

FEATURES

- These small size chips exhibit low DC resistance and high Q at high frequency.
- Minimum floating capacity and large inductance range (0.047 to 220 μ H).
- Outstanding soldering heat resistance, both flow and reflow soldering methods can be used.
- Perfect shape for automatic mounting, with no directionality.
- Monolithic inorganic material construction for high reliability.
- Closed magnetic shielding avoids crosstalk and is suitable for high density printed circuit boards.

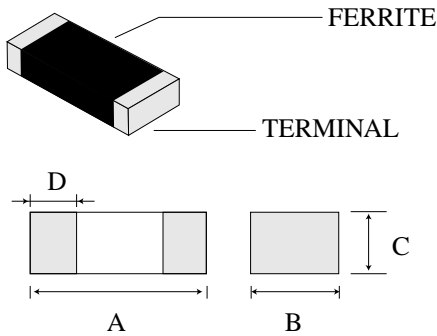
APPLICATIONS

Can be used in CD-ROM, Hard Disk, Modem, Computers, Printers, VCRs, TVs and Portable Telephones.

PRODUCT IDENTIFICATION

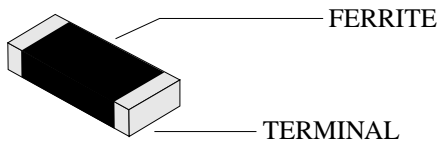
Product Item Code	Dimension	Inductance	Tolerance: J = $\pm 5\%$, K = $\pm 10\%$, M = $\pm 20\%$
MLI	160808	47N	K

PRODUCT DIMENSIONS

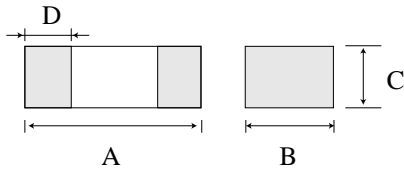


MLI-160808 SERIES

DIMENSION:



A: 1.6±0.15 (0.063±0.006)
 B: 0.8±0.15 (0.031±0.006)
 C: 0.8±0.15 (0.031±0.006)
 D: 0.3±0.20 (0.012±0.008)
 in mm (inch)

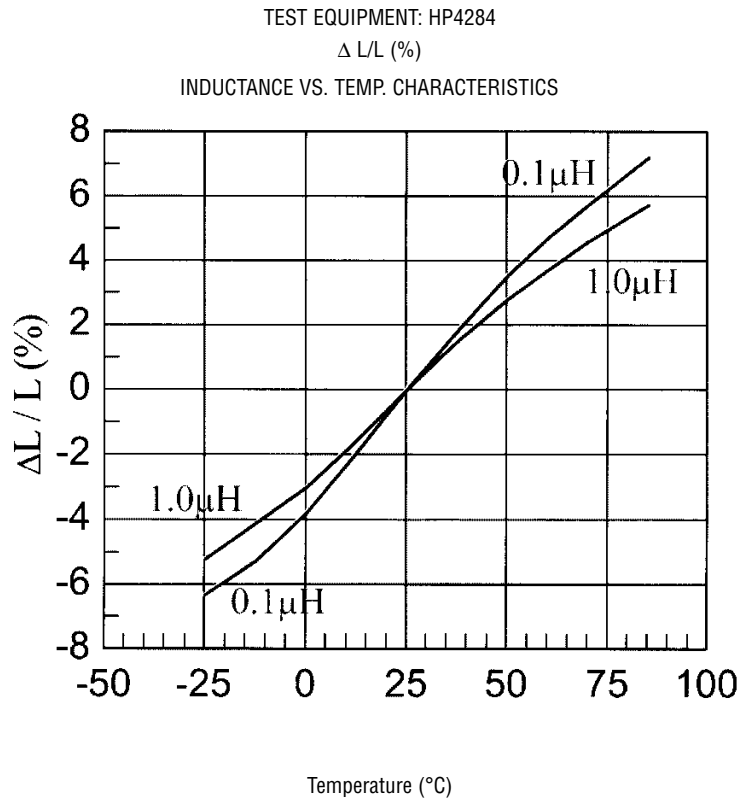
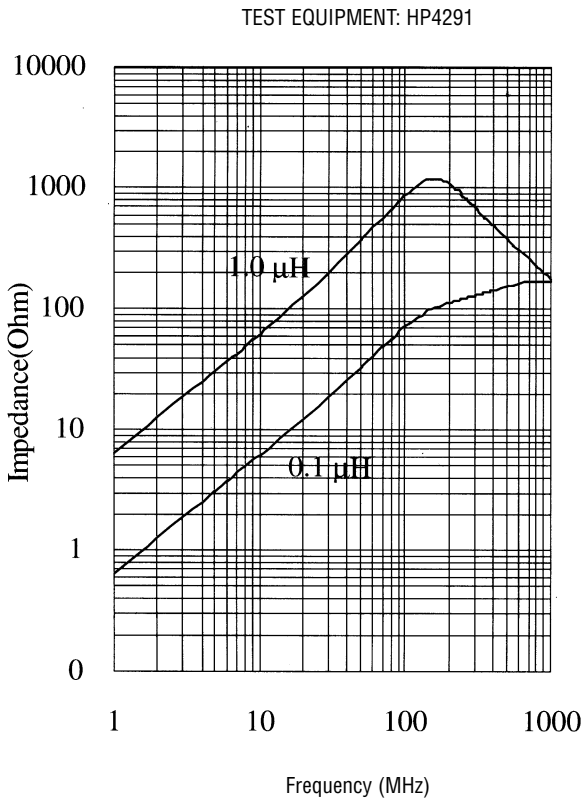
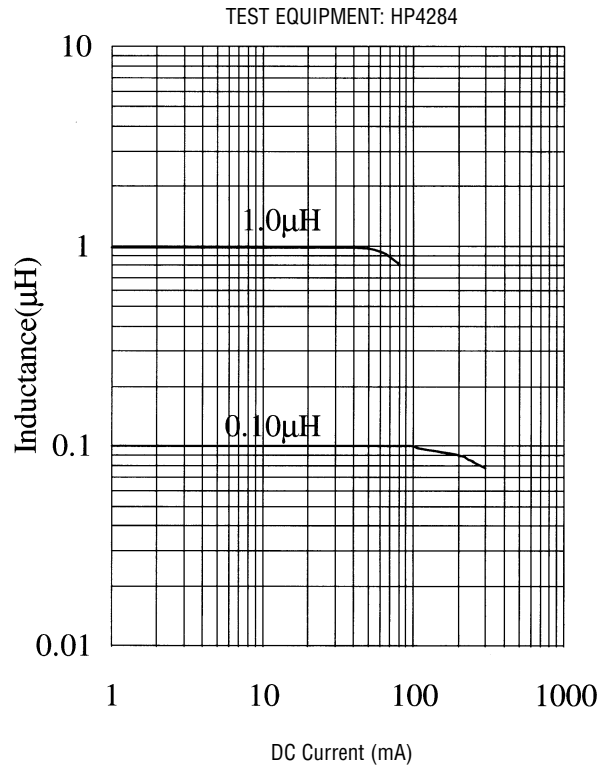
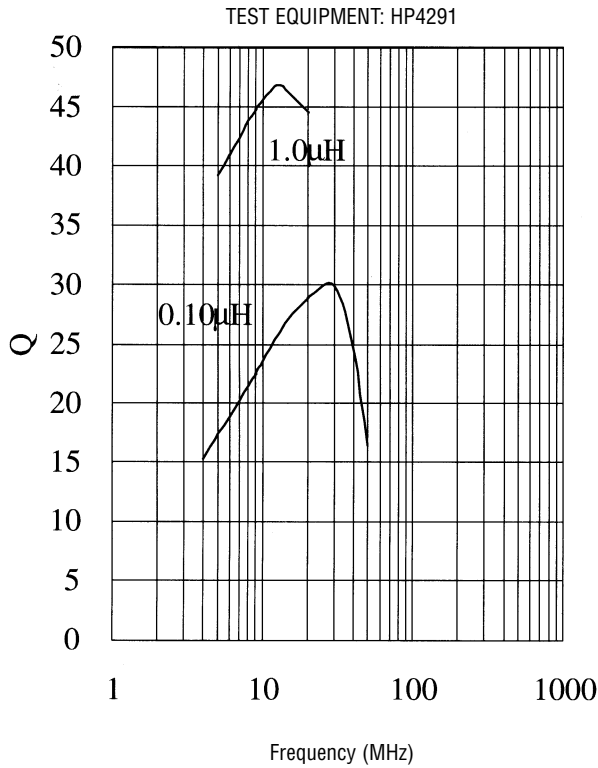


ELECTRICAL CHARACTERISTICS

PART NO.	INDUCTANCE (μH)	Q MIN.	LQ TEST FREQUENCY (MHz) MIN.	SELF RESONANT R _{DC} (Ω) MAX.	DC RESISTANCE CURRENT I _{DC} (mA) MAX.	RATED
MLI-160808-47N □	0.047±20%	10	50	260	0.3	50
MLI-160808-68N □	0.068±20%	10	50	250	0.3	50
MLI-160808-82N □	0.082±20%	10	50	245	0.3	50
MLI-160808-R10 □	0.10±20%,±10%	15	25	240	0.5	50
MLI-160808-R12 □	0.12±20%,±10%	15	25	205	0.5	50
MLI-160808-R15 □	0.15±20%,±10%	15	25	180	0.6	50
MLI-160808-R18 □	0.18±20%,±10%	15	25	165	0.6	50
MLI-160808-R22 □	0.22±20%,±10%	15	25	150	0.8	50
MLI-160808-R27 □	0.27±20%,±10%	15	25	136	0.8	50
MLI-160808-R33 □	0.33±20%,±10%	15	25	125	0.85	35
MLI-160808-R39 □	0.39±20%,±10%	15	25	110	1	35
MLI-160808-R47 □	0.47±20%,±10%	15	25	105	1.35	35
MLI-160808-R56 □	0.56±20%,±10%	15	25	95	1.55	35
MLI-160808-R68 □	0.68±20%,±10%	15	25	90	1.7	35
MLI-160808-R82 □	0.82±20%,±10%	15	25	85	2.1	35
MLI-160808-1R0 □	1.00±20%,±10%	35	10	75	0.6	25
MLI-160808-1R2 □	1.20±20%,±10%	35	10	65	0.8	25
MLI-160808-1R5 □	1.50±20%,±10%	35	10	60	0.8	25
MLI-160808-1R8 □	1.80±20%,±10%	35	10	55	0.95	25
MLI-160808-2R2 □	2.20±20%,±10%	35	10	50	1.15	15
MLI-160808-2R7 □	2.70±20%,±10%	35	10	45	1.35	15

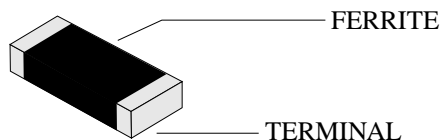
TOLERANCE: J = ±5%, K = ±10%, M = ±20%

TYPICAL ELECTRICAL CHARACTERISTIC CURVES

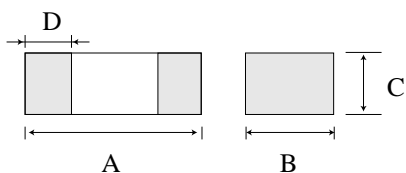


MLI-201209 SERIES

DIMENSION:



A: 2.0±0.20 (0.079±0.008)
 B: 1.2±0.20 (0.047±0.008)
 C: 0.9±0.20 (0.035±0.008)
 D: 0.5±0.30 (0.020±0.012)
 in mm (inch)



ELECTRICAL CHARACTERISTICS

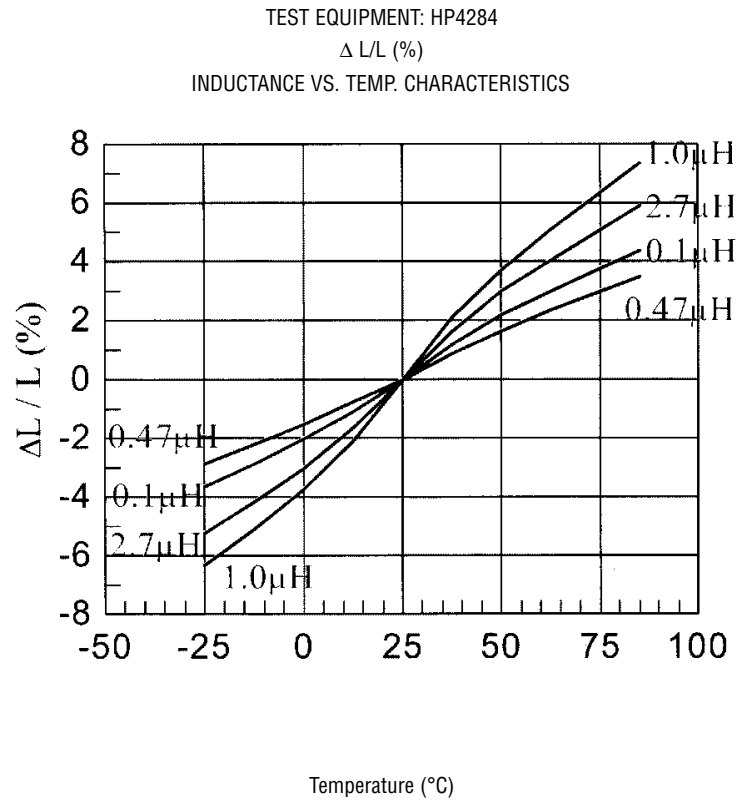
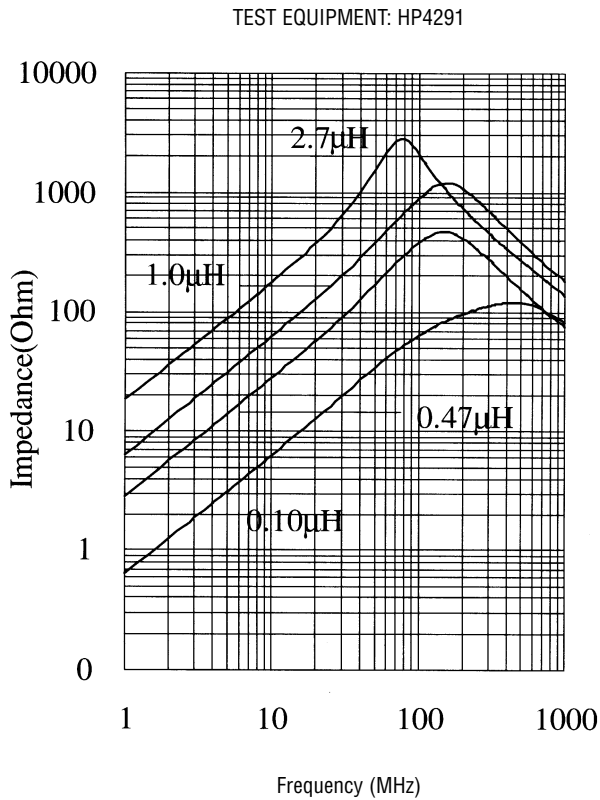
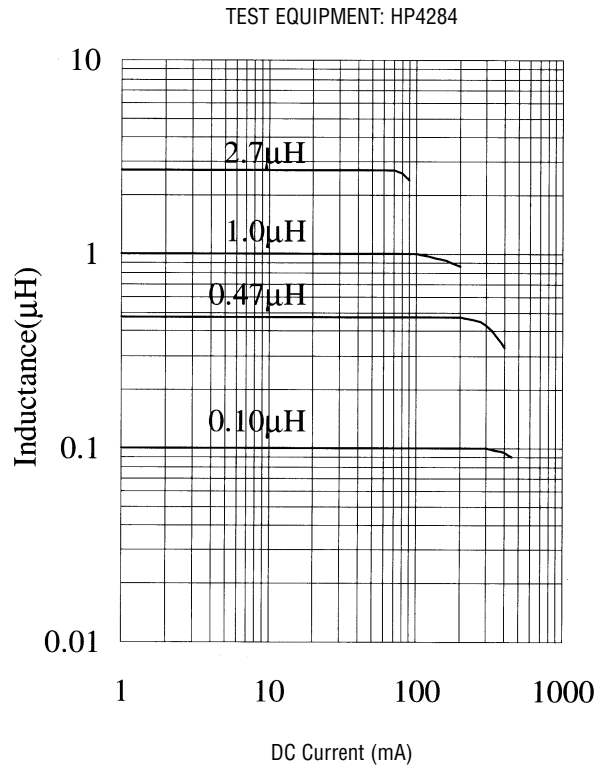
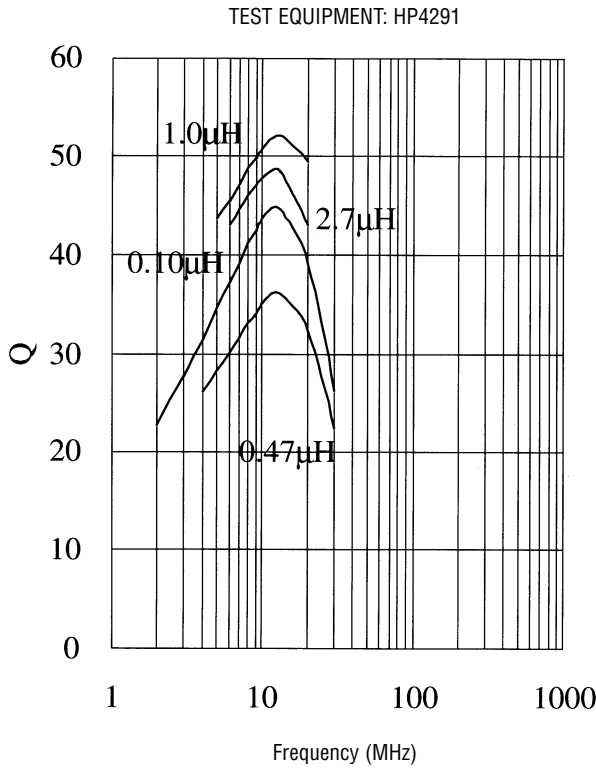
PART NO.	INDUCTANCE (µH)	Q MIN.	LQ TEST FREQUENCY (MHz) MIN.	SELF RESONANT R _{DC} (Ω) MAX.	DC RESISTANCE CURRENT I _{DC} (mA) MAX.	RATED
MLI-201209-47N	0.047±20%	15	50	320	0.20	300
MLI-201209-68N	0.068±20%	15	50	280	0.20	300
MLI-201209-82N	0.082±20%	15	50	255	0.20	300
MLI-201209-R10	0.10±20%,±10%	20	25	235	0.30	250
MLI-201209-R12	0.12±20%,±10%	20	25	220	0.30	250
MLI-201209-R15	0.15±20%,±10%	20	25	200	0.40	250
MLI-201209-R18	0.18±20%,±10%	20	25	185	0.40	250
MLI-201209-R22	0.22±20%,±10%	20	25	170	0.50	250
MLI-201209-R27	0.27±20%,±10%	20	25	150	0.50	250
MLI-201209-R33	0.33±20%,±10%	20	25	145	0.55	250
MLI-201209-R39	0.39±20%,±10%	25	25	135	0.65	200
MLI-201209-R47	0.47±20%,±10%	25	25	125	0.65	200
MLI-201209-R56	0.56±20%,±10%	25	25	115	0.75	150
MLI-201209-R68	0.68±20%,±10%	25	25	105	0.80	150
MLI-201209-R82	0.82±20%,±10%	25	25	100	1.00	150
MLI-201209-1R0	1.00±20%,±10%	45	10	75	0.40	50
MLI-201209-1R2	1.20±20%,±10%	45	10	65	0.50	50
MLI-201209-1R5	1.50±20%,±10%	45	10	60	0.50	50
MLI-201209-1R8	1.80±20%,±10%	45	10	55	0.60	50
MLI-201209-2R2	2.20±20%,±10%	45	10	50	0.65	30

ELECTRICAL CHARACTERISTICS

PART NO.	INDUCTANCE (μH)	Q MIN.	LQ TEST FREQUENCY (MHz) MIN.	SELF RESONANT R _{DC} (Ω) MAX.	DC RESISTANCE CURRENT I _{DC} (mA) MAX.	RATED
MLI-201209-2R7	2.70±20%,±10%	45	10	45	0.75	30
MLI-201209-3R3	3.30±20%,±10%	45	10	41	0.80	30
MLI-201209-3R9	3.90±20%,±10%	45	10	38	0.90	15
MLI-201209-4R7	4.70±20%,±10%	45	10	35	1.00	15
MLI-201209-5R6	5.60±20%,±10%	50	4	32	0.90	15
MLI-201209-6R8	6.80±20%,±10%	50	4	29	1.00	15
MLI-201209-8R2	8.20±20%,±10%	50	4	26	1.10	15
MLI-201209-100	10.0±20%,±10%	50	2	24	1.15	15

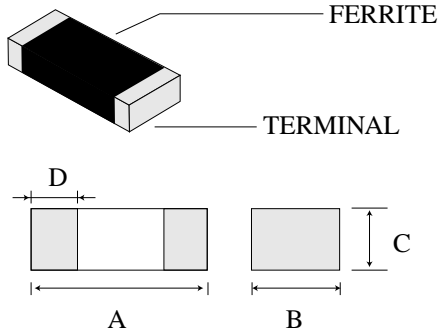
TOLERANCE: J = ±5%, K = ±10%, M = ±20%

TYPICAL ELECTRICAL CHARACTERISTIC CURVES



MLI-321611 SERIES

DIMENSION:



Dimensions in mm (inch)

PART NO.	A	B	C	D
MLI-321611	3.2±0.20 (0.126±0.008)	1.6±0.20 (0.063±0.008)	1.1±0.20 (0.043±0.008)	0.5±0.30 (0.020±0.012)

ELECTRICAL CHARACTERISTICS

PART NO.	INDUCTANCE (μH)	Q MIN.	LQ TEST FREQUENCY (MHz) MIN.	SELF RESONANT R _{DC} (Ω) MAX.	DC RESISTANCE CURRENT I _{DC} (mA) MAX.	RATED
MLI-321611-47N	0.047±20%	20	50	320	0.15	300
MLI-321611-68N	0.068±20%	20	50	280	0.25	300
MLI-321611-R10	0.10±20%,±10%	20	25	235	0.25	250
MLI-321611-R12	0.12±20%,±10%	20	25	250	0.30	250
MLI-321611-R15	0.15±20%,±10%	20	25	200	0.30	250
MLI-321611-R18	0.18±20%,±10%	20	25	185	0.40	250
MLI-321611-R22	0.22±20%,±10%	20	25	170	0.50	250
MLI-321611-R27	0.27±20%,±10%	20	25	150	0.50	250
MLI-321611-R33	0.33±20%,±10%	20	25	145	0.60	250
MLI-321611-R39	0.39±20%,±10%	25	25	135	0.50	200
MLI-321611-R47	0.47±20%±10%	25	25	125	0.60	200
MLI-321611-R56	0.56±20%,±10%	25	25	115	0.70	150
MLI-321611-R68	0.68±20%,±10%	25	25	105	0.80	150
MLI-321611-R82	0.82±20%,±10%	25	25	100	0.90	150

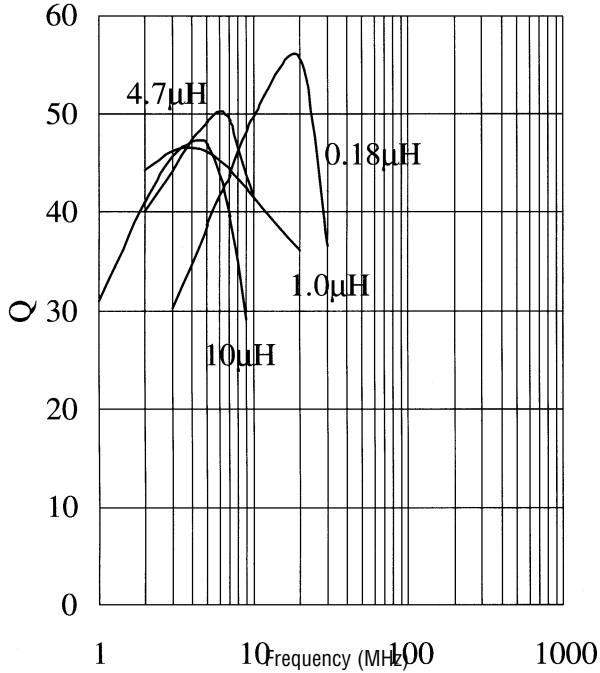
ELECTRICAL CHARACTERISTICS

PART NO.	INDUCTANCE (μH)	Q MIN.	LQ TEST FREQUENCY (MHz) MIN.	SELF RESONANT R _{DC} (Ω) MAX.	DC RESISTANCE CURRENT I _{DC} (mA) MAX.	RATED
MLI-321611-1R0	1.00±20%,±10%	30	10	75	0.40	100
MLI-321611-1R2	1.20±20%,±10%	30	10	65	0.50	100
MLI-321611-1R5	1.50±20%,±10%	30	10	60	0.50	50
MLI-321611-1R8	1.80±20%,±10%	30	10	55	0.50	50
MLI-321611-2R2	2.20±20%,±10%	30	10	50	0.60	50
MLI-321611-2R7	2.70±20%,±10%	30	10	45	0.60	50
MLI-321611-3R3	3.30±20%,±10%	30	10	41	0.70	50
MLI-321611-3R9	3.90±20%,±10%	30	10	38	0.80	50
MLI-321611-4R7	4.70±20%,±10%	30	10	35	0.90	50
MLI-321611-5R6	5.60±20%,±10%	35	4	32	0.70	25
MLI-321611-6R8	6.80±20%,±10%	35	4	29	0.90	25
MLI-321611-8R2	8.20±20%,±10%	35	4	26	0.90	25
MLI-321611-100	10.0±20%,±10%	35	2	24	1.00	25
MLI-321611-120	12.0±20%,±10%	35	2	22	1.05	15
MLI-321611-150	15.0±20%,±10%	30	1	19	0.70	5
MLI-321611-180	18.0±20%,±10%	30	1	18	0.70	5
MLI-321611-220	22.0±20%,±10%	30	1	16	0.90	5
MLI-321611-270	27.0±20%,±10%	30	1	14	0.90	5
MLI-321611-330	33.0±20%,±10%	30	0.4	13	1.05	5

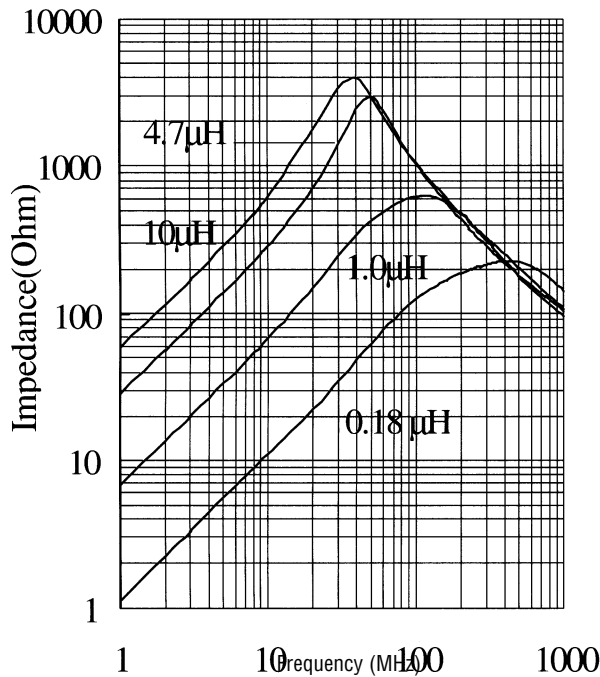
TOLERANCE: J = ±5%, K = ±10%, M = ±20%

TYPICAL ELECTRICAL CHARACTERISTIC CURVES

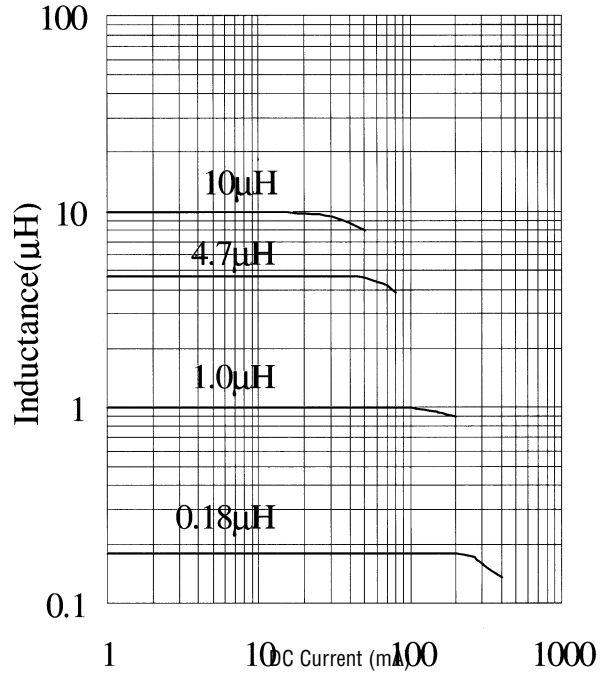
TEST EQUIPMENT: HP4291



TEST EQUIPMENT: HP4291



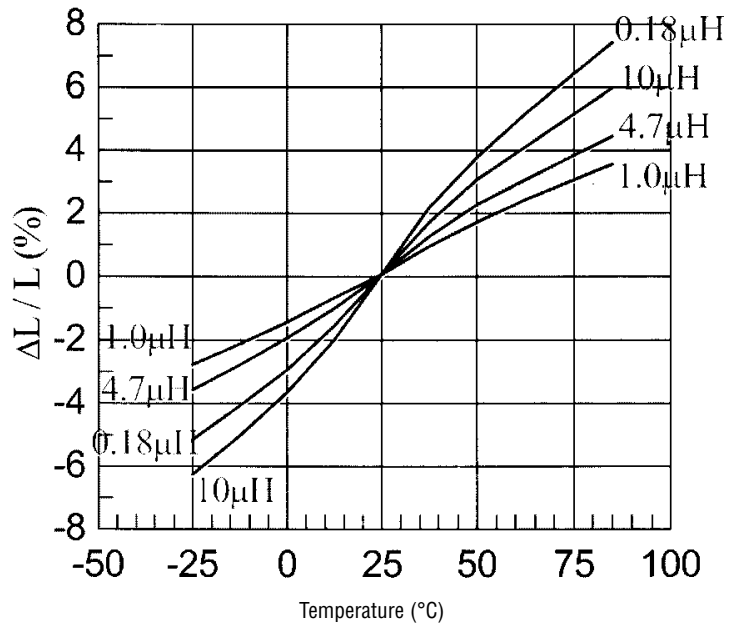
TEST EQUIPMENT: HP4284



TEST EQUIPMENT: HP4284

ΔL/L (%)

INDUCTANCE VS. TEMP. CHARACTERISTICS



RELIABILITY TEST

MECHANICAL PERFORMANCE TEST

ITEM	SPECIFICATION	TEST CONDITION		
Solderability	More than 90% of the terminal electrode shall be covered with fresh solder.	Solder: H63A (Eutectic Solder) Solder Temperature: 230±5°C Flux: Rosin Dip Time: 3±1 seconds		
Soldering Heat Resistance	The chip shall not crack. more then 75% of the terminal electrode shall be covered with solder	Solder: H63A (Eutectic Solder) Solder Temperature: 260±5°C Flux: Rosin Dip Time: 10±1 seconds		
Bending Strength	The Ferrite shall not be damaged by forces applied on the right.	TYPE	A(MM)	KGf
		MLI-160808	1.0	0.6
		MLI-201209	1.4	1.0
		MLB-321611	2.0	2.0
		MLB-322513	2.0	2.0

CLIMATIC TEST

ITEM	SPECIFICATION	TEST CONDITION
Thermal Shock (Temperature Cycle)	No mechanical damage. Inductance shall be within ±5% of the initial value, and Q (shall be) within ±30% of the initial value.	Temperature: -40°C, 85°C for 30 minutes each, 100 cycles.
Humidity Resistance		Temperature: 40°C Humidity: 95% RH Time: 1000±12 Hours
High Temperature Resistance		Temperature: 85°C±2°C Time: 1000±12 Hours
Low Temperature Resistance		Temperature: -40°C±2°C Time: 1000±12 Hours

Operating temperature range -25°C to +85°C. Storage temperature range -40°C to +85°C.