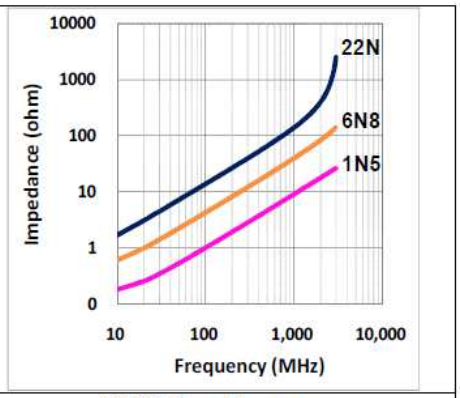
Typical Electrical Characteristic



0603 L vs Frequency



0603 Q vs Frequency



0603 Z vs Frequency

- WLCM1005 series (EIA 0402)

Operating Temperature range: -55℃ to 125℃

Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM1005Z0□1N0TB	1	B,C,S	8	100	>13000	0.08	300
WLCM1005Z0□1N1TB	1.1	B,C,S	8	100	>13000	0.08	300
WLCM1005Z0□1N2TB	1.2	B,C,S	8	100	>13000	0.09	300
WLCM1005Z0□1N3TB	1.3	B,C,S	8	100	>13000	0.09	300
WLCM1005Z0□1N5TB	1.5	B,C,S	8	100	>13000	0.10	300
WLCM1005Z0□1N6TB	1.6	B,C,S	8	100	>13000	0.10	300
WLCM1005Z0□1N8TB	1.8	B,C,S	8	100	12220	0.12	300
WLCM1005Z0□2N0TB	2	B,C,S	8	100	12890	0.12	300
WLCM1005Z0□2N2TB	2.2	B,C,S	8	100	12430	0.13	300
WLCM1005Z0□2N4TB	2.4	B,C,S	8	100	12320	0.13	300
WLCM1005Z0□2N7TB	2.7	B,C,S	8	100	10070	0.16	300
WLCM1005Z0□3N0TB	3.0	B,C,S	8	100	8760	0.16	300
WLCM1005Z0□3N3TB	3.3	B,C,S	8	100	8120	0.16	300
WLCM1005Z0□3N6TB	3.6	B,C,S	8	100	8200	0.20	300
WLCM1005Z0□3N9TB	3.9	B,C,S	8	100	8390	0.20	300
WLCM1005Z0□4N3TB	4.3	B,C,S	8	100	7500	0.20	300
WLCM1005Z0□4N7TB	4.7	B,C,S	8	100	7010	0.20	300
WLCM1005Z0□5N1TB	5.1	B,C,S	8	100	6340	0.23	300
WLCM1005Z0□5N6TB	5.6	B,C,S	8	100	5760	0.23	300
WLCM1005Z0□6N2TB	6.2	B,C,S	8	100	5490	0.25	300
WLCM1005Z0□6N8TB	6.8	G,H,J	8	100	5430	0.25	300
WLCM1005Z0□7N5TB	7.5	G,H,J	8	100	5000	0.28	300
WLCM1005Z0□8N2TB	8.2	G,H,J	8	100	4660	0.28	300
WLCM1005Z0□9N1TB	9.1	G,H,J	8	100	4400	0.30	300
WLCM1005Z0□10NTB	10	G,H,J	8	100	4120	0.31	300
WLCM1005Z0□12NTB	12	G,H,J	8	100	3820	0.45	300
WLCM1005Z0□13NTB	13	G,H,J	8	100	3820	0.50	300
WLCM1005Z0□15NTB	15	G,H,J	8	100	3350	0.55	300
WLCM1005Z0□18NTB	18	G,H,J	8	100	2970	0.65	300
WLCM1005Z0□22NTB	22	G,H,J	8	100	2640	0.70	300
WLCM1005Z0□24NTB	24	H,J	8	100	2640	0.70	300
WLCM1005Z0□27NTB	27	H,J	8	100	2370	0.80	300
WLCM1005Z0□33NTB	33	H,J	8	100	2040	0.90	200
WLCM1005Z0□39NTB	39	H,J	8	100	1800	1.00	200
WLCM1005Z0□47NTB	47	H,J	8	100	1660	1.10	200
WLCM1005Z0□56NTB	56	H,J	8	100	1560	1.10	200
WLCM1005Z0□68NTB	68	H,J	8	100	1330	1.20	200

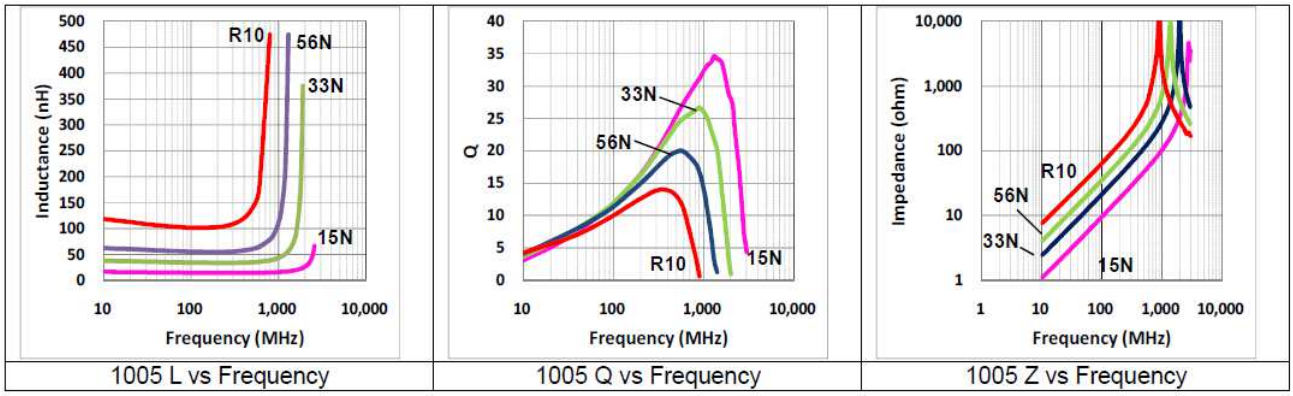
Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM1005Z0□82NTB	82	J	8	100	1160	1.30	200
WLCM1005Z0□R10TB	100	J	8	100	1020	1.60	200
WLCM1005Z0□R12TB	120	J	8	100	860	1.60	150
WLCM1005Z0□R15TB	150	J	8	100	800	3.20	140
WLCM1005Z0□R18TB	180	J	8	100	810	3.70	130
WLCM1005Z0□R22TB	220	J	8	100	700	4.20	120
WLCM1005Z0□R27TB	270	J	8	100	600	4.80	110

L,Q vs. Frequency Characteristics

Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM1005Z0□1N0TB	1.0	1.0	1.0	1.0	1.0	1.0	1.0	12	29	38	41	63	71	75
WLCM1005Z0□1N1TB	1.1	1.1	1.1	1.1	1.1	1.1	1.1	11	29	37	40	60	67	72
WLCM1005Z0□1N2TB	1.2	1.2	1.2	1.2	1.2	1.2	1.2	11	29	38	41	61	68	73
WLCM1005Z0□1N3TB	1.3	1.3	1.3	1.3	1.3	1.3	1.3	11	30	38	41	61	67	72
WLCM1005Z0□1N5TB	1.5	1.5	1.5	1.5	1.5	1.5	1.5	11	27	35	38	57	63	68
WLCM1005Z0□1N6TB	1.6	1.5	1.5	1.5	1.5	1.5	1.5	11	28	35	38	57	64	68
WLCM1005Z0□1N8TB	1.8	1.7	1.7	1.7	1.7	1.7	1.8	11	26	33	36	53	58	61
WLCM1005Z0□2N0TB	2.0	2.0	2.0	2.0	2.0	2.1	2.1	10	23	29	31	45	49	52
WLCM1005Z0□2N2TB	2.2	2.1	2.1	2.1	2.2	2.2	2.2	10	24	31	33	48	52	55
WLCM1005Z0□2N4TB	2.4	2.3	2.3	2.3	2.4	2.4	2.4	10	25	31	34	49	53	57
WLCM1005Z0□2N7TB	2.7	2.7	2.7	2.7	2.8	2.8	2.9	11	27	35	37	54	58	60
WLCM1005Z0□3N0TB	3.0	2.9	2.9	3.0	3.1	3.1	3.2	10	25	32	34	49	53	55
WLCM1005Z0□3N3TB	3.3	3.2	3.2	3.2	3.4	3.4	3.5	11	25	32	35	50	54	56
WLCM1005Z0□3N6TB	3.6	3.5	3.5	3.5	3.7	3.8	3.9	10	24	31	33	46	49	49
WLCM1005Z0□3N9TB	3.9	3.7	3.7	3.8	3.9	4.0	4.1	11	24	30	33	46	49	51
WLCM1005Z0□4N3TB	4.3	4.1	4.2	4.2	4.4	4.4	4.6	11	26	33	35	50	53	54
WLCM1005Z0□4N7TB	4.7	4.5	4.5	4.5	4.8	4.9	5.1	11	25	32	35	49	51	53
WLCM1005Z0□5N1TB	5.1	4.9	4.9	4.9	5.2	5.3	5.6	11	25	32	35	46	48	49
WLCM1005Z0□5N6TB	5.6	5.5	5.5	5.5	6.0	6.2	6.7	11	25	32	35	46	48	49
WLCM1005Z0□6N2TB	6.2	6.1	6.1	6.1	6.7	6.8	7.3	11	26	32	34	46	48	49
WLCM1005Z0□6N8TB	6.8	6.6	6.7	6.7	7.4	7.6	8.2	11	26	32	35	46	48	48
WLCM1005Z0□7N5TB	7.5	7.1	7.2	7.3	7.8	8.1	8.8	11	26	32	35	46	48	48
WLCM1005Z0□8N2TB	8.2	8.0	8.1	8.2	9.4	9.9	11.1	11	26	32	34	42	42	40
WLCM1005Z0□9N1TB	9.1	8.7	8.8	8.8	9.9	10.2	11.1	11	25	31	34	42	42	40
WLCM1005Z0□10NTB	10.0	10.0	9.8	9.9	11.7	12.4	14.4	11	23	29	31	37	37	34
WLCM1005Z0□12NTB	12.0	11.7	12.0	12.2	15.1	16.3	20.1	11	24	31	33	37	36	30
WLCM1005Z0□13NTB	13.0	12.7	13.0	13.2	16.1	17.3	21.0	11	24	31	33	37	36	30
WLCM1005Z0□15NTB	15.0	14.9	15.5	15.8	22.8	26.4	41.8	11	23	30	32	35	33	28
WLCM1005Z0□18NTB	18.0	17.8	18.4	18.7	24.9	27.7	37.7	11	23	28	29	30	28	22
WLCM1005Z0□22NTB	22.0	21.8	23.1	23.8	40.9	52.7	156.0	11	22	27	28	22	18	6
WLCM1005Z0□24NTB	24.0	23.8	25.1	25.8	42.9	54.7	158.0	11	22	27	28	22	18	6
WLCM1005Z0□27NTB	27.0	27.1	29.2	30.3	66.8	106.9	-	11	22	26	27	16	11	4
WLCM1005Z0□33NTB	33.0	33.2	36.3	37.9	109.0	259.0	-	11	22	25	26	12	5	-

Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM1005Z0□39NTB	39.0	40.2	45.9	49.1	-	-	-	11	20	22	22	-	-	-
WLCM1005Z0□47NTB	47.0	49.1	57.2	61.7	-	-	-	11	20	21	21	-	-	-
WLCM1005Z0□56NTB	56.0	59.2	71.8	79.3	-	-	-	11	19	19	18	-	-	-
WLCM1005Z0□68NTB	68.0	74.7	99.4	116.3	-	-	-	11	18	17	15	-	-	-
WLCM1005Z0□82NTB	82.0	94.7	140.8	179.5	-	-	-	11	18	15	12	-	-	-
WLCM1005Z0□R10TB	100.0	117.6	193.7	269.9	-	-	-	11	17	12	9	-	-	-
WLCM1005Z0□R12TB	120.0	159.8	450.4	-	-	-	-	11	16	7	-	-	-	-
WLCM1005Z0□R15TB	150.0	207.2	-	-	-	-	-	11	14	-	-	-	-	-
WLCM1005Z0□R18TB	180.0	-	-	-	-	-	-	12	-	-	-	-	-	-
WLCM1005Z0□R22TB	220.0	-	-	-	-	-	-	12	-	-	-	-	-	-
WLCM1005Z0□R27TB	270.0	-	-	-	-	-	-	12	-	-	-	-	-	-

Typical Electrical Characteristic



1005 L vs Frequency | 1005 Q vs Frequency | 1005 Z vs Frequency

- WLCM1608 series (EIA 0603)

Operating Temperature range: -55℃ to 125℃

Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM1608Z0□1N0TB	1	S	8	100	>13000	0.05	1000
WLCM1608Z0□1N2TB	1.2	S	8	100	>13000	0.05	1000
WLCM1608Z0□1N5TB	1.5	S	8	100	>13000	0.10	1000
WLCM1608Z0□1N8TB	1.8	S	8	100	>13000	0.10	1000
WLCM1608Z0□2N2TB	2.2	S	8	100	11690	0.10	1000
WLCM1608Z0□2N7TB	2.7	S	10	100	8930	0.13	1000
WLCM1608Z0□3N3TB	3.3	S	10	100	6440	0.13	1000
WLCM1608Z0□3N9TB	3.9	S	10	100	7280	0.15	1000
WLCM1608Z0□4N7TB	4.7	S	10	100	6470	0.20	1000
WLCM1608Z0□5N6TB	5.6	S	10	100	5230	0.23	600
WLCM1608Z0□6N8TB	6.8	J	10	100	5470	0.25	600
WLCM1608Z0□8N2TB	8.2	J	10	100	4460	0.28	600
WLCM1608Z0□10NTB	10	J	12	100	4360	0.30	600
WLCM1608Z0□12NTB	12	J	12	100	3480	0.35	600
WLCM1608Z0□15NTB	15	J	12	100	3310	0.40	600
WLCM1608Z0□18NTB	18	J	12	100	3080	0.45	600
WLCM1608Z0□22NTB	22	J	12	100	2670	0.50	600
WLCM1608Z0□27NTB	27	J	12	100	2270	0.55	600
WLCM1608Z0□33NTB	33	J	12	100	1970	0.60	600
WLCM1608Z0□39NTB	39	J	12	100	1830	0.65	500
WLCM1608Z0□47NTB	47	J	12	100	1670	0.70	500
WLCM1608Z0□56NTB	56	J	12	100	1530	0.75	500
WLCM1608Z0□68NTB	68	J	12	100	1360	0.85	400
WLCM1608Z0□82NTB	82	J	12	100	1290	0.95	300
WLCM1608Z0□R10TB	100	J	12	100	1090	1.00	300
WLCM1608Z0□R12TB	120	J	8	50	1030	1.20	300
WLCM1608Z0□R15TB	150	J	8	50	820	1.20	300
WLCM1608Z0□R18TB	180	J	8	50	690	1.30	300
WLCM1608Z0□R20TB	200	J	8	50	630	1.50	300
WLCM1608Z0□R22TB	220	J	8	50	630	1.50	300
WLCM1608Z0□R27TB	270	J	8	50	520	1.90	200

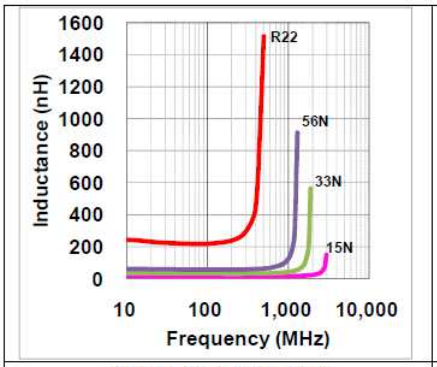
Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (MHz)	RDC Maximum (Ω)	IDC (mA)
WLCM1608Z0□R33TB	330	J	8	50	450	2.10	200
WLCM1608Z0□R39TB	390	J	8	50	400	2.30	150
WLCM1608Z0□R47TB	470	J	8	50	360	2.60	150

L,Q vs. Frequency Characteristics

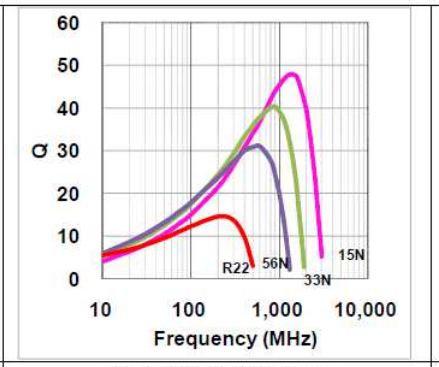
Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM1608Z0□1N0TB	1.0	1.1	1.1	1.1	1.1	1.1	1.0	14	40	53	60	93	32	174
WLCM1608Z0□1N2TB	1.2	1.2	1.2	1.2	1.2	1.2	1.1	14	38	49	54	84	32	143
WLCM1608Z0□1N5TB	1.5	1.6	1.6	1.6	1.6	1.5	1.5	12	31	39	43	62	33	88
WLCM1608Z0□1N8TB	1.8	1.8	1.8	1.8	1.8	1.8	1.7	13	34	42	46	68	37	97
WLCM1608Z0□2N2TB	2.2	2.2	2.2	2.2	2.2	2.2	2.2	14	36	46	50	73	42	101
WLCM1608Z0□2N7TB	2.7	2.7	2.7	2.7	2.7	2.7	2.7	14	36	47	45	72	45	94
WLCM1608Z0□3N3TB	3.3	3.3	3.3	3.3	3.5	3.5	3.6	14	37	47	50	67	47	77
WLCM1608Z0□3N9TB	3.9	3.9	3.9	3.9	4.0	4.0	4.1	15	36	46	49	66	48	81
WLCM1608Z0□4N7TB	4.7	4.6	4.6	4.7	4.9	4.9	5.1	15	39	50	53	70	53	80
WLCM1608Z0□5N6TB	5.6	5.5	5.6	5.6	6.1	6.3	6.7	15	39	50	54	67	52	69
WLCM1608Z0□6N8TB	6.8	6.7	6.7	6.8	7.3	7.5	7.9	15	38	49	52	66	53	66
WLCM1608Z0□8N2TB	8.2	8.1	8.2	8.3	9.5	9.9	11.0	16	37	48	50	59	49	54
WLCM1608Z0□10NTB	10.0	9.9	10.1	10.2	11.7	12.3	13.9	16	39	49	52	60	50	52
WLCM1608Z0□12NTB	12.0	12.2	12.6	12.8	16.6	18.4	24.4	16	36	46	48	47	39	31
WLCM1608Z0□15NTB	15.0	15.1	15.6	15.9	21.0	23.4	31.9	17	40	50	52	49	41	31
WLCM1608Z0□18NTB	18.0	18.1	18.9	19.3	27.7	32.2	52.2	17	39	48	50	43	35	21
WLCM1608Z0□22NTB	22.0	22.3	23.8	24.6	45.7	63.5	521.1	17	39	46	47	29	19	1
WLCM1608Z0□27NTB	27.0	27.8	30.3	31.6	85.8	191.2	-	18	39	45	46	19	8	-
WLCM1608Z0□33NTB	33.0	34.9	38.8	40.9	-	-	-	18	39	43	43	-	-	-
WLCM1608Z0□39NTB	39.0	41.3	47.7	51.2	-	-	-	19	36	39	37	-	-	-
WLCM1608Z0□47NTB	47.0	50.0	58.9	64.0	-	-	-	17	34	36	34	-	-	-
WLCM1608Z0J56NTB	56.0	62.0	77.7	87.5	-	-	-	19	35	34	31	-	-	-
WLCM1608Z0J68NTB	68.0	76.8	103.2	121.7	-	-	-	18	33	29	25	-	-	-
WLCM1608Z0J82NTB	82.0	96.5	145.3	187.2	-	-	-	19	32	25	20	-	-	-
WLCM1608Z0JR10TB	100.0	123.7	222.4	343.5	-	-	-	18	30	19	12	-	-	-
WLCM1608Z0JR12TB	120.0	156.0	355.0	-	-	-	-	19	28	14	-	-	-	-
WLCM1608Z0JR15TB	150.0	227.9	-	-	-	-	-	18	21	-	-	-	-	-
WLCM1608Z0JR18TB	180.0	336.8	-	-	-	-	-	17	17	-	-	-	-	-
WLCM1608Z0JR22TB	220.0	520.7	-	-	-	-	-	16	13	-	-	-	-	-
WLCM1608Z0JR27TB	270.0	-	-	-	-	-	-	16	-	-	-	-	-	-
WLCM1608Z0JR33TB	330.0	-	-	-	-	-	-	14	-	-	-	-	-	-

Walsin Part Number	Typical Inductance (nH)							Typical Q						
	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz	100 MHz	500 MHz	800 MHz	900 MHz	1.8 GHz	2.0 GHz	2.4 GHz
WLCM1608Z0JR39TB	390.0	-	-	-	-	-	-	14	-	-	-	-	-	-
WLCM1608Z0JR47TB	470.0	-	-	-	-	-	-	13	-	-	-	-	-	-

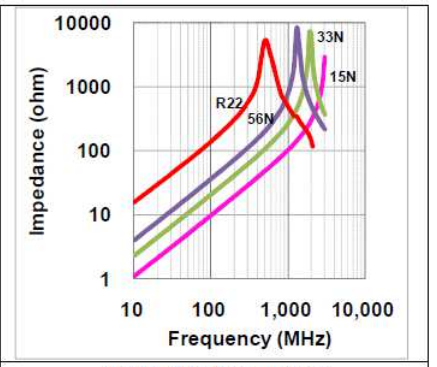
Typical Electrical Characteristic



1608 L vs Frequency

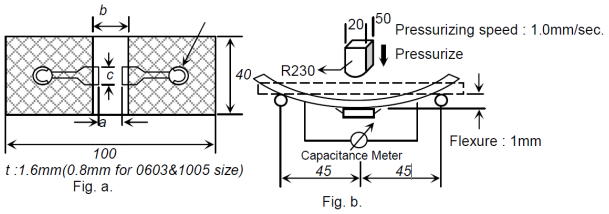


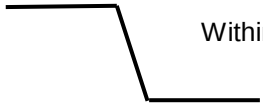
1608 Q vs Frequency



1608 Z vs Frequency

Test condition & Requirements (WLCM series)

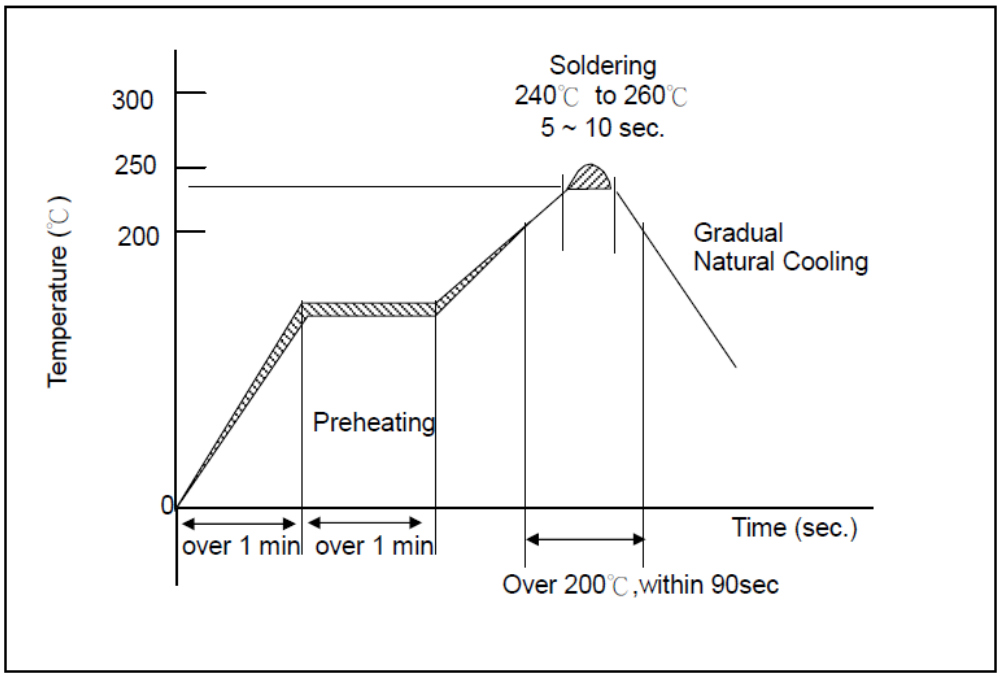
No.	Item	Test condition	Requirements
1	Appearance	Inductors shall be visually inspected for visible evidence of defect.	No harmful defect for piratical use.
2	Inductance	a. Temperature: 25+/- 3℃ b. Relative Humidity: 45 to 75%RH c. Measuremint Voltage: 500mV d. Measuring equipment and fixture: 0603(0201) HP 4287+16196C 1005(0402) HP 4287+16193A 1608(0603) HP 4291+16192AWinthin	Within specified tolerance
3	Q Value	a. Temperature: 25 ± 3℃ b. Relative Humidity: 45 to 75%RH c. Measurement Voltage: 500mV d. Measuring equipment and fixture: 0603(0201) HP 4287+16196C 1005(0402) HP 4287+16193A 1608(0603) HP 4291+16192A	In accordance with electrical specification
4	DC Resistance	a. Temperature: 25 ± 3℃ b. Relative Humidity: 45 to 75%RH c. Measuring equipment: HP 4338	In accordance with electrical specification
5	Dimension	Dimension shall be measured with calliper or micrometer	In accordance with dimension specification.
6	Solder-ability	Immerse a test sample into a methanol solution containing rosin and immerse into SAC305 (Sn96.5Ag3.0Cu0.5) solder of 245±5 for 3±1 seconds.	90% of the termination is to be soldered evenly and continuously.
7	Resistance to Soldering Heat	Immerse a test sample into a methanol solution containing resin, preheat it at 120 to 150℃ for 1 minutes and immerse into molten solder of 270 ± 5 ℃ for 10 ± 1 second so that both terminal electrodes are completely submerged.	No visible damage. Inductance variation within 10% Q variation within 20%
8	Bending Strength	Solder the chip to test jig then apply a force in the direction shown in below. The soldering shall be done with the reflow method and shall be conducted with care so that the soldering is uniform and free of defects such as heat shock.  Size / a / b / C 0603 / 0.3 / 0.9 / 0.3 1005 / 0.4 / 1.5 / 0.5 1608 / 1.0 / 3.0 / 1.2	No mechanical damage shall be observed. Rdc-value：to meet the initial Spec.

No.	Item	Test condition	Requirements
9	Thermal Shock	Solder a test sample to printed circuit board, and conduct 5 cycles of test under the conditions shown as below. 0603 &1005 operating temp. range: -55~125℃ 1608 operating temp. range: -40~85℃ Cycle: Maximum operating temp. (30+/-3min)  Minimum operating temp. (30+/-3min)	No visible damage. Inductance variation within 10% Q variation within 20%
10	High Humidity State Life Test	Keep a test sample in an atmosphere with a temperature of 40±2℃,90~95% RH for 500 +24/-0 hours. After the removal from the chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24±2 hrs recovery under standard condition.	No visible damage. Inductance variation within 10% Q variation within 20%
11	High Humidity Load Life Test	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 40±2, 90~95%RH for 500+24/-0 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24±2 hrs of recovery under standard condition.	No visible damage. Inductance variation within 10% Q variation within 20%
12	High Temperature State Life Test	Keep a test sample in an atmosphere with a temperature of 85±2℃ for 500±12 hours. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24±2 hrs of recovery under standard condition.	No visible damage. Inductance variation within 10% Q variation within 20%
13	High Temperature Load	Solder a test sample to printed circuit board then keep the test sample in an atmosphere with a temperature of 85±2℃ for 500±12 hours while supplying the rated current. After the removal from test chamber, 2 to 3 hours of recovery under standard condition, and measurement shall be made after 24±2 hrs of recovery under standard condition.	No visible damage. Inductance variation within 10% Q variation within 20%

Reflow Profile Chart (Reference)

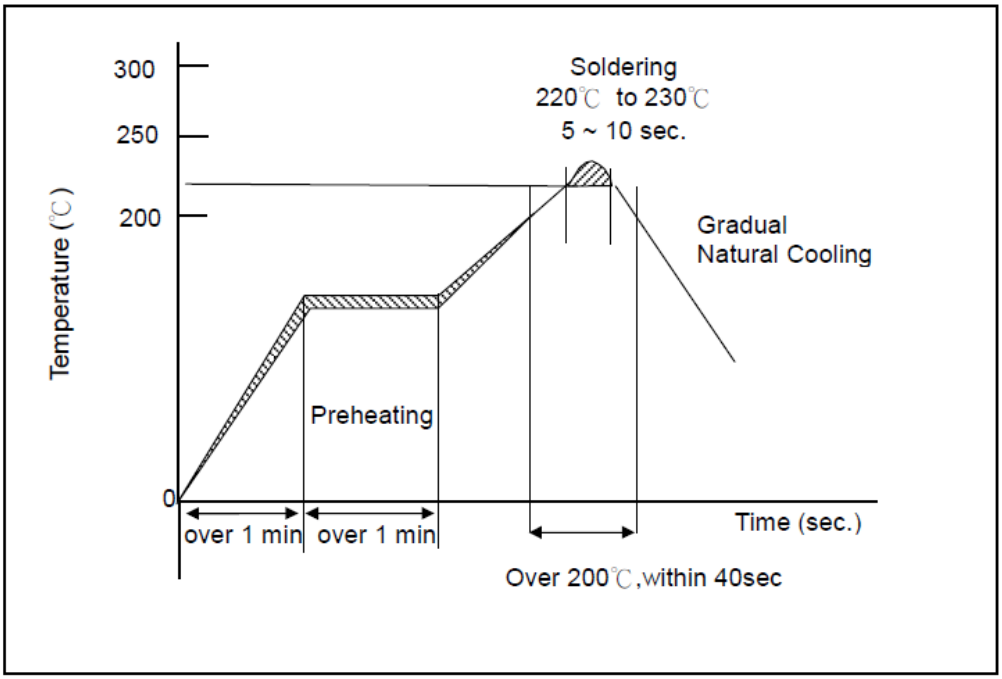
Soldering Profile for SMT Process with Lead Free Solder Paste.

The rate of preheat should not exceed 4℃ /sec and a target of ℃2 /sec is preferred. Ceramic chip components should be preheated to within 100 to 130℃ of the soldering.



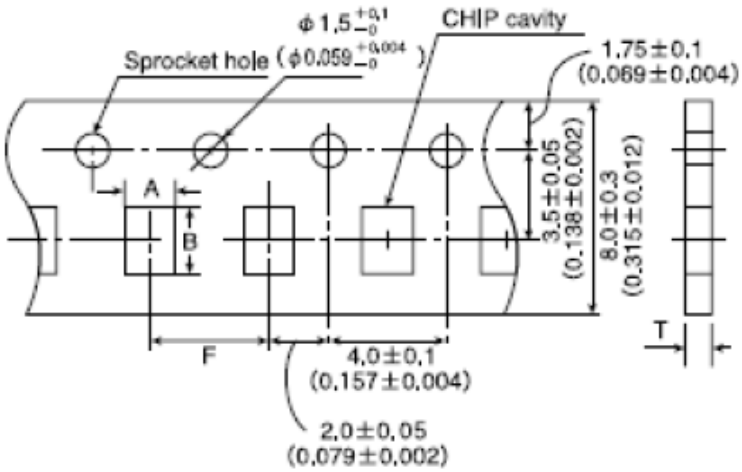
Soldering Profile for SMT Process with SnPb Solder Paste.

The rate of preheat should not exceed 4℃ /sec and a target of 2℃ /sec is preferred. Ceramic chip components should be preheated to within 100 to 130℃ of the soldering.



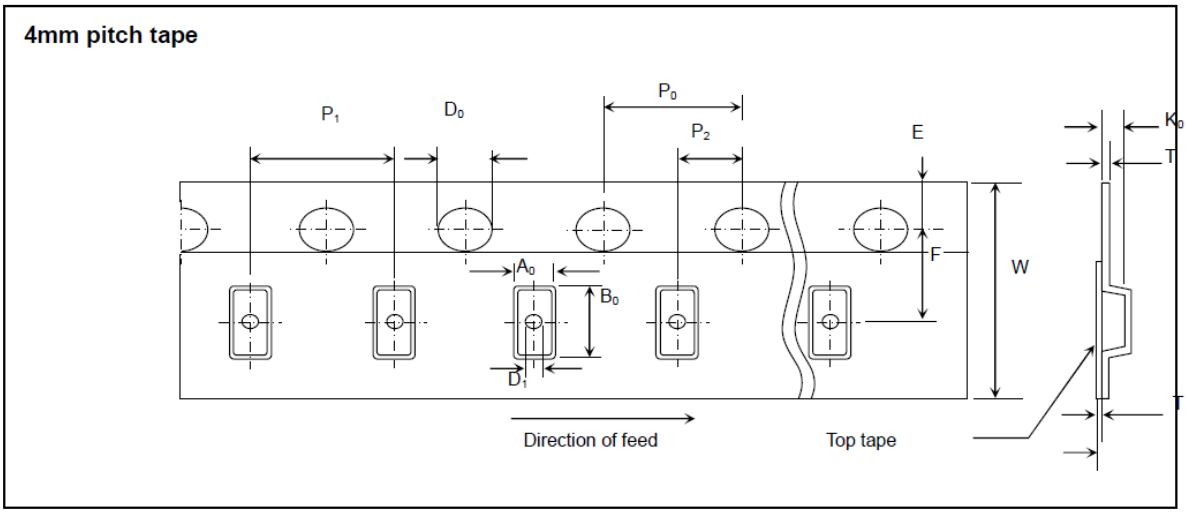
Packaging Specification

Paper Tape



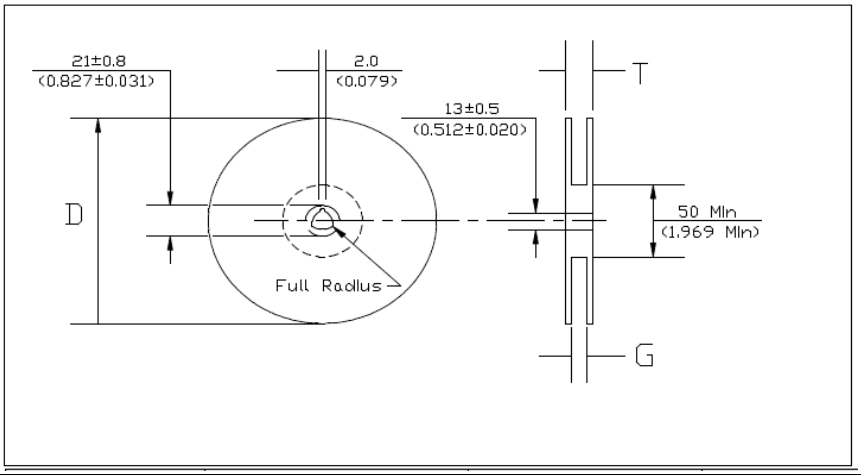
	Symbol	Product Size Code			
		0603 (0201)	1005(0402)	1608(0603)	2012(0805)
		(mm)	(mm)	(mm)	(mm)
Chip cavity	A	0.38±0.02	0.62±0.03	1.0±0.2	1.5±0.2
	B	0.68±0.02	1.12±0.03	1.8±0.2	2.3±0.2
Insertion Pitch	F	2.0±0.1	2.0±0.2	4.0±0.1	4.0±0.1
Tape Thinckness	T	1.1 max	1.1 max	1.1 max	0.8 max

Embossed Tape



Symbol	2012 (0805)	2016 (0806)	2520 (1008)
P_1	4±0.1	4±0.1	4±0.1
P_O	4±0.1	4±0.1	4±0.1
P_2	2±0.05	2±0.05	2±0.05
A_0	1.55±0.2	1.8±0.1	2.3±0.1
B_0	2.3±0.2	2.2±0.1	2.8±0.1
K_0	1.3±0.1	1.3±0.1	1.4±0.1
W	8±0.3	8±0.3	8±0.3
E	1.75±0.1	1.75±0.1	1.75±0.1
F	3.5±0.05	3.5±0.05	3.5±0.05
D_0	1.5 (+0.1/-0.0)	1.5 (+0.1/-0.0)	1.5 (+0.1/-0.0)
T	0.3 max	0.3 max	0.3 max

Reel Specifications



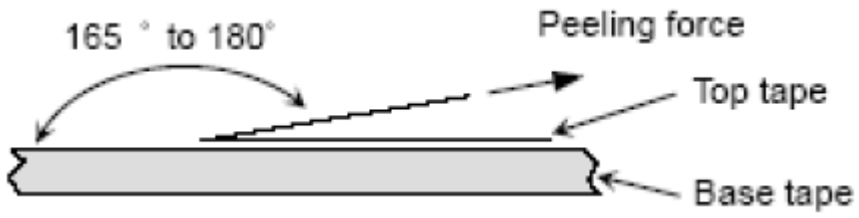
Tape Width	G (mm)	T max (mm)	D (mm)
8	10.0±1.5	14.5	178±2.0

Quantity per reel
WLCM0603：15K pcs
WLCM1005：10K pcs
WLCM1608：4K pcs

Peel Strength of Top Cover Tape

The peel speed shall be about 300 mm/min.

The peel strength of top cover tape shall be between 0.1 to 1.0N.



Cautions

- **Storage**

1. The inductor shall be packaged in carrier tapes.
2. To keep storage place temperature from +5 to 35℃, humidity from 45 to 70% RH.
3. The storage atmosphere must be free of gas containing sulfur and chlorine. Also, avoid exposing the product to saline moisture. If the product is exposed to such atmospheres, the terminals will oxidize and solderability will be affected.
4. The solder ability is assured for 12 months from our final inspection date if the above storage condition is followed.

- **Handling**

Inductor should be handled with care to avoid contamination or damage. The use of vacuum pick-up or plastic tweezers is recommended for manual placement. Tape and reeled packages are suitable for automatic pick and placement machine.