

DATA SHEET

INDUCTOR

Power Inductors

BKPx Series

RoHS compliant & Halogen Free



Multilayer Power Inductors



The BKPx Series is a miniature type of multilayer power inductor constructed using low-loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC-DC converter applications in space-limited boards.

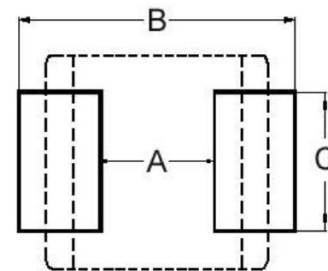
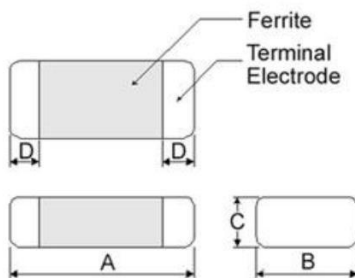
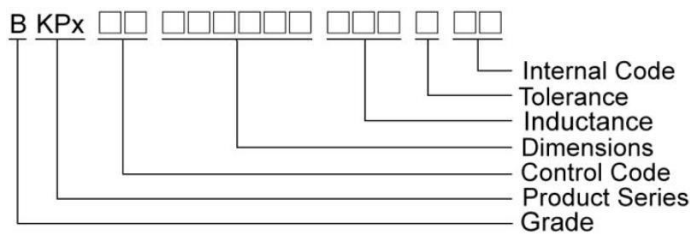
Features

- RoHS, Halogen Free and REACH Compliance
- Small size
- Low profile
- High current
- Magnetically shielded configuration allowing for high density mounting

Applications

- DC-DC converters
- Power modules
- Cellular phones
- DSC, PND, DVD
- Wireless card and other electronic devices

Product Identification



Dimensions in mm

TYPE	A	B	C	D
1608GX	1.6±0.15	0.8±0.15	0.5±0.05	0.3±0.2
1608FZ	1.6±0.15	0.8±0.15	0.6±0.15	0.3±0.2
1608DZ	1.6±0.15	0.8±0.15	0.8±0.15	0.3±0.2
2012G5	2.0±0.20	1.25±0.20	0.55 Max	0.5±0.3
201210	2.0±0.20	1.25±0.20	1.0 Max	0.5±0.3
201610	2.0±0.20	1.6±0.20	1.0 Max	0.5±0.3
252010	2.5±0.20	2.0±0.20	1.0 Max	0.6±0.2
252012	2.5±0.20	2.0±0.20	1.2 Max	0.6±0.2

Dimensions in mm

TYPE	A	B	C
1608GX	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
1608FZ	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
1608DZ	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
2012G5	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201210	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4
201610	0.8 ~ 1.2	2.1 ~ 2.7	1.6 ~ 2.0
252010	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6
252012	1.3 ~ 1.9	2.7 ~ 3.5	2.0 ~ 2.6

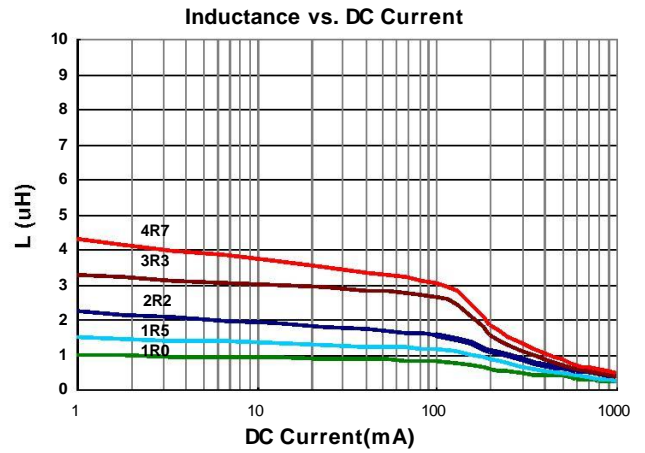
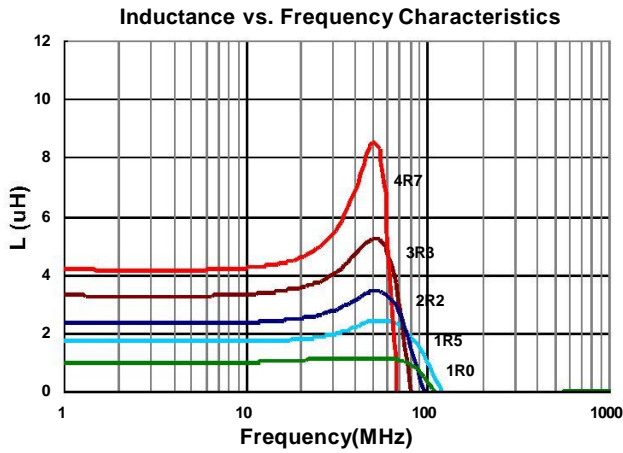
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Rated current (mA) Max
BKPA002012101R0□00	1.0	20, 30	1	0.18	1100
BKPA002012101R5□00	1.5	20, 30	1	0.19	1000
BKPA002012102R2□00	2.2	20, 30	1	0.22	900
BKPA002012103R3□00	3.3	20, 30	1	0.25	700
BKPA002012104R7□00	4.7	20, 30	1	0.35	600

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

- Operating temperature range -55°C ~ 125°C (Including self - temperature rise)
- Rated Current for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
L : Agilent HP4287A+16197A, 1MHz 200mV
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer



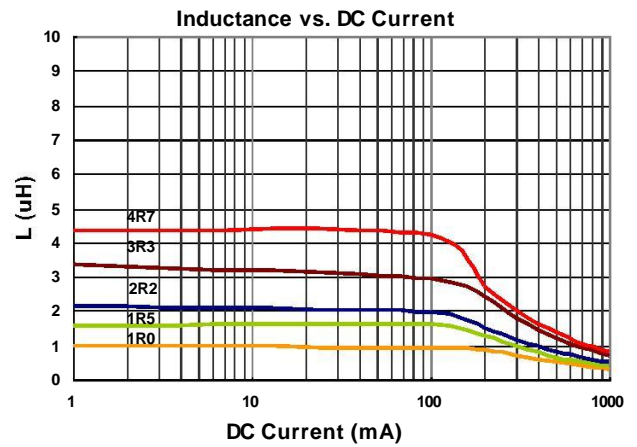
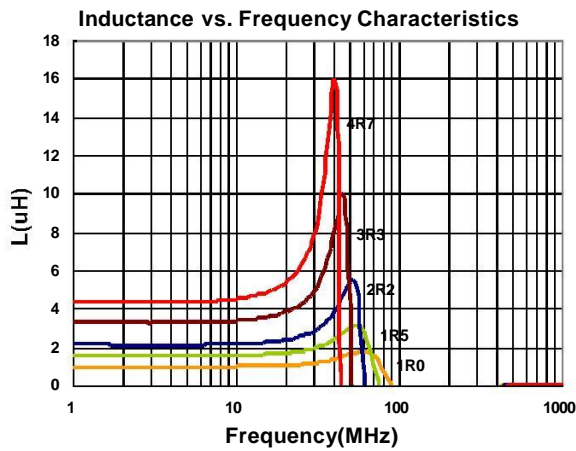
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Rated current (mA) Max
BKPA002520101R0□00	1.0	20, 30	1	0.11	1200
BKPA002520101R5□00	1.5	20, 30	1	0.13	1100
BKPA002520102R2□00	2.2	20, 30	1	0.15	1000
BKPA002520103R3□00	3.3	20, 30	1	0.18	1000
BKPA002520104R7□00	4.7	20, 30	1	0.25	900

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

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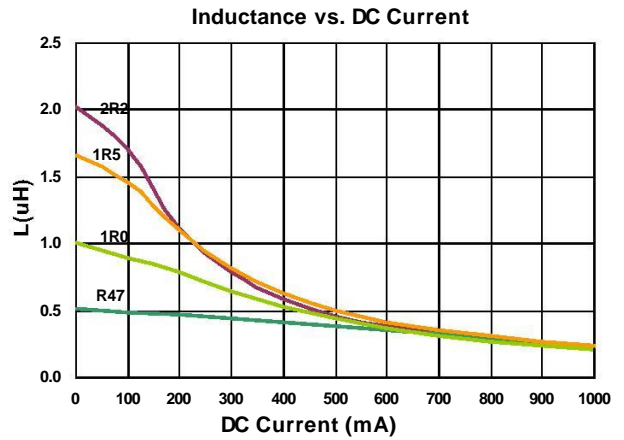
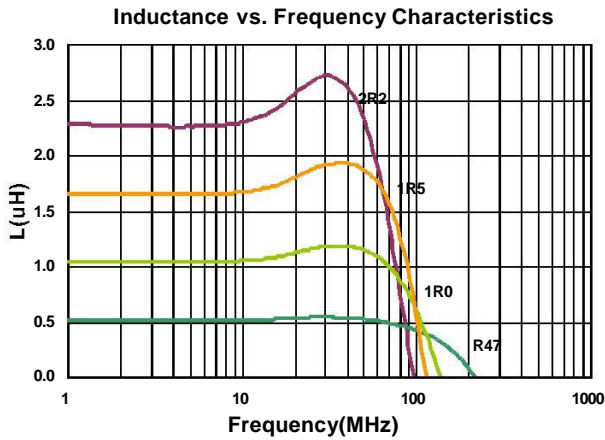
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±25%	Isat (mA) Max	Irms (mA) Max
BKPB001608GXR47□A6	0.47	20, 30	3	0.15	420	1200
BKPB001608GX1R0□A6	1.0	20, 30	3	0.20	180	1200
BKPB001608GX1R5□A6	1.5	20, 30	3	0.22	130	1000
BKPB001608GX2R2□A6	2.2	20, 30	3	0.24	100	1000

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

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- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
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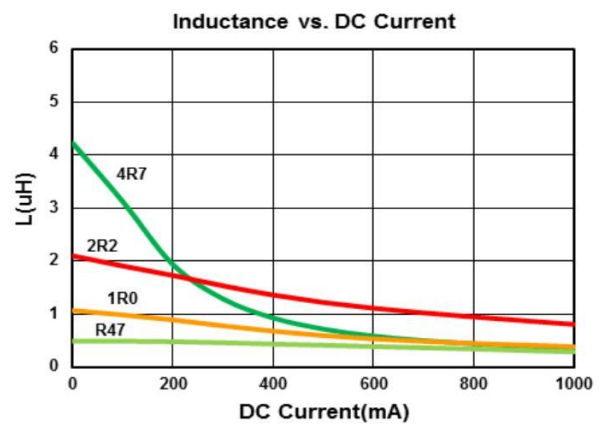
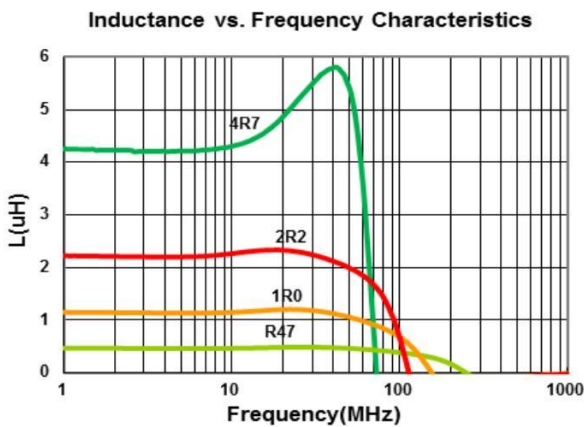
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
BKPB001608DZR47□A2	0.47	20, 30	3	0.15	400	1100
BKPB001608DZ1R0□A2	1.0	20, 30	3	0.20	200	950
BKPB001608DZ2R2□A2	2.2	20, 30	3	0.30	150	750
BKPB001608DZ4R7□A6	4.7	20	3	0.44±25%	80	800

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

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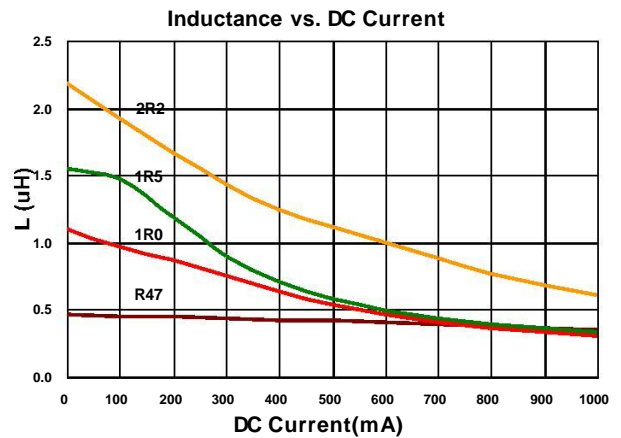
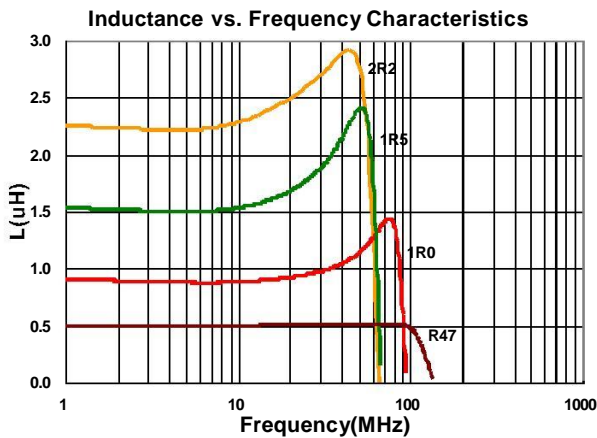
Electrical Characteristics

Part Number	Inductance (μH)	Tolerance ($\pm\%$)	Test Frequency (MHz)	RDC (Ω) $\pm 30\%$	Isat (mA) Max	Irms (mA) Max
BKPB002012G5R47□A2	0.47	20, 30	3	0.11	900	1200
BKPB002012G51R0□A2	1.0	20, 30	3	0.16	300	900
BKPB002012G51R5□A2	1.5	20, 30	3	0.18	250	800
BKPB002012G52R2□A2	2.2	20, 30	3	0.29	200	600
BKPB002012G54R7□A2	4.7	20, 30	3	0.50	100	700

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

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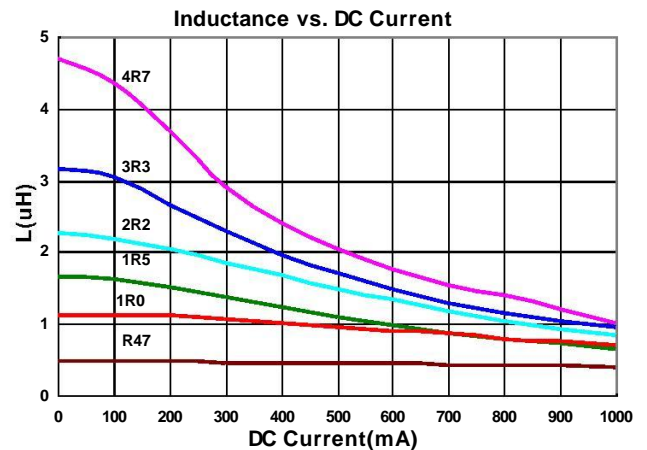
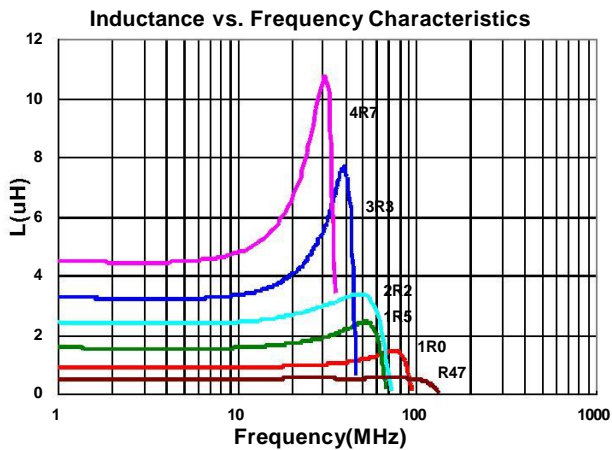
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (mA) Max	Irms (mA) Max
BKPB00201210R47□A2	0.47	20, 30	3	0.09	1100	1300
BKPB002012101R0□A2	1.0	20, 30	3	0.12	650	1200
BKPB002012101R5□A2	1.5	20, 30	3	0.15	450	1100
BKPB002012102R2□A2	2.2	20, 30	3	0.19	400	1100
BKPB002012102R7□A2	2.7	20, 30	3	0.21	300	1000
BKPB002012103R3□A2	3.3	20, 30	3	0.24	300	800
BKPB002012104R7□A2	4.7	20, 30	3	0.26	200	700

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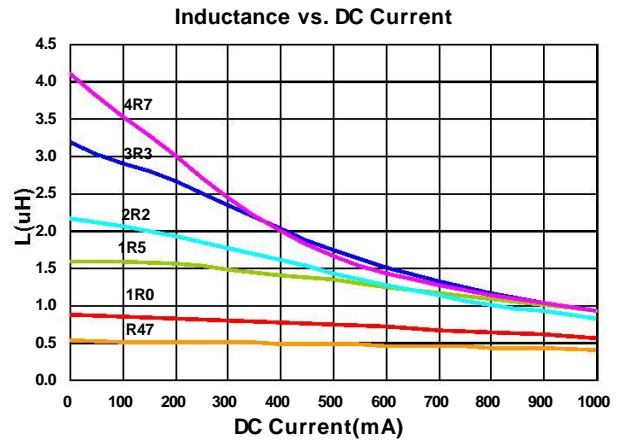
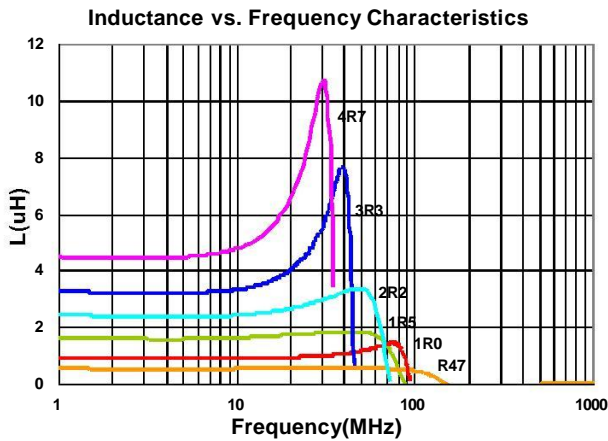
Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω)	Isat (mA) Max	Irms (mA) Max
BKPB00201610R47□A2	0.47	20, 30	3	0.06±30%	1200	1600
BKPB002016101R0□A2	1.0	20, 30	3	0.09±30%	850	1300
BKPB002016102R2□A2	2.2	20, 30	3	0.13±30%	400	1000
BKPB002016103R3□A2	3.3	20, 30	3	0.17±30%	350	850
BKPB002016104R7□A2	4.7	20, 30	3	0.21±30%	200	800
BKPB00201610R47□A6	0.47	20, 30	3	0.06±25%	1200	1600
BKPB002016101R0□A6	1.0	20, 30	3	0.085±25%	850	1300
BKPB002016101R5□A6	1.5	20, 30	3	0.11±25%	600	1200
BKPB002016102R2□A6	2.2	20, 30	3	0.11±25%	400	1200
BKPB002016103R3□A6	3.3	20, 30	3	0.12±25%	350	850
BKPB002016104R7□A6	4.7	20, 30	3	0.14±25%	200	1100

Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T=±30%

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Part Number	Inductance (μH)	Tolerance ($\pm\%$)	Test Frequency (MHz)	RDC (Ω)	Isat (mA) Max	Irms (mA) Max
BKPB00252010R47 A2	0.47	20, 30	3	0.04 \pm 30%	1500	1800
BKPB002520101R0 A2	1.0	20, 30	3	0.06 \pm 30%	900	1500
BKPB002520101R5 A2	1.5	20, 30	3	0.07 \pm 30%	800	1400
BKPB002520102R2 A2	2.2	20, 30	3	0.10 \pm 30%	500	1200
BKPB002520103R3 A2	3.3	20, 30	3	0.12 \pm 30%	400	1100
BKPB002520104R7 A2	4.7	20, 30	3	0.14 \pm 30%	300	1000
BKPB00252010R47 A6	0.47	20, 30	3	0.04 \pm 25%	1500	1800
BKPB002520101R0 A6	1.0	20, 30	3	0.055 \pm 25%	900	1600
BKPB002520102R2 A6	2.2	20, 30	3	0.08 \pm 25%	500	1300
BKPB002520103R3 A6	3.3	20, 30	3	0.10 \pm 25%	400	1200
BKPB002520104R7 A6	4.7	20, 30	3	0.11 \pm 25%	300	1100

Note: When ordering, please specify tolerance code. Tolerance: M= \pm 20% , T= \pm 30%

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Isat for Inductance drop 30% from its value without current

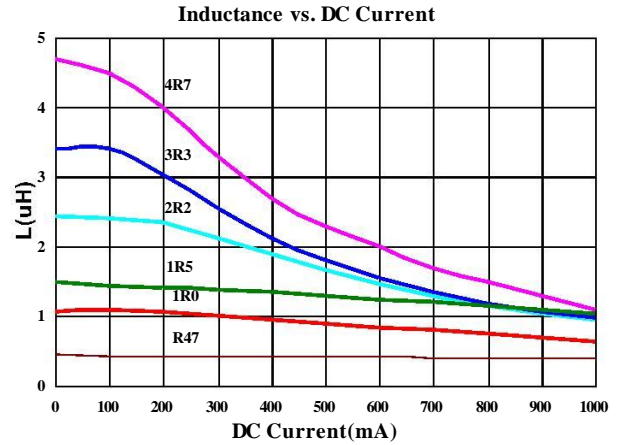
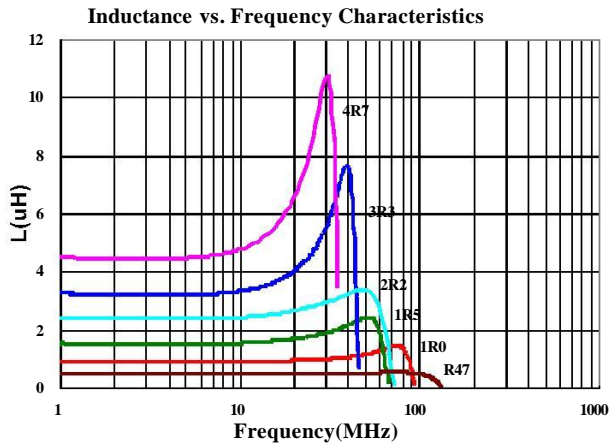
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BKPB00252012R47 A2	0.47	20, 30	3	0.04	1500	1800
BKPB002520121R0 A2	1.0	20, 30	3	0.05	950	1600
BKPB002520121R5 A2	1.5	20, 30	3	0.07	900	1400
BKPB002520122R2 A2	2.2	20, 30	3	0.10	700	1200
BKPB002520123R3 A2	3.3	20, 30	3	0.12	500	1100
BKPB002520124R7 A2	4.7	20, 30	3	0.14	350	1000
BKPB002520126R8 A2	6.8	20, 30	3	0.16	250	900

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

Operating temperature range $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)

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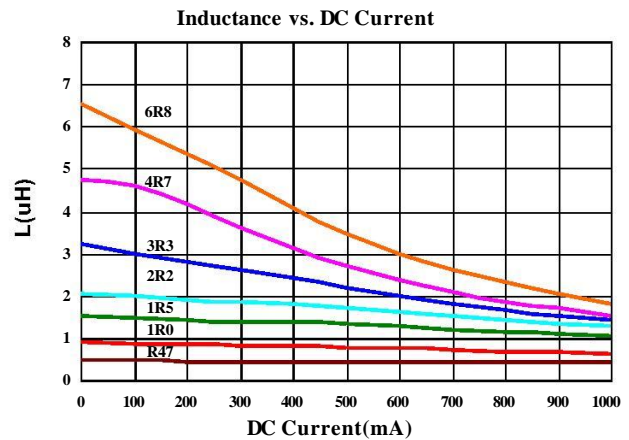
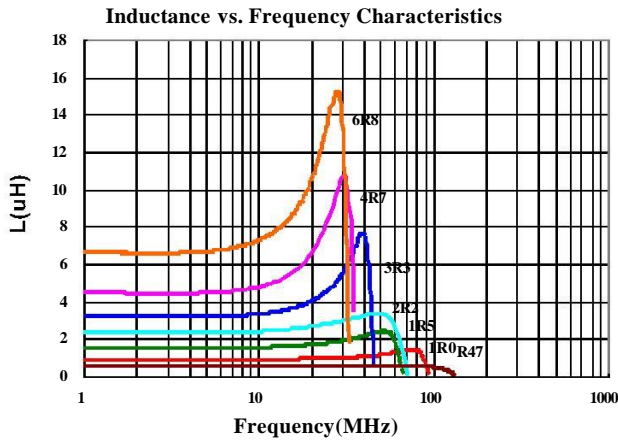
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Electrical Characteristics

Part Number	Inductance (μH)	Tolerance ($\pm\%$)	Test Frequency (MHz)	RDC ($\Omega \pm 25\%$)	Isat(mA) Max(Typ.)	Irms(mA) Max(Typ.)
BKPE001608FZ2R2 A6	2.2	20, 30	3	0.38	250(300)	650(750)

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

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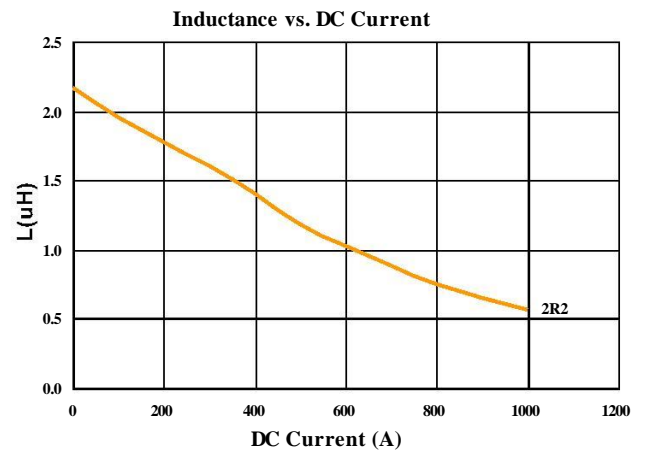
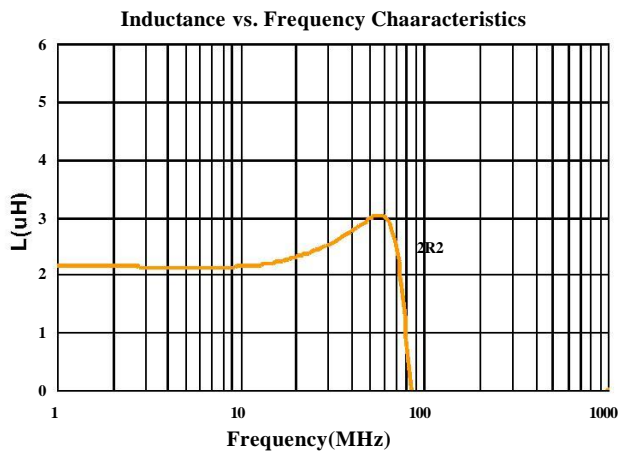
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Electrical Characteristics

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BKPE001608DZ1R0 A6	1.0	20, 30	3	0.13	500(650)	1300(1450)
BKPE001608DZ2R2 A6	2.2	20, 30	3	0.38	300(350)	700(900)

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

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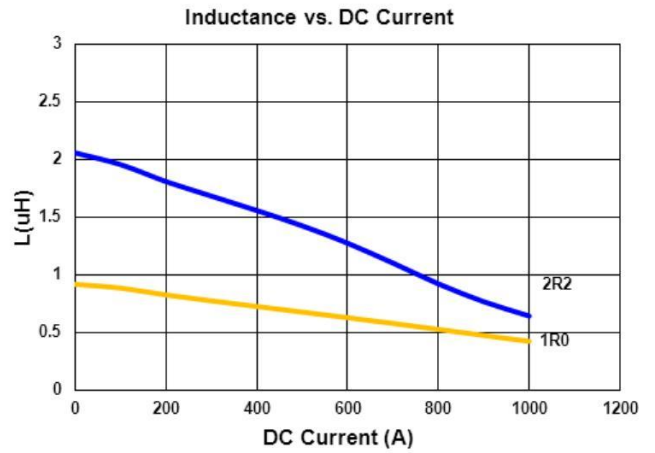
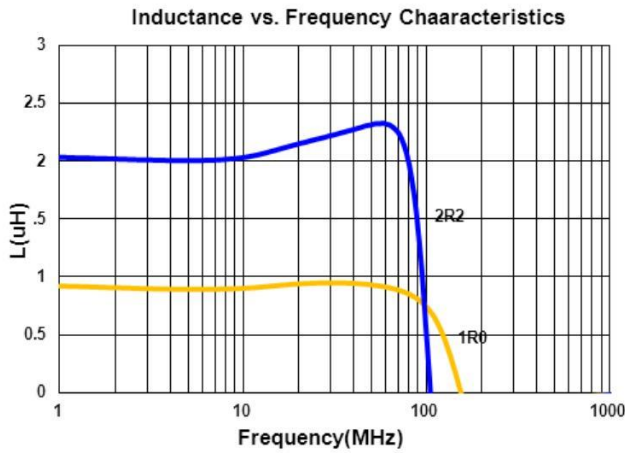
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Electrical Characteristics

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BKPE00201210R24 A2	0.24	20, 30	3	0.03	2700(3300)	2400(3200)
BKPE00201210R47 A2	0.47	20, 30	3	0.06	1600(2000)	2200(3000)
BKPE002012101R0 A2	1.0	20, 30	3	0.10	1400(1700)	1800(2100)
BKPE002012102R2 A2	2.2	20, 30	3	0.125	500(800)	1600(1900)

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

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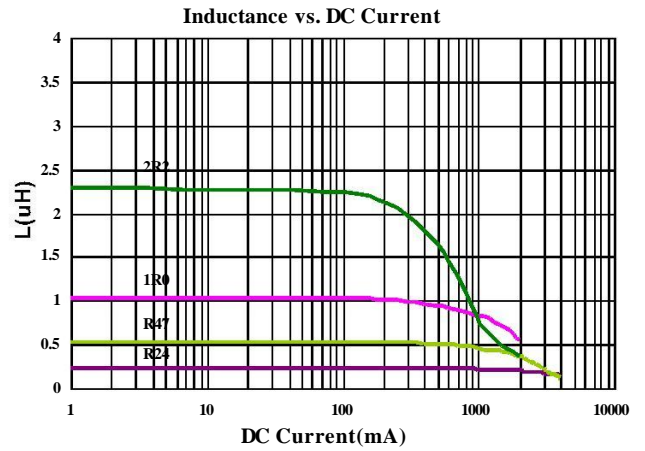
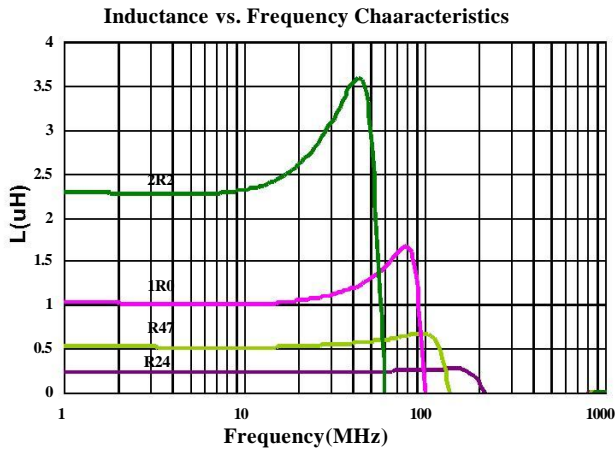
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BKPE00201610R24 A2	0.24	20, 30	3	0.023	3600(4000)	3500(4200)
BKPE00201610R47 A2	0.47	20, 30	3	0.037	2500(2900)	2600(3100)
BKPE00201610R68 A2	0.68	20, 30	3	0.065	2500(2800)	2400(2800)
BKPE002016101R0 A2	1.0	20, 30	3	0.068	1500(1900)	2200(2600)
BKPE002016101R5 A2	1.5	20, 30	3	0.100	1500(1800)	1600(1900)
BKPE002016102R2 A2	2.2	20, 30	3	0.210	1000(1300)	1500(1800)

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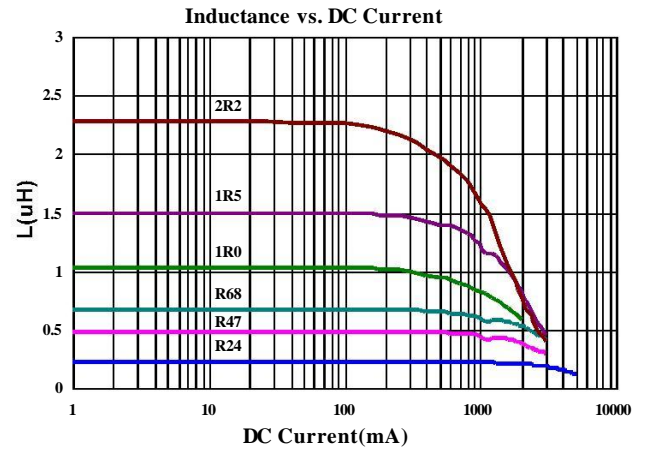
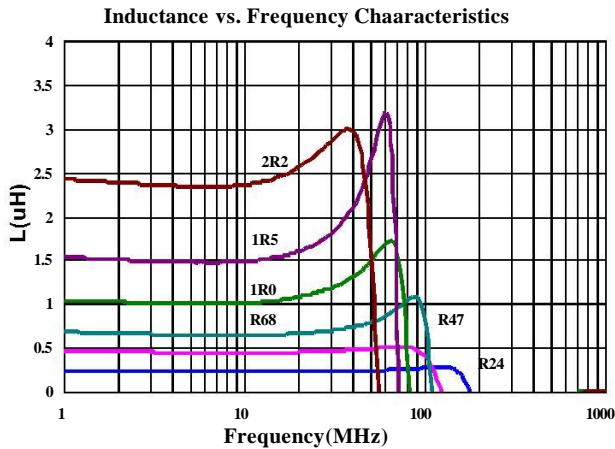
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Electrical Characteristics

Part Number	Inductance (μH)	Tolerance ($\pm\%$)	Test Frequency (MHz)	RDC ($\Omega \pm 25\%$)	Isat(mA) Max(Typ.)	Irms(mA) Max(Typ.)
BKPE00252010R24 A2	0.24	20, 30	3	0.024	4800(5200)	4100(4900)
BKPE00252010R47 A2	0.47	20, 30	3	0.040	3100(3500)	3000(3600)
BKPE002520101R0 A2	1.0	20, 30	3	0.050	1500(1900)	2900(3500)
BKPE002520102R2 A2	2.2	20, 30	3	0.110	1400(1700)	1600(1900)

Note: When ordering, please specify tolerance code. Tolerance: M= $\pm 20\%$, T= $\pm 30\%$

Operating temperature range $-55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)

Isat for Inductance drop 30% from its value without current

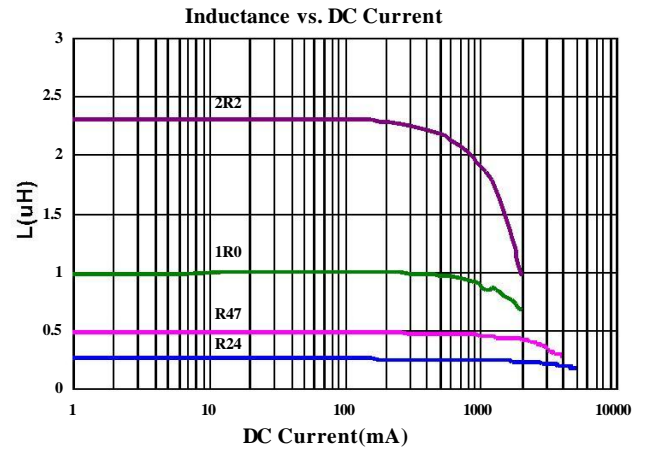
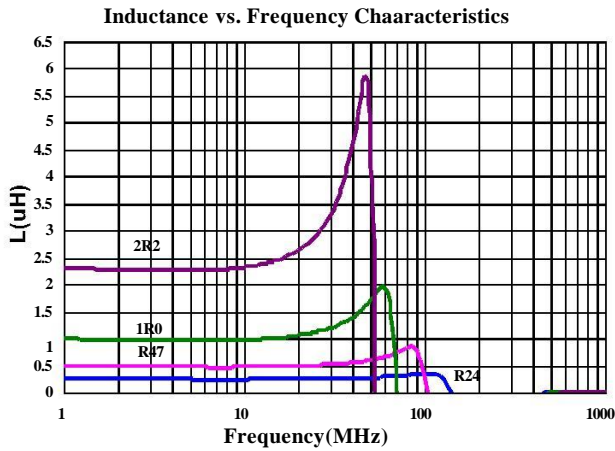
Irms for a 40°C temperature rise from 25°C ambient with current

Measure Equipment :

L : Agilent HP4287A+16197A, 3MHz 200mV

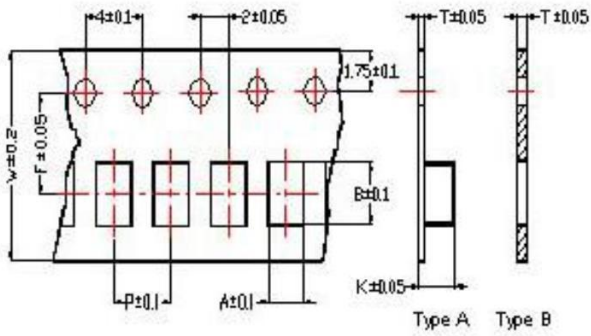
RDC : HP 4338B, or equivalent

Test Instruments : HP4287A Inductance / Material Analyzer

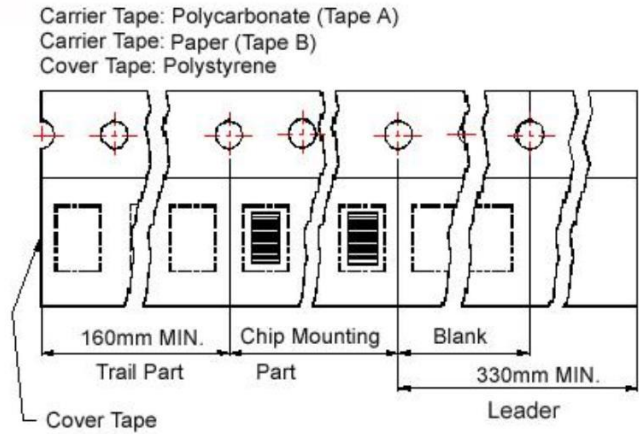


Packaging Specifications

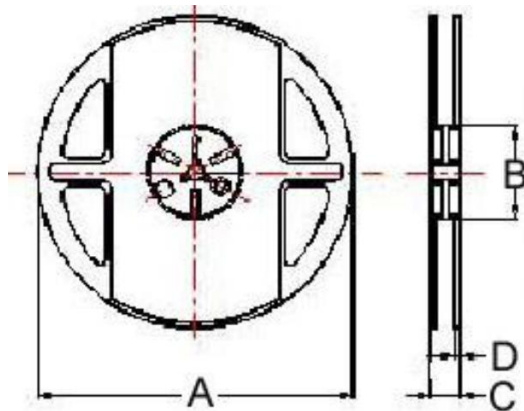
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape Type	A	B	C	D	PCS / REEL
1608GX	1.05	1.85	0.60	8.0	2.0	3.5	-	B	178	60	12	1.5	10000
1608FZ	1.05	1.85	0.75	8.0	4.0	3.5	-	B	178	60	12	1.5	4000
1608DZ	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	1.5	4000
2012G5	1.42	2.25	0.22	8.0	4.0	3.5	0.80	A	178	60	12	1.5	4000
201210	1.45	2.25	0.22	8.0	4.0	3.5	1.04	A	178	60	12	1.5	3000
201610	1.80	2.20	0.22	8.0	4.0	3.5	1.15	A	178	60	12	1.5	3000
252010	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000
252012	2.25	2.8	0.25	8.0	4.0	3.5	1.35	A	178	60	12	1.5	3000

Multilayer Power Inductors



The BKPB Series is a miniature type of multilayer power inductor constructed using low-loss ferrite material to support high-speed switching frequencies. The compact size and high efficiency is ideal for DC-DC converter applications in space-limited boards.

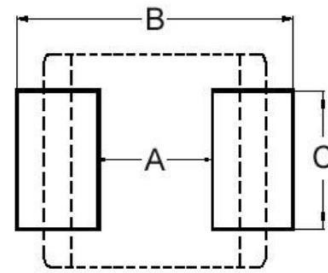
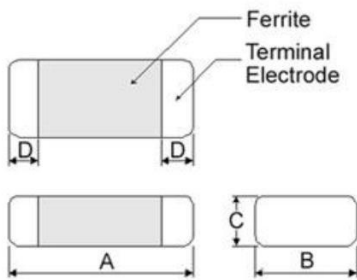
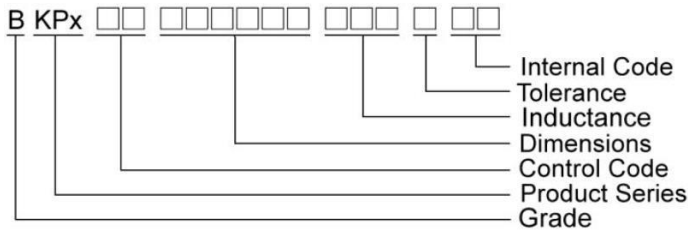
Features

- For High Frequency SW (15MHz to 200MHz)
- Bias Current Characteristics improved.
- Low Power loss
- High DC Bias
- High Current
- Low ACR

Applications

High Frequency DC/DC converter.

Product Identification



Dimensions in mm

TYPE	A	B	C	D
2012C5	2.0 0.20	1.25 0.20	0.95 Max	0.5 0.3

Dimensions in mm

TYPE	A	B	C
2012C5	0.8 ~ 1.2	2.3 ~ 2.9	1.0 ~ 1.4

Electrical Characteristics

Part Number	Inductance (μH)	Tolerance ($\pm\%$)	Test Frequency (MHz)	RDC ($\Omega \pm 30\%$)	Isat (mA) Max	Irms (mA) Max
BKPB002012C522N A2	0.022	10, 20	50	0.044	3000	2000
BKPB002012C533N A2	0.033	10, 20	50	0.050	2700	1800
BKPB002012C547N A2	0.047	10, 20	50	0.058	2400	1600

Note: When ordering, please specify tolerance code. Tolerance: K= $\pm 10\%$, M= $\pm 20\%$

Operating temperature range— $55^{\circ}\text{C} \sim 125^{\circ}\text{C}$ (Including self - temperature rise)

Isat for Inductance drop 30% from its value without current

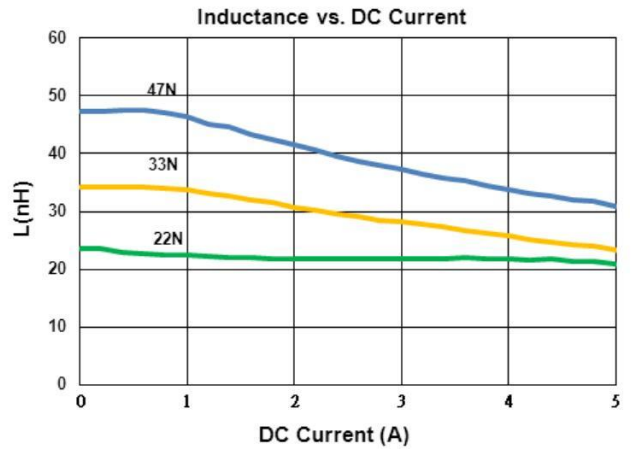
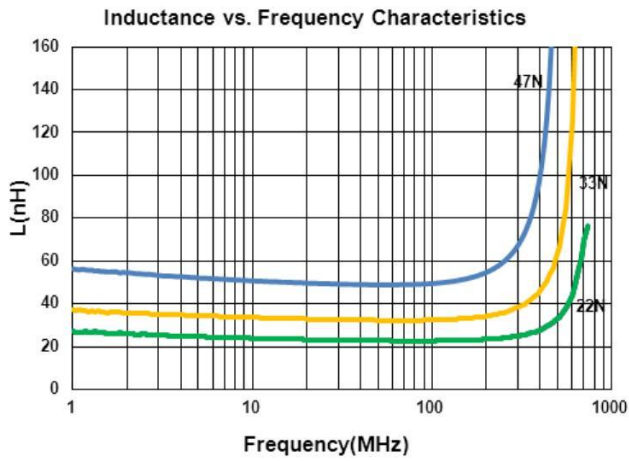
Irms for a 40°C temperature rise from 25°C ambient with current

Measure Equipment :

L : Agilent E4991A+16197A, 50MHz 200mV

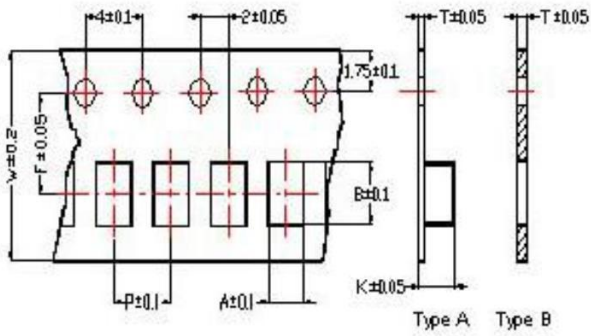
RDC : HP 4338B, or equivalent

Test Instruments : E4991A Inductance / Material Analyzer



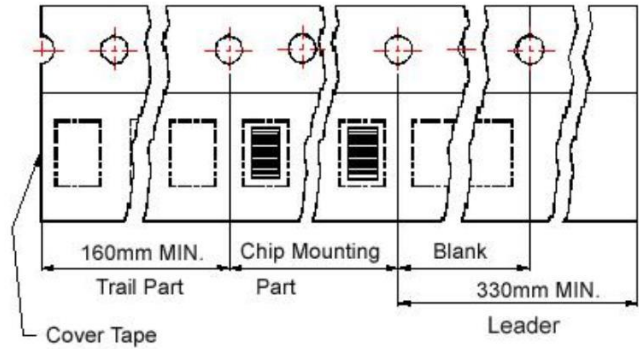
Packaging Specifications

Tape Dimensions

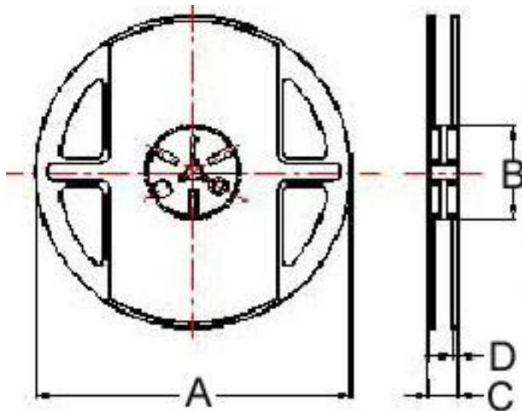


Tape Material

Carrier Tape: Polycarbonate (Tape A)
Carrier Tape: Paper (Tape B)
Cover Tape: Polystyrene



Reel Dimensions



Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape Type	A	B	C	D	PCS / REEL
2012C5	1.45	2.25	0.22	8.0	4.0	3.5	1.04	A	178	60	12	1.5	3000