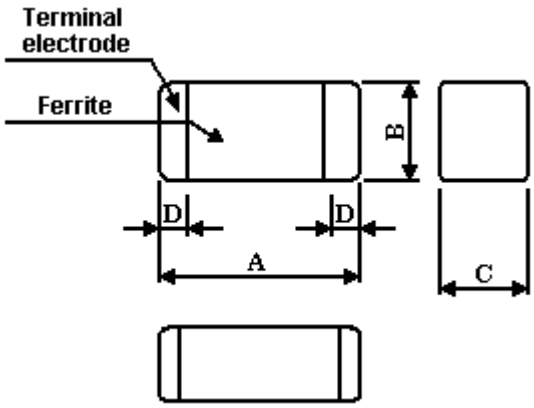
MULTILAYER CHIP INDUCTORS
EFL SERIES

■ FEATURES

- Most compact size available without direction and easy for mounting.
- Excellent solderability and high heat resistance for either flow or reflow soldering.
- Closed magnetic circuit avoids crosstalk and is suitable for high density PCB.
- Monolithic material construction for high reliability.

■ DIMENSIONS (UNIT: mm)



Type	A± 0.2(0.008)	B± 0.2(0.008)	C± 0.2(0.008)	D± 0.3(0.012)
EFL 1608	1.6 (0.063)	0.8 (0.031)	0.8 (0.031)	0.4 (0.016)
EFL 2102	2.0 (0.079)	1.25 (0.049)	*	0.5 (0.020)
EFL 3216	3.2 (0126)	1.6 (0.063)	*	0.5 (0.020)
EFL 3225	3.2 (0126)	2.5 (0.098)	*	0.5 (0.020)

* See attach "product's thickness" dimensions.

■ PART NUMBERING SYSTEM

EFL 2012 47N M 1

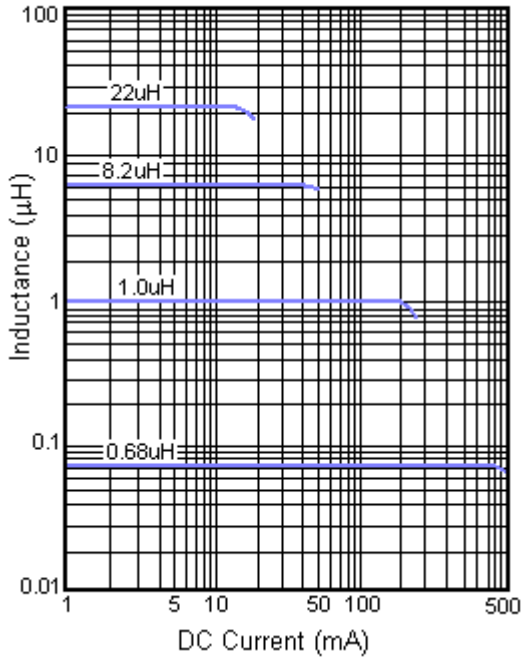
- EFL — Product Name: Multilayer Chip Inductors
- 2012 — Dimensions: Length(mm) x Width(mm)
- 47N — Inductance: 0.047 μH
- M — Tolerance: M=± 20%, K=± 10%
- 1 — Packing: 1: Tape and 7" reel; 2: Tape and 13" reel; 3: Bulk

■ Electrical Characteristics (Type: EFL 1608)

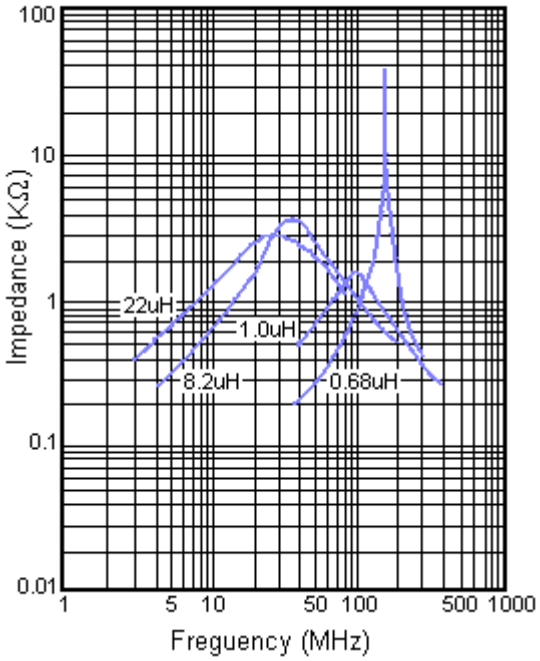
Part No.	Product Thickness (mm)	Inductance (μ H)	Q (Min.)	L, Q Test Frequency (MHz)	SRF (MHz) Min.	DC Resistance (Ω)Max.	Rating Current (mA)Max.
EFL 1608-47N-＊	0.8± 0.15	0.047	10	50	260	0.30	50
EFL 1608-68N-＊	0.8± 0.15	0.068	10	50	250	0.30	50
EFL 1608-82N-＊	0.8± 0.15	0.082	10	50	245	0.30	50
EFL 1608-R10-＊	0.8± 0.15	0.10	15	25	240	0.50	50
EFL 1608-R12-＊	0.8± 0.15	0.12	15	25	205	0.50	50
EFL 1608-R15-＊	0.8± 0.15	0.15	15	25	180	0.60	50
EFL 1608-R18-＊	0.8± 0.15	0.18	15	25	165	0.60	50
EFL 1608-R22-＊	0.8± 0.15	0.22	15	25	150	0.80	50
EFL 1608-R27-＊	0.8± 0.15	0.27	15	25	136	0.80	50
EFL 1608-R33-＊	0.8± 0.15	0.33	15	25	125	0.85	35
EFL 1608-R39-＊	0.8± 0.15	0.39	15	25	110	1.00	35
EFL 1608-R47-＊	0.8± 0.15	0.47	15	25	105	1.35	35
EFL 1608-R56-＊	0.8± 0.15	0.56	15	25	95	1.55	35
EFL 1608-R68-＊	0.8± 0.15	0.68	15	25	90	1.70	35
EFL 1608-R82-＊	0.8± 0.15	0.82	15	25	85	2.10	35
EFL 1608-1R0-＊	0.8± 0.15	1.0	35	10	75	0.60	25
EFL 1608-1R2-＊	0.8± 0.15	1.2	35	10	65	0.80	25
EFL 1608-1R5-＊	0.8± 0.15	1.5	35	10	60	0.80	25
EFL 1608-1R8-＊	0.8± 0.15	1.8	35	10	55	0.95	25
EFL 1608-2R2-＊	0.8± 0.15	2.2	35	10	50	1.15	15
EFL 1608-2R7-＊	0.8± 0.15	2.7	35	10	45	1.35	15
EFL 1608-3R3-＊	0.8± 0.15	3.3	35	10	40	1.55	15
EFL 1608-3R9-＊	0.8± 0.15	3.9	35	10	35	1.70	15
EFL 1608-4R7-＊	0.8± 0.15	4.7	35	10	33	2.10	15
EFL 1608-5R6-＊	0.8± 0.15	5.6	35	4	22	1.55	5
EFL 1608-6R8-＊	0.8± 0.15	6.8	35	4	20	1.70	5

■ Typical Electrical Characteristics Curves (Type: EFL 1608)

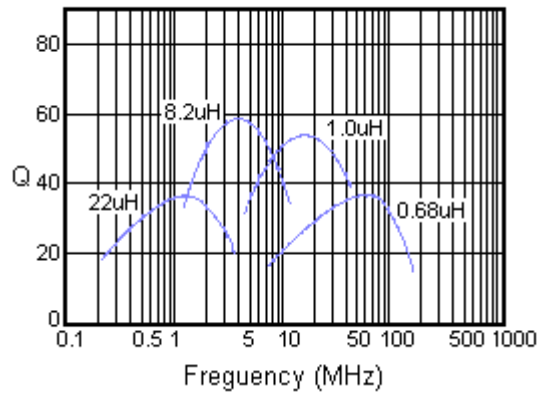
DC Bias Characteristics



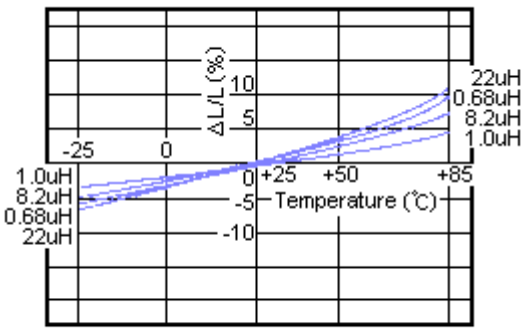
Impedance Characteristics



Q Characteristics



Temperature Characteristics

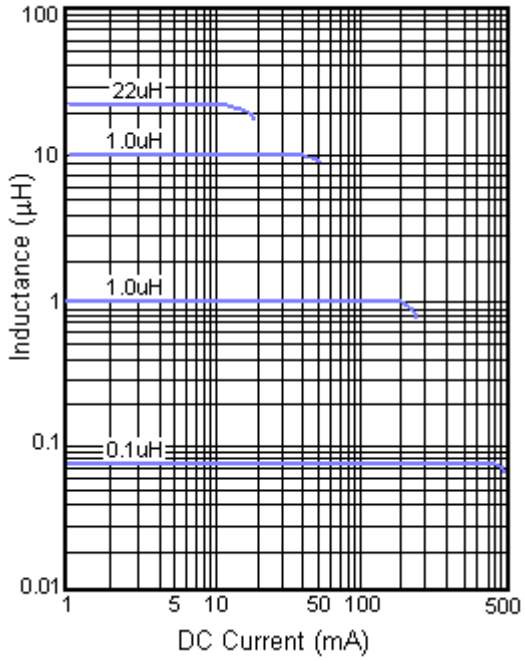


■ Electrical Characteristics (Type: EFL 2012)

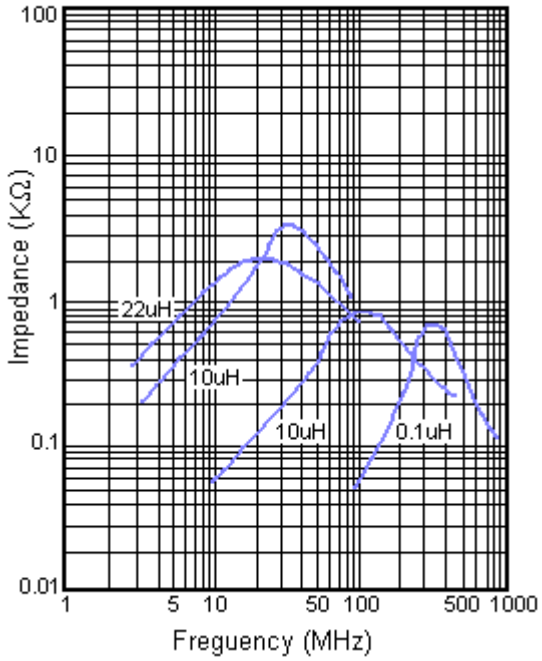
Part No.	Product Thickness (mm)	Inductance (μ H)	Q (Min.)	L, Q Test Frequency (MHz)	SRF (MHz) Min.	DC Resistance (Ω)Max.	Rating Current (mA)Max.
EFL 2012-47N-＊	0.85± 0.2	0.047	15	50	320	0.20	300
EFL 2012-68N-＊	0.85± 0.2	0.068	15	50	280	0.20	300
EFL 2012-82N-＊	0.85± 0.2	0.082	15	50	255	0.20	300
EFL 2012-R10-＊	0.85± 0.2	0.10	20	25	235	0.30	250
EFL 2012-R12-＊	0.85± 0.2	0.12	20	25	220	0.30	250
EFL 2012-R15-＊	0.85± 0.2	0.15	20	25	200	0.40	250
EFL 2012-R18-＊	0.85± 0.2	0.18	20	25	185	0.40	250
EFL 2012-R22-＊	0.85± 0.2	0.22	20	25	170	0.50	250
EFL 2012-R27-＊	0.85± 0.2	0.27	20	25	150	0.50	250
EFL 2012-R33-＊	0.85± 0.2	0.33	20	25	145	0.55	250
EFL 2012-R39-＊	0.85± 0.2	0.39	25	25	135	0.65	200
EFL 2012-R47-＊	1.25± 0.2	0.47	25	25	125	0.65	200
EFL 2012-R56-＊	1.25± 0.2	0.56	25	25	115	0.75	150
EFL 2012-R68-＊	1.25± 0.2	0.68	25	25	105	0.80	150
EFL 2012-R82-＊	1.25± 0.2	0.82	25	25	100	1.00	150
EFL 2012-1R0-＊	0.85± 0.2	1.0	45	10	75	0.40	50
EFL 2012-1R2-＊	0.85± 0.2	1.2	45	10	65	0.50	50
EFL 2012-1R5-＊	0.85± 0.2	1.5	45	10	60	0.50	50
EFL 2012-1R8-＊	0.85± 0.2	1.8	45	10	55	0.60	50
EFL 2012-2R2-＊	0.85± 0.2	2.2	45	10	50	0.65	30
EFL 2012-2R7-＊	1.25± 0.2	2.7	45	10	45	0.75	30
EFL 2012-3R3-＊	1.25± 0.2	3.3	45	10	41	0.80	30
EFL 2012-3R9-＊	1.25± 0.2	3.9	45	10	38	0.90	30
EFL 2012-4R7-＊	1.25± 0.2	4.7	45	10	35	1.00	30
EFL 2012-5R6-＊	1.25± 0.2	5.6	50	4	32	0.90	15
EFL 2012-6R8-＊	1.25± 0.2	6.8	50	4	29	1.00	15
EFL 2012-8R2-＊	1.25± 0.2	8.2	50	4	26	1.10	15
EFL 2012-100-＊	1.25± 0.2	10.0	50	2	24	1.15	15

■ Typical Electrical Characteristics Curves (Type: EFL 2012)

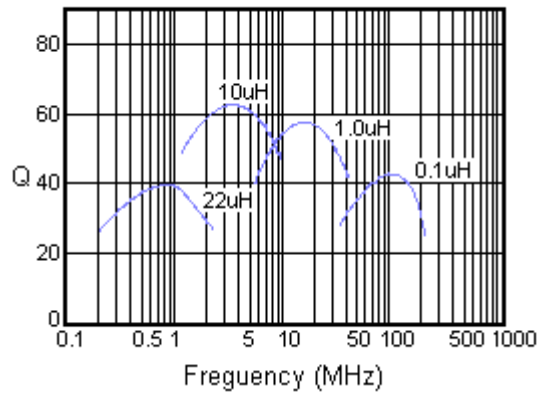
DC Bias Characteristics



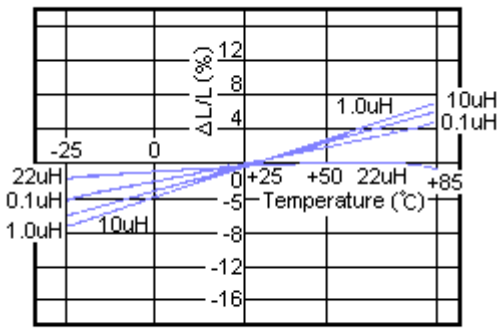
Impedance Characteristics



Q Characteristics



Temperature Characteristics

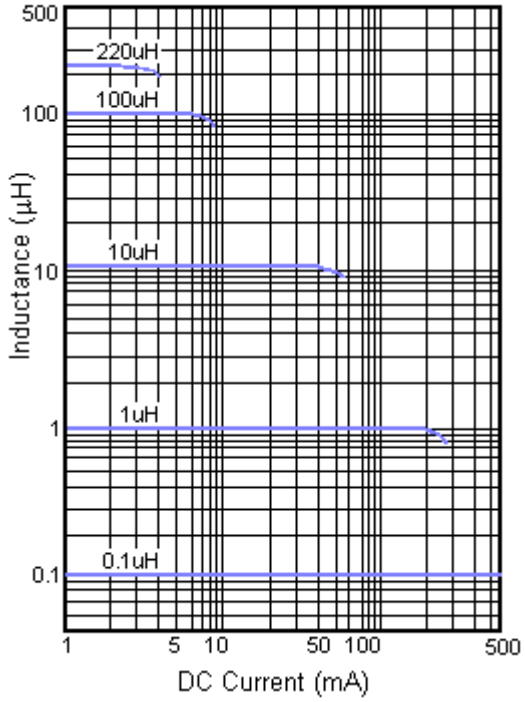


■ Electrical Characteristics (Type: EFL 3216)

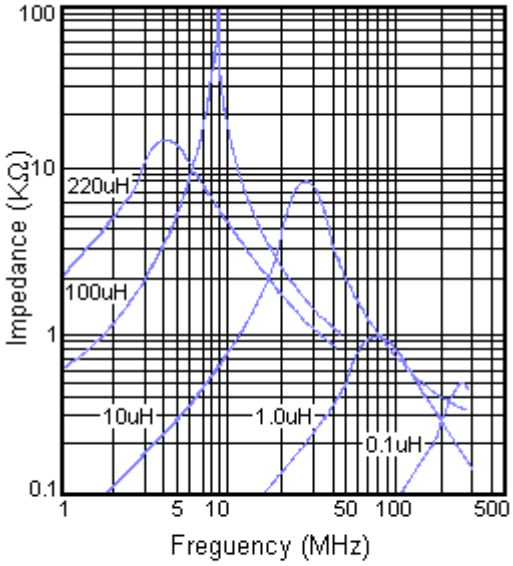
Part No.	Product Thickness (mm)	Inductance (μ H)	Q (Min.)	L, Q Test Frequency (MHz)	SRF (MHz) Min.	DC Resistance (Ω)Max.	Rating Current (mA)Max.
EFL 3216-47N-＊	1.1± 0.2	0.047	20	50	320	0.15	300
EFL 3216-68N-＊	1.1± 0.2	0.068	20	50	280	0.25	300
EFL 3216-R10-＊	1.1± 0.2	0.10	20	25	235	0.25	250
EFL 3216-R12-＊	1.1± 0.2	0.12	20	25	220	0.30	250
EFL 3216-R15-＊	1.1± 0.2	0.15	20	25	200	0.30	250
EFL 3216-R18-＊	1.1± 0.2	0.18	20	25	185	0.40	250
EFL 3216-R22-＊	1.1± 0.2	0.22	20	25	170	0.40	250
EFL 3216-R27-＊	1.1± 0.2	0.27	20	25	150	0.50	250
EFL 3216-R33-＊	1.1± 0.2	0.33	20	25	145	0.60	235
EFL 3216-R39-＊	1.1± 0.2	0.39	25	25	135	0.50	200
EFL 3216-R47-＊	1.1± 0.2	0.47	25	25	125	0.60	200
EFL 3216-R56-＊	1.1± 0.2	0.56	25	25	115	0.70	150
EFL 3216-R68-＊	1.1± 0.2	0.68	25	25	105	0.80	150
EFL 3216-R82-＊	1.1± 0.2	0.82	25	25	100	0.90	150
EFL 3216-1R0-＊	1.1± 0.2	1.0	45	10	75	0.40	100
EFL 3216-1R2-＊	1.1± 0.2	1.2	45	10	65	0.50	100
EFL 3216-1R5-＊	1.1± 0.2	1.5	45	10	60	0.50	50
EFL 3216-1R8-＊	1.1± 0.2	1.8	45	10	55	0.50	50
EFL 3216-2R2-＊	1.1± 0.2	2.2	45	10	50	0.60	50
EFL 3216-2R7-＊	1.1± 0.2	2.7	45	10	45	0.60	50
EFL 3216-3R3-＊	1.1± 0.2	3.3	45	10	41	0.70	50
EFL 3216-3R9-＊	1.1± 0.2	3.9	45	10	38	0.80	50
EFL 3216-4R7-＊	1.1± 0.2	4.7	45	10	35	0.90	50
EFL 3216-5R6-＊	1.1± 0.2	5.6	50	4	32	0.70	25
EFL 3216-6R8-＊	1.1± 0.2	6.8	50	4	29	0.80	25
EFL 3216-8R2-＊	1.1± 0.2	8.2	50	4	26	0.90	25
EFL 3216-100-＊	1.1± 0.2	10.0	50	2	24	1.00	25
EFL 3216-120-＊	1.1± 0.2	12.0	50	2	22	1.05	15
EFL 3216-150-＊	1.6± 0.2	15.0	35	1	19	0.70	5
EFL 3216-180-＊	1.6± 0.2	18.0	35	1	18	0.70	5
EFL 3216-220-＊	1.6± 0.2	22.0	35	1	16	0.90	5

■ Typical Electrical Characteristics Curves (Type: EFL 3216)

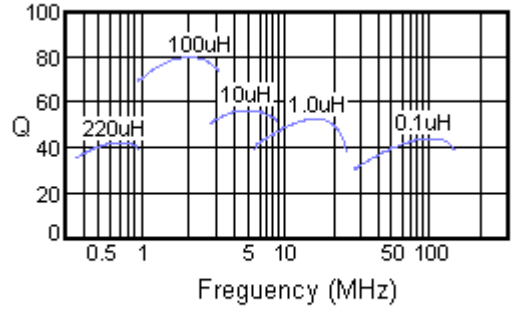
DC Bias Characteristics



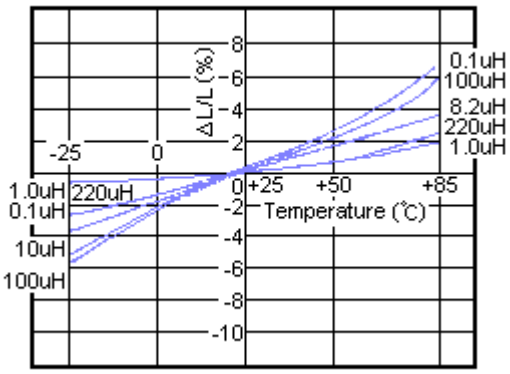
Impedance Characteristics



Q Characteristics



Temperature Characteristics

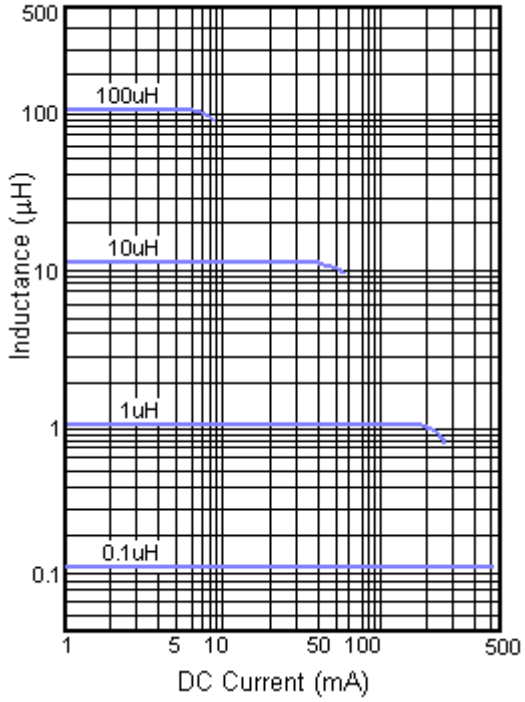


■ Electrical Characteristics (Type: EFL 3225)

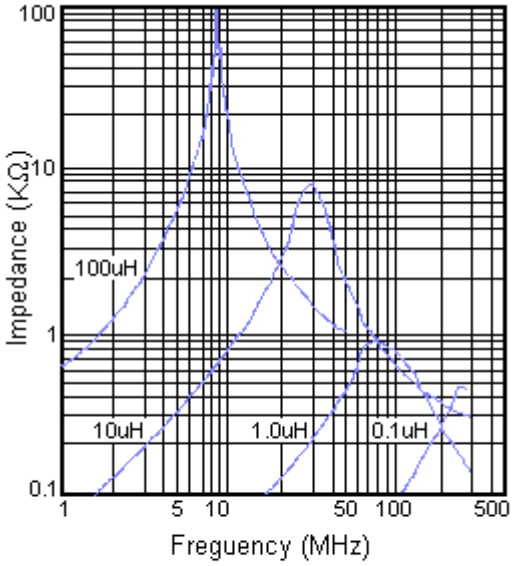
Part No.	Product Thickness (mm)	Inductance (μ H)	Q (Min.)	L, Q Test Frequency (MHz)	SRF (MHz) Min.	DC Resistance (Ω)Max.	Rating Current (mA)Max.
EFL 3225-47N-＊	1.3± 0.3	0.047	15	50	320	0.15	300
EFL 3225-68N-＊	1.3± 0.3	0.068	15	50	280	0.25	300
EFL 3225-R10-＊	1.3± 0.3	0.10	20	25	235	0.25	250
EFL 3225-R12-＊	1.3± 0.3	0.12	20	25	220	0.30	250
EFL 3225-R15-＊	1.3± 0.3	0.15	20	25	200	0.30	250
EFL 3225-R18-＊	1.3± 0.3	0.18	20	25	185	0.40	250
EFL 3225-R22-＊	1.3± 0.3	0.22	20	25	170	0.40	250
EFL 3225-R27-＊	1.3± 0.3	0.27	20	25	150	0.50	250
EFL 3225-R33-＊	1.3± 0.3	0.33	20	25	145	0.60	250
EFL 3225-R39-＊	1.3± 0.3	0.39	25	25	135	0.50	200
EFL 3225-R47-＊	1.3± 0.3	0.47	25	25	125	0.60	200
EFL 3225-R56-＊	1.3± 0.3	0.56	25	25	115	0.70	150
EFL 3225-R68-＊	1.3± 0.3	0.68	25	25	105	0.80	150
EFL 3225-R82-＊	1.3± 0.3	0.82	25	25	100	0.90	150
EFL 3225-1R0-＊	1.3± 0.3	1.0	45	10	75	0.40	100
EFL 3225-1R2-＊	1.3± 0.3	1.2	45	10	65	0.50	100
EFL 3225-1R5-＊	1.3± 0.3	1.5	45	10	60	0.50	50
EFL 3225-1R8-＊	1.3± 0.3	1.8	45	10	55	0.50	50
EFL 3225-2R2-＊	1.3± 0.3	2.2	45	10	50	0.60	50
EFL 3225-2R7-＊	1.3± 0.3	2.7	45	10	45	0.60	50
EFL 3225-3R3-＊	1.3± 0.3	3.3	45	10	41	0.70	50
EFL 3225-3R9-＊	1.3± 0.3	3.9	45	10	38	0.80	50
EFL 3225-4R7-＊	1.3± 0.3	4.7	45	10	35	0.90	50
EFL 3225-5R6-＊	1.3± 0.3	5.6	50	4	32	0.70	25
EFL 3225-6R8-＊	1.3± 0.3	6.8	50	4	29	0.80	25
EFL 3225-8R2-＊	1.3± 0.3	8.2	50	4	26	0.90	25
EFL 3225-100-＊	1.3± 0.3	10	50	2	24	1.00	25

■ Typical Electrical Characteristics Curves (Type: EFL 3225)

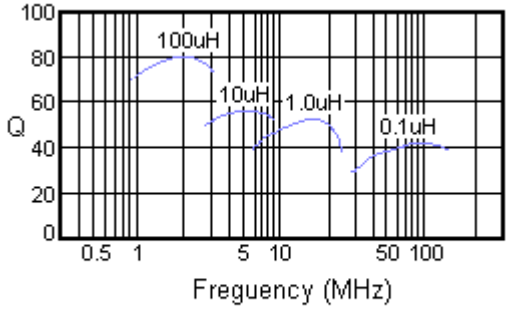
DC Bias Characteristics



Impedance Characteristics



Q Characteristics



Temperature Characteristics