

MULTILAYER FERRITE CHIP INDUCTORS

Series IN-X



OUTLINE

- ◆ Gausstek's Multilayer chip inductor is formed without a wound wire and has closed magnetic circuit formed by simultaneous forming of alternative layers of ferrite pasted and conductor paste.
- ◆ However this multilayer chip inductor results in magnetic shielding the absence of leakage flux makes it most suitable for high density mounting.

FEATURES

- ◆ These components are standard SMD parts and specially designed for flow and reflow soldering.
- ◆ Specially designed for surface mounting equipment. Available in various size which allows them to wide range of application and usage.

APPLICATIONS

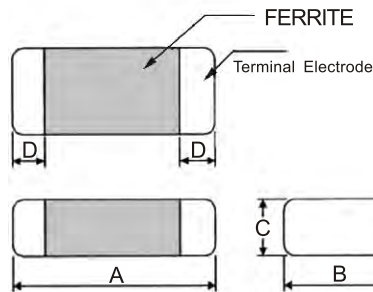
- ◆ For main board, CD-ROM, Hardisk Driver, Wireless Phone, Pager and other related devices.

PRODUCT IDENTIFICATION

IN 03 X 31 4 K 1U2
a **b** **c** **d** **e** **f** **g**

- a : Type of Products
- b : Dimension - 03:1608 05:2012 06:3216
- c : Design code - X=General current t
- d : Thickness - 31=0.8mm, 35=0.9mm, 43=1.1mm, 50=1.25mm
- e : Packing - PCS/REEL - 4=4,000, 3=3,000
- f : Tolerance - K : $\pm 10\%$ M : $\pm 20\%$
- g : Inductance - 1N8=0.0018 μ H, 100N=0.1 μ H, 1U=1.0 μ H, 1U2=1.2 μ H

SHAPES & DIMENSIONS



Unit : mm

Type	Alias in mm	Alias in inch	A	B	C	D
IN03X31	160808	0603	1.6 \pm 0.20	0.80 \pm 0.20	0.80 \pm 0.20	0.3 \pm 0.20
IN05X35	201209	0805	2.0 \pm 0.20	1.25 \pm 0.20	0.90 \pm 0.20	0.5 \pm 0.30
IN05X50	201212	0805	2.0 \pm 0.20	1.25 \pm 0.20	1.25 \pm 0.20	0.5 \pm 0.30
IN06X43	321611	1206	3.2 \pm 0.20	1.60 \pm 0.20	1.10 \pm 0.20	0.5 \pm 0.30

PACKAGING QUANTITY

Type	Alias in mm	Alias in inch	PCS/REEL
IN03X31	160808	0603	4,000
IN05X35	201209	0805	4,000
IN05X50	201212	0805	3,000
IN06X43	321611	1206	3,000

MULTILAYER FERRITE CHIP INDUCTORS

Series **IN-X**

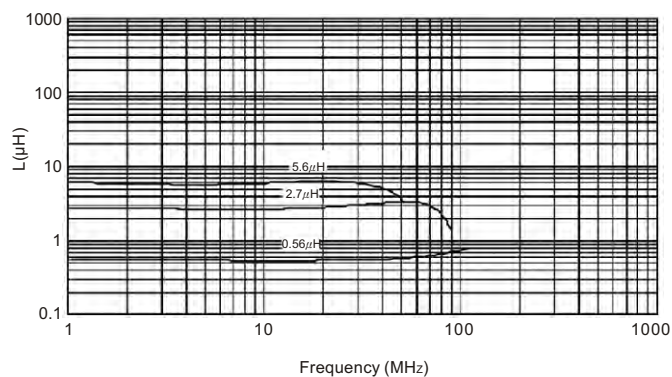
ELECTRICAL CHARACTERISTICS

160808 (0603)

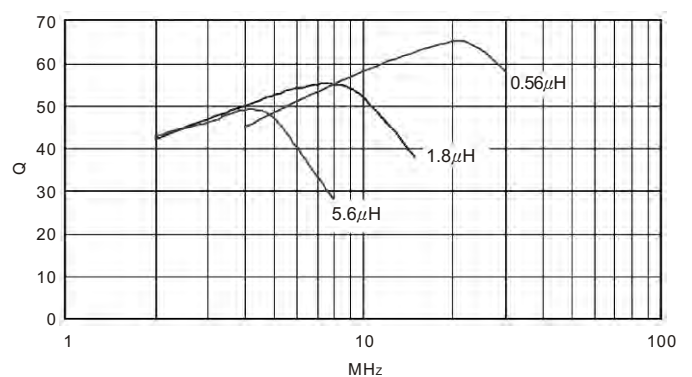
Part Number	Inductance (μ H)	Q Min.	L,Q Test Frequency (MHz)	Self Resonant Frequency (MHz) min.	D.C Resistance RDC (Ω) max.	IDC (mA) max.	Tolerance
IN03X314M-10N	0.010	15	50	300	0.20	50	20%
IN03X314M-33N	0.033	15	50	270	0.20	50	20%
IN03X314M-47N	0.047	15	50	260	0.30	50	20%
IN03X314M-56N	0.056	15	50	255	0.30	50	20%
IN03X314M-68N	0.068	15	50	250	0.30	50	20%
IN03X314M-82N	0.082	15	50	245	0.30	50	20%
IN03X314□-100N	0.100	25	25	240	0.50	50	20% or 10%
IN03X314□-120N	0.120	25	25	205	0.50	50	20% or 10%
IN03X314□-150N	0.150	25	25	180	0.60	50	20% or 10%
IN03X314□-180N	0.180	25	25	165	0.60	50	20% or 10%
IN03X314□-220N	0.220	25	25	150	0.80	50	20% or 10%
IN03X314□-270N	0.270	25	25	136	0.80	50	20% or 10%
IN03X314□-330N	0.330	25	25	125	0.85	35	20% or 10%
IN03X314□-390N	0.390	25	25	110	1.00	35	20% or 10%
IN03X314□-470N	0.470	25	25	105	1.35	35	20% or 10%
IN03X314□-560N	0.560	25	25	95	1.50	35	20% or 10%
IN03X314□-680N	0.680	25	25	85	1.70	35	20% or 10%
IN03X314□-820N	0.820	25	25	75	2.10	35	20% or 10%
IN03X314□-1U	1.000	35	10	65	0.60	25	20% or 10%
IN03X314□-1U2	1.200	35	10	60	0.80	25	20% or 10%
IN03X314□-1U5	1.500	35	10	55	0.80	25	20% or 10%
IN03X314□-1U8	1.800	35	10	50	0.95	25	20% or 10%
IN03X314□-2U2	2.200	35	10	45	1.10	15	20% or 10%
IN03X314□-2U7	2.700	35	10	40	1.30	15	20% or 10%
IN03X314□-3U3	3.300	35	10	38	1.50	15	20% or 10%
IN03X314□-3U9	3.900	35	10	36	1.70	15	20% or 10%
IN03X314□-4U7	4.700	35	10	33	2.10	15	20% or 10%
IN03X314□-5U6	5.600	30	4	22	1.55	15	20% or 10%
IN03X314□-6U8	6.800	30	4	20	1.70	15	20% or 10%
IN03X314□-8U2	8.200	30	4	18	2.10	15	20% or 10%
IN03X314□-10U	10.000	30	2	17	2.55	15	20% or 10%

Test Instruments : HP4291A Impedance / Material Analyzer

Inductance vs. Frequency Characteristics



Q vs. Frequency Characteristics



MULTILAYER FERRITE CHIP INDUCTORS

Series **IN-X**

ELECTRICAL CHARACTERISTICS

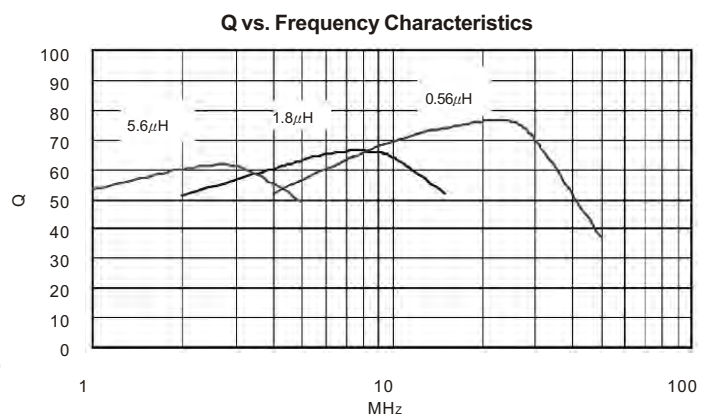
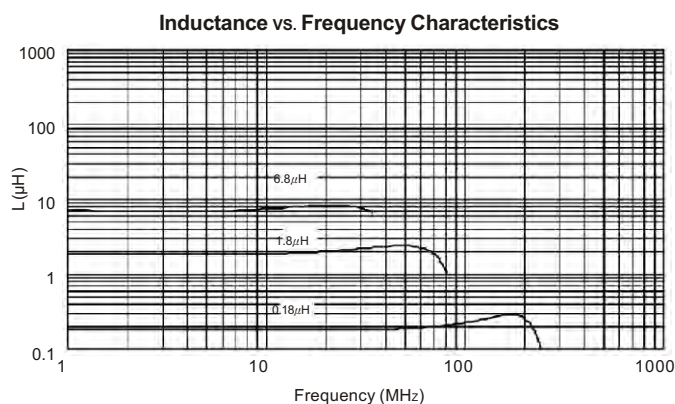
201209(0805)' 201212 (0805)

Part Number	Inductance (μ H)	Q Min.	L,Q Test Frequency (MHz)	Self Resonant Frequency (MHz) Min.	D.C Resistance RDC (Ω) Max.	IDC (mA) Max.	Tolerance
IN05X354M 47N	0.047	20	50	320	0.20	300	20%
IN05X354M 68N	0.068	20	50	280	0.20	300	20%
IN05X354M 82N	0.082	20	50	255	0.20	300	20%
IN05X354□ 100N	0.100	25	25	235	0.30	250	20% or 10%
IN05X354□ 120N	0.120	25	25	220	0.30	250	20% or 10%
IN05X354□ 150N	0.150	25	25	200	0.40	250	20% or 10%
IN05X354□ 180N	0.180	25	25	185	0.40	250	20% or 10%
IN05X354□ 220N	0.220	25	25	170	0.50	250	20% or 10%
IN05X354□ 270N	0.270	25	25	150	0.50	250	20% or 10%
IN05X354□ 330N	0.330	25	25	145	0.55	250	20% or 10%
IN05X354□ 390N	0.390	25	25	135	0.65	250	20% or 10%
IN05X354□ 470N	0.470	25	25	125	0.65	250	20% or 10%
IN05X354□ 560N	0.560	25	25	115	0.75	150	20% or 10%
IN05X354□ 680N	0.680	25	25	105	0.80	150	20% or 10%
IN05X354□ 820N	0.820	25	25	100	1.00	150	20% or 10%
IN05X354□ 1U	1.000	45	10	75	0.40	50	20% or 10%
IN05X354□ 1U2	1.200	45	10	65	0.50	50	20% or 10%
IN05X354□ 1U5	1.500	45	10	60	0.50	50	20% or 10%
IN05X354□ 1U8	1.800	45	10	55	0.60	50	20% or 10%
IN05X354□ 2U2	2.200	45	10	50	0.65	30	20% or 10%
IN05X503□ 2U7	2.700	45	10	45	0.75	30	20% or 10%
IN05X503□ 3U3	3.300	45	10	41	0.80	30	20% or 10%
IN05X503□ 3U9	3.900	45	10	38	0.90	30	20% or 10%
IN05X503□ 4U7	4.700	45	10	35	1.00	30	20% or 10%
IN05X503□ 5U6	5.600	45	4	32	0.90	15	20% or 10%
IN05X503□ 6U8	6.800	45	4	29	1.00	15	20% or 10%
IN05X503□ 8U2	8.200	45	4	26	1.10	15	20% or 10%
IN05X503□ 10U	10.000	45	2	24	1.10	15	20% or 10%
IN05X503□ 12U	12.000	45	2	22	1.20	15	20% or 10%
IN05X503□ 15U	15.000	30	1	19	0.80	5	20% or 10%
IN05X503□ 18U	18.000	30	1	18	0.90	5	20% or 10%
IN05X503□ 22U	22.000	30	1	16	1.10	5	20% or 10%

Test Instruments : HP4291A Impedance / Material Analyzer

** The maximum rated current : the DC current value having temperature increased 40°C after thru DC current 2 hours at ambient temperature.

IN05X35 & IN05X50



MULTILAYER FERRITE CHIP INDUCTORS

Series IN-X ELECTRICAL CHARACTERISTICS 321611 (1206)

Part Number	Inductance (μ H)	Q Min.	L,Q Test Frequency (MHz)	Self Resonant Frequency (MHz) Min.	D.C Resistance RDC (Ω) Max.	IDC (mA) Max.	Tolerance
IN06X433M 47N	0.047	20	50	320	0.15	300	20%
IN06X433M 68N	0.068	20	50	280	0.25	300	20%
IN06X433M 82N	0.082	20	50	250	0.25	300	20%
IN06X433□ 100N	0.100	25	25	235	0.25	250	20% or 10%
IN06X433□ 120N	0.120	25	25	220	0.30	250	20% or 10%
IN06X433□ 150N	0.150	25	25	200	0.30	250	20% or 10%
IN06X433□ 180N	0.180	25	25	185	0.40	250	20% or 10%
IN06X433□ 220N	0.220	25	25	170	0.40	250	20% or 10%
IN06X433□ 270N	0.270	25	25	150	0.50	250	20% or 10%
IN06X433□ 330N	0.330	25	25	145	0.60	250	20% or 10%
IN06X433□ 390N	0.390	25	25	135	0.50	200	20% or 10%
IN06X433□ 470N	0.470	25	25	125	0.60	200	20% or 10%
IN06X433□ 560N	0.560	25	25	115	0.70	150	20% or 10%
IN06X433□ 680N	0.680	25	25	105	0.80	150	20% or 10%
IN06X433□ 820N	0.820	25	25	100	0.90	150	20% or 10%
IN06X433□ 1U	1.000	45	10	75	0.40	100	20% or 10%
IN06X433□ 1U2	1.200	45	10	65	0.50	100	20% or 10%
IN06X433□ 1U5	1.500	45	10	60	0.50	80	20% or 10%
IN06X433□ 1U8	1.800	45	10	55	0.50	70	20% or 10%
IN06X433□ 2U2	2.200	45	10	50	0.60	60	20% or 10%
IN06X433□ 2U7	2.700	45	10	45	0.60	60	20% or 10%
IN06X433□ 3U3	3.300	45	10	41	0.70	60	20% or 10%
IN06X433□ 3U9	3.900	45	10	38	0.80	50	20% or 10%
IN06X433□ 4U7	4.700	45	10	35	0.90	50	20% or 10%
IN06X433□ 5U6	5.600	45	4	32	0.70	25	20% or 10%
IN06X433□ 6U8	6.800	45	4	29	0.80	25	20% or 10%
IN06X433□ 8U2	8.200	45	4	26	0.90	25	20% or 10%
IN06X433□ 10U	10.000	45	2	24	1.00	25	20% or 10%
IN06X433□ 12U	12.000	45	2	22	1.00	15	20% or 10%
IN06X433□ 15U	15.000	35	1	19	0.70	5	20% or 10%
IN06X433□ 18U	18.000	35	1	18	0.75	5	20% or 10%
IN06X433□ 22U	22.000	35	1	16	0.90	5	20% or 10%
IN06X433□ 27U	27.000	35	1	14	0.90	5	20% or 10%
IN06X433□ 33U	33.000	35	1	13	1.05	5	20% or 10%

Test Instruments : HP4291A Impedance / Material Analyzer

