

### FEATURES

Skywell multilayer chip inductor is formed without a wound wire and has a closed magnetic circuit formed by simultaneous forming of alternative layers of ferrite paste and conductor paste.

#### High Performance Characteristics

MI chip inductor exhibit low DC resistance and high Q at high frequency.

#### Wide Inductance Range

MI chip inductor covers wide inductance range from 0.047uH to 220uH

#### High Reliability

MI inductor has a monolithic inorganic material construction that effectively minimizes electro-magnetic interference.

#### High Soldering Heat Resistance

MI inductor has high quality termination allowing both flow and reflow soldering methods.

### APPLICATIONS

PC Computer and Peripherals – Motherboard, HDD, VGA and etc..

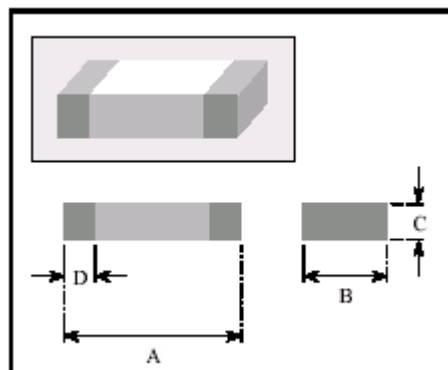
Consumer Electronics such as DVD, VCD and etc..

Communication Devices – Pager, Handset Phones, Cordless Phones

Automotive Electronics – Ignition System, ABS Sensor and etc....

Precision Instrumentation

### OUTLINE & CONSTRUCTION



### SIZE & DIMENSIONS

(size in mm)

Type	A	B	C	D
MI-160808	1.60+/-0.15	0.80+/-0.15	0.80+/-0.15	0.30+/-0.20
MI-201209	2.00+/-0.20	1.25+/-0.20	0.90+/-0.20	0.50+/-0.30
MI-201212	2.00+/-0.20	1.25+/-0.20	1.25+/-0.20	0.50+/-0.30
MI-321611	3.20+/-0.20	1.60+/-0.20	1.10+/-0.20	0.50+/-0.30
MI-322513	3.20+/-0.20	2.50+/-0.20	1.30+/-0.20	0.50+/-0.30

### INDUCTANCE SELECTION RANGE

Type	Inductance Range	Q Range
MI-160808	47nH ~ 2.7uH	10 ~ 35
MI-201209	47nH ~ 10uH	15 ~ 50
MI-321611	47nH ~ 33uH	20 ~ 35
MI-322513	0.1uH ~ 47uH	20 ~ 35

### PART NUMBERING SYSTEM

Skywell chip ferrite inductor can be ordered by the part number shown below.

Such as: MI-160808-102K

MI	160808	□	102	K
Type	Size	Dash	Indutance Code	Tolerance
Ferrite Chip Type	160808			J=+-5%
	201209		3-digit code	K=+-10%
	201212		101= 0.1uH	M=+-20%
	321611		102=1.0uH	
	322513			

### MI-160808 PRODUCTION SPECIFICATIONS

Part Number	Inductance	Q (min.) @Freq.	S.R.F.(MHz)	R <sub>dc</sub> (ohm) Max.	I <sub>dc</sub> (mA) Max.
MI-160808-470K*	47nH	10@50MHz	260	0.30	50
MI-160808-680K	68nH		250		
MI-160808-820K	82nH		245		
MI-160808-101K	0.1uH	15@25MHz	240	0.50	
MI-160808-121K	0.12uH		205		
MI-160808-151K	0.15uH		180	0.60	
MI-160808-181K	0.18uH		165		
MI-160808-221K	0.22uH		150	0.80	
MI-160808-271K	0.27uH		136		
MI-160808-331K	0.33uH		125	0.85	
MI-160808-391K	0.39uH		110	1.00	
MI-160808-471K	0.47uH		105	1.35	
MI-160808-561K	0.56uH		95	1.55	
MI-160808-681K	0.68uH	90	1.70		
MI-160808-821K	0.82uH	85	2.10		
MI-160808-102K	1.00uH	35@10MHz	75	0.60	25
MI-160808-122K	1.20uH		65	0.80	
MI-160808-152K	1.50uH		60		
MI-160808-182K	1.80uH		55	0.95	
MI-160808-222K	2.20uH		50	1.15	15
MI-160808-272K	2.70uH		45	1.35	

\*\*\* The inductance tolerance can be +-5% (J), +-10% (K) or +-20% (M)

**Remarks:** Q value and impedance are measured by the meter HP4291

Inductance and tolerance are measured by meter HP4284

### MI-201209 PRODUCT SPECIFICATIONS

Part Number	Inductance	Q (min.) @Freq.	S.R.F.(MHz)	R <sub>dc</sub> (ohm) Max.	I <sub>dc</sub> (mA) Max.		
MI-201209-470K*	47nH	15@50MHz	320	0.20	300		
MI-201209-680K	68nH		280				
MI-201209-820K	82nH		255				
MI-201209-101K	0.1uH	20@25MHz	235	0.30	250		
MI-201209-121K	0.12uH		220	0.40			
MI-201209-151K	0.15uH		200				
MI-201209-181K	0.18uH		185			0.50	
MI-201209-221K	0.22uH		170				
MI-201209-271K	0.27uH		150				
MI-201209-331K	0.33uH		145	0.55			
MI-201209-391K	0.39uH		25@25MHz	135		0.65	200
MI-201209-471K	0.47uH			125			
MI-201209-561K	0.56uH	115		0.75	150		
MI-201209-681K	0.68uH	105		0.80			
MI-201209-821K	0.82uH	100		1.00			
MI-201209-102K	1.00uH	45@10MHz	75	0.40	50		
MI-201209-122K	1.20uH		65	0.50			
MI-201209-152K	1.50uH		60				
MI-201209-182K	1.80uH		55	0.60	30		
MI-201209-222K	2.20uH		50	0.65			
MI-201209-272K	2.70uH		45	0.75			
MI-201209-332K	3.3uH		41	0.80	15		
MI-201209-392K	3.9uH		38	0.90			
MI-201209-472K	4.7uH		35	1.00			
MI-201209-562K	5.6uH	50@4MHz	32	0.90			
MI-201209-682K	6.8uH		29	1.00			
MI-201209-822K	8.2uH		26	1.10			
MI-201209-103K	10uH	50@2MHz	24	1.15			

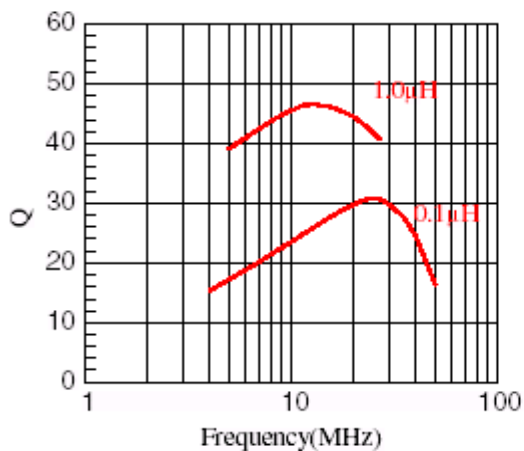
### MI-321611 PRODUCT SPECIFICATIONS

Part Number	Inductance	Q (min.) @Freq.	S.R.F.(MHz)	R <sub>dc</sub> (ohm) Max.	I <sub>dc</sub> (mA) Max.
MI-321611-470K*	47nH	20@50MHz	320	0.15	300
MI-321611-680K	68nH		280	0.25	
MI-321611-820K	82nH		265		
MI-321611-101K	0.1uH	20@25MHz	250	0.30	250
MI-321611-121K	0.12uH		235		
MI-321611-151K	0.15uH		200		
MI-321611-181K	0.18uH		185	0.40	
MI-321611-221K	0.22uH		170	0.50	
MI-321611-271K	0.27uH		150		
MI-321611-331K	0.33uH		145	0.60	
MI-321611-391K	0.39uH	25@25MHz	135	0.50	200
MI-321611-471K	0.47uH		125	0.60	
MI-321611-561K	0.56uH		115	0.70	150
MI-321611-681K	0.68uH		100	0.80	
MI-321611-821K	0.82uH		100	0.90	
MI-321611-102K	1.00uH	30@10MHz	70	0.40	100
MI-321611-122K	1.20uH		65	0.50	
MI-321611-152K	1.50uH		60		
MI-321611-182K	1.80uH		55		0.60
MI-321611-222K	2.20uH		50		
MI-321611-272K	2.70uH		45		
MI-321611-332K	3.3uH		41	0.70	
MI-321611-392K	3.9uH		38	0.80	
MI-321611-472K	4.7uH		35	0.90	
MI-321611-562K	5.6uH	35@4MHz	32	0.70	25
MI-321611-682K	6.8uH		29	0.90	
MI-321611-822K	8.2uH		26		
MI-321611-103K	10uH	35@2MHz	24	1.00	15
MI-321611-123K	12uH		22	1.05	
MI-321611-153K	15uH	30@1MHz	19	0.70	5
MI-321611-183K	18uH		18		
MI-321611-223K	22uH		16	0.90	
MI-321611-273K	27uH		14		
MI-321611-333K	33uH		13		

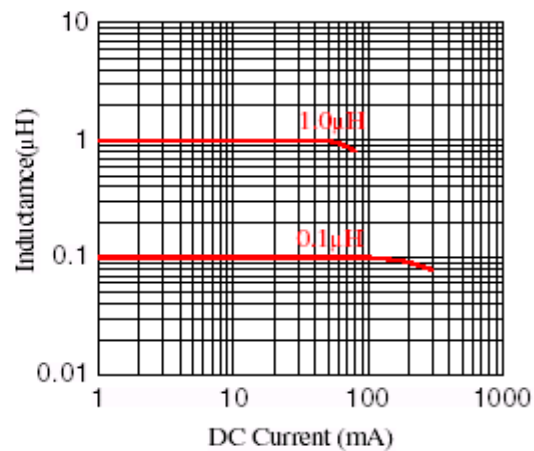
### TYPICAL ELECTRICAL CHARACTERISTIC CURVES

#### \*\*\*MI-160808 Series Curves

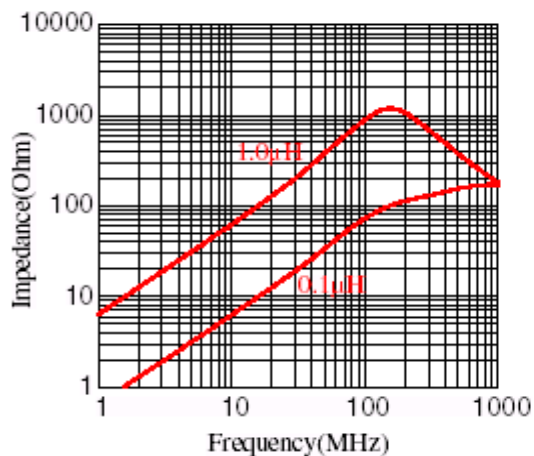
Q Value vs. Frequency



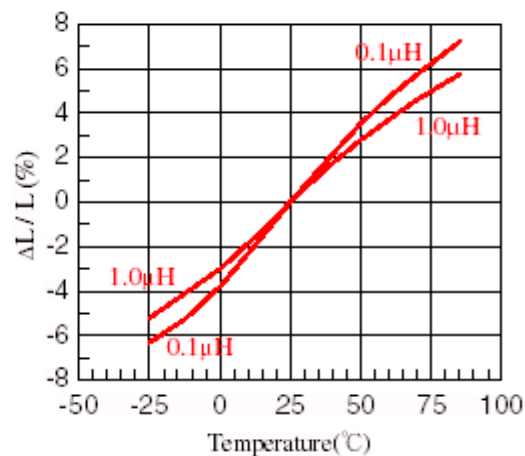
Inductance vs. DC Current



Impedance vs. Frequency

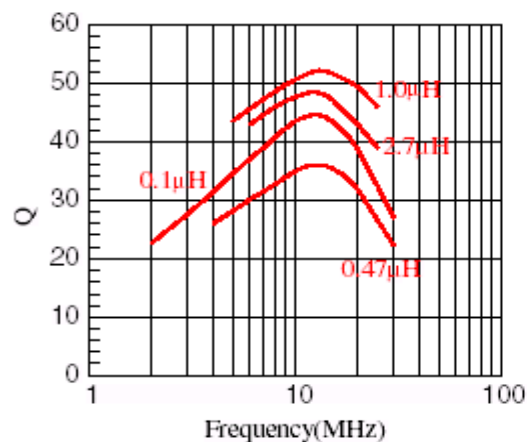


Inductance vs. Temperature

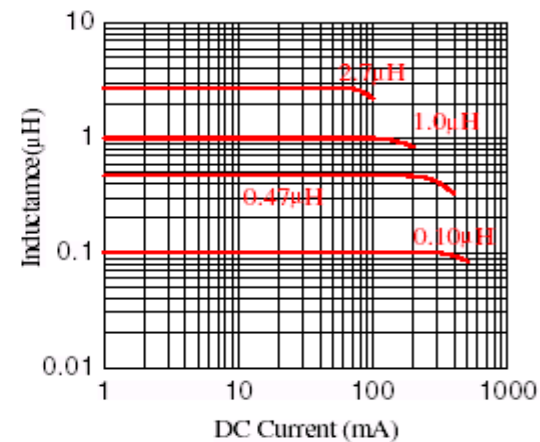


#### \*\*\*MI-201209 Series Curves

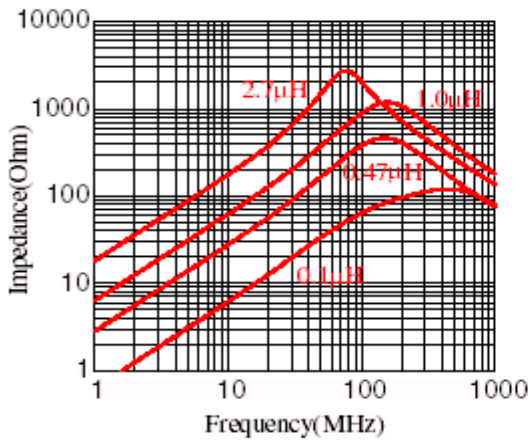
Q Value vs. Frequency



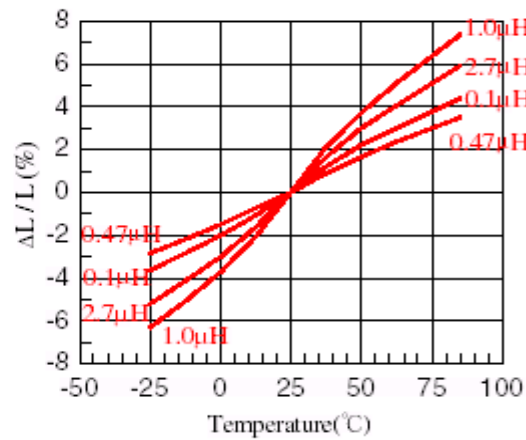
Inductance vs. DC Current



Impedance vs. Frequency

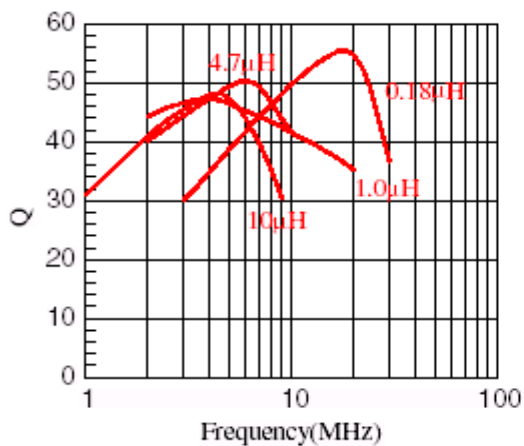


Inductance vs. Temperature

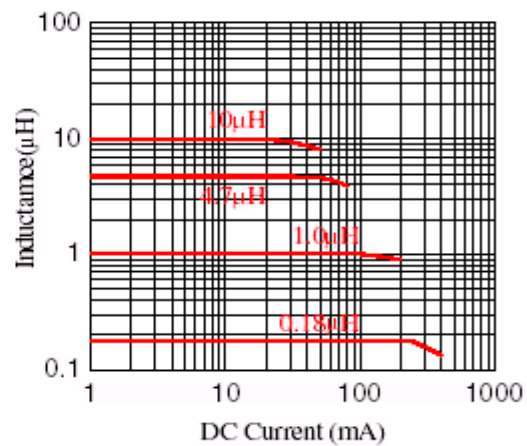


### \*\*\*MI-321611 Series Curves

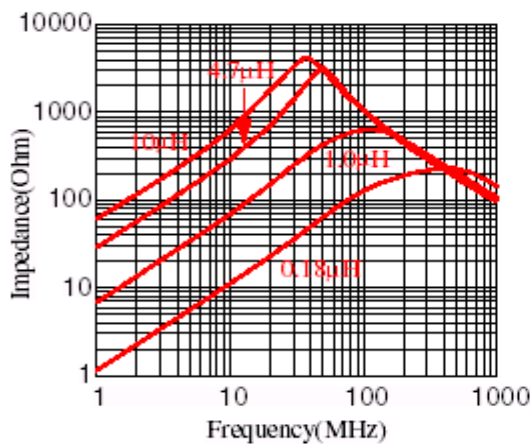
Q Value vs. Frequency



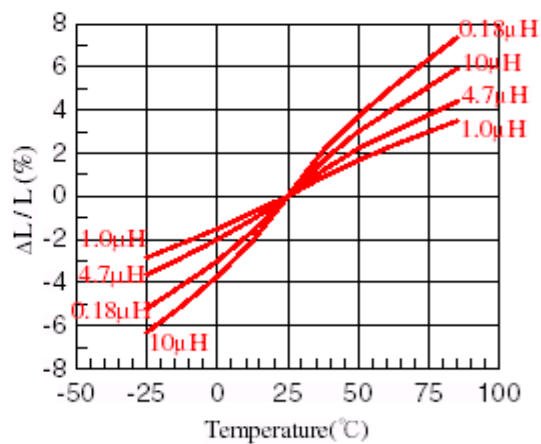
Inductance vs. DC Current



Impedance vs. Frequency



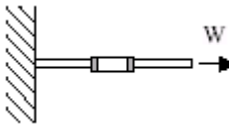
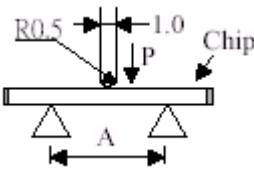
Inductance vs. Temperature



### CLIMATIC TEST

TEST ITEMS	SPECIFICATIONS	TEST CONDITIONS
Thermal Shock (Temperature Cycle)	> Impedance should be within 20% of the initial value. > Q value should be within 30% of initial value.	Temperature cycles -25°C then 85°C for 30 minutes each, total 50 cycles.
Humidity Resistance		Temperature: 60°C Humidity: 90% RH Applied Current: rated current
High Temperature Resistance		Temperature: 80°C Applied Current: rated current

### PERFORMANCE TEST

TEST	SPECIFICATIONS	TEST CONDITIONS		
Solderability	More than 90% of the terminal electrode Will be covered with fresh solder.	Solder: H63A (Eutectic Solder) Solder Temperature: 230°C +5°C Flux: Rosin		
Soldering Heat Resistance	No crack on the chip More than 75% of the terminal electrode Will be covered with solder	Solder: H63A (Eutectic Solder) Solder Temperature: 260°C +5°C Flux: Rosin		
Terminal Strength	The terminal electrode will not break and No damage on the ferrite. 	TYPE	KGf	TIMES (Sec.)
		MI-160808	0.6	30+-5 sec.
		MI-201209		
		MI-201212		
		MI-321611	1.0	
MI-322513				
Bending Strength	There is no mechanical damage. No damage on the ferrite dielectric 	TYPE	KGf	A (mm)
		MI-160808	0.6	1.0
		MI-201209	1.0	1.4
		MI-201212		
		MI-321611	2.0	2.0
MI-322513				

Please contact [sales@skywellnet.com](mailto:sales@skywellnet.com) if you have further question.