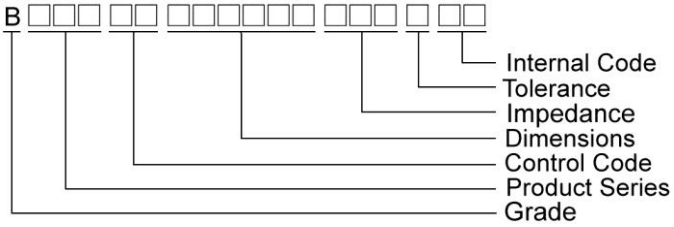
Multilayer Ferrite Chip Beads



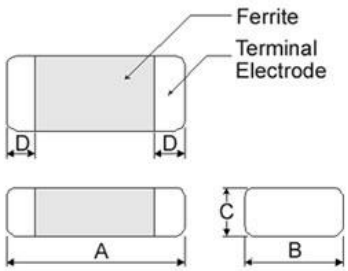
Maglayers offers a wide range of multi-layered ferrite chip beads with various sizes, frequency characteristics, and impedance values for EMI solutions.

These ferrite formulas are used to compose seven types of EMI suppression chip beads: BBSY, BBBK, BBSJ, BBGK, BBPY, BBUP, BBNQ, BBFY, BBFJ and BBHV series.

Product Identification



Shape and Dimensions

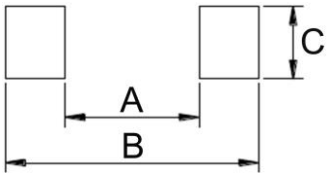


Dimensions in mm

TYPE	A	B	C	D
①060303	0.6±0.03	0.30±0.03	0.3±0.03	0.15±0.05
②100505	1.0±0.10	0.50±0.10	0.5±0.10	0.25±0.10
③160805	1.6±0.15	0.80±0.15	0.5±0.15	0.3±0.2
④160808	1.6±0.15	0.80±0.15	0.8±0.15	0.3±0.2
⑤201209	2.0±0.20	1.25±0.20	0.9±0.20	0.5±0.3
⑥321611	3.2±0.20	1.60±0.20	1.1±0.20	0.5±0.3
⑦453215	4.5±0.25	3.20±0.20	1.5±0.20	0.5±0.3

① : BBSY / BBSJ / BBNQ / BBPY
② : BBSY / BBSJ / BBNQ / BBPY / BBUP / BBFY / BBFJ
③ : BBUP ④ : BBBK / BBSJ / BBGK / BBPY / BBNQ / BBUP / BBHV
⑤ : BBBK / BBGK / BBPY / BBUP ⑥ : BBSY / BBBK / BBPY / BBUP
⑦ : BBPY / BBUP

Recommended Pattern



Dimensions in mm

TYPE	A	B	C
①060303	0.2 ~ 0.3	0.75 ~ 1.05	0.3
②100505	0.4	1.2 ~ 1.4	0.5
③160805	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
④160808	0.7 ~ 0.8	1.8 ~ 2.0	0.6 ~ 0.8
⑤201209	1.0 ~ 1.2	2.6 ~ 4.0	1.0 ~ 1.4
⑥321611	2.0 ~ 2.4	4.2 ~ 5.2	1.3 ~ 1.9
⑦453215	3.0	5.5 ~ 6.5	2.4

* Don't apply narrower pattern than listed above to BBPY and BBUP Narrow pattern might cause excessive heat or open circuit.

Dimension Conversion

Code	Dimension in mm (AxBxC)	EIA
060303	0.6X0.3X0.3	0201
100505	1.0X0.5X0.5	0402
160805	1.6x0.8x0.5	0603
160808	1.6x0.8x0.8	0603
201209	2.0x1.2x0.9	0805
321611	3.2x1.6x.1.1	1206
453215	4.5x3.2x1.5	1812

Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBGK00160808100Y00	10	100	0.03	1000
BBGK00160808110Y00	11	100	0.03	1000
BBGK00160808300Y00	30	100	0.06	800
BBGK00160808400Y00	40	100	0.06	800
BBGK00160808500Y00	50	100	0.06	600
BBGK00160808600Y00	60	100	0.06	700
BBGK00160808700Y00	70	100	0.10	600
BBGK00160808800Y00	80	100	0.10	600
BBGK00160808101Y00	100	100	0.15	600
BBGK00160808121Y00	120	100	0.15	600
BBGK00160808151Y00	150	100	0.15	600
BBGK00160808181Y00	180	100	0.18	400
BBGK00160808201Y00	200	100	0.18	400
BBGK00160808221Y00	220	100	0.18	550
BBGK00160808301Y00	300	100	0.25	500
BBGK00160808331Y00	330	100	0.30	400
BBGK00160808471Y00	470	100	0.30	400
BBGK00160808601Y00	600	100	0.30	400
BBGK00160808102Y00	1000	100	0.45	300
BBGK00160808152Y00	1500	100	0.70	150

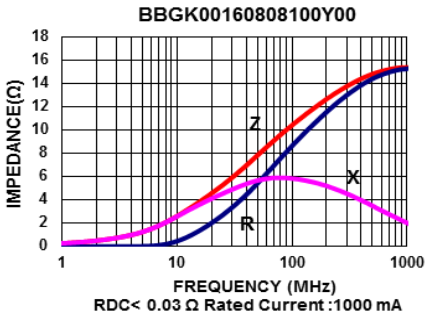
Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

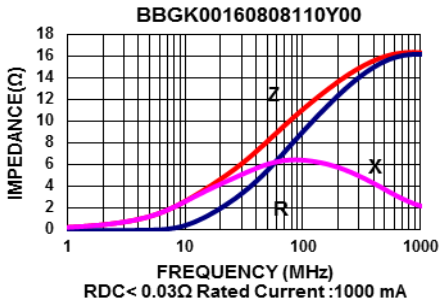
- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

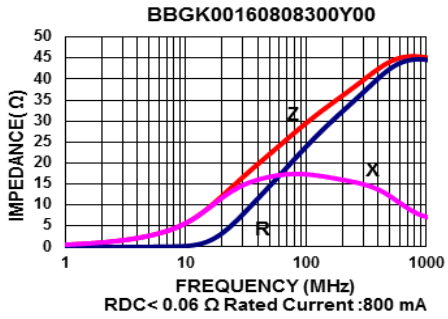
  Z：HP4291A

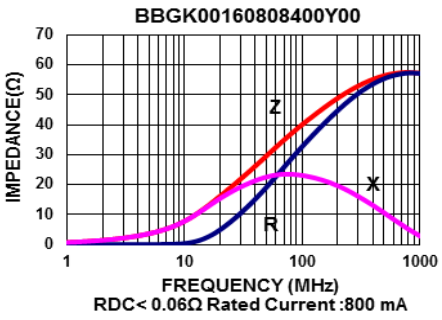
  RDC：HP4338B or CHEN HWA 502

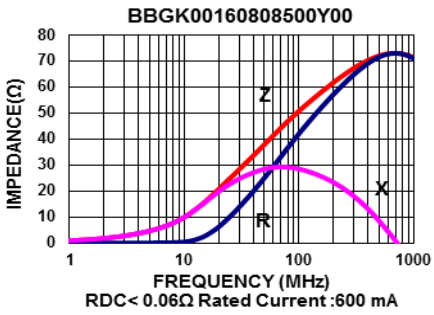
Test Instruments：Agilent E4991A Impedance / Material Analyzer

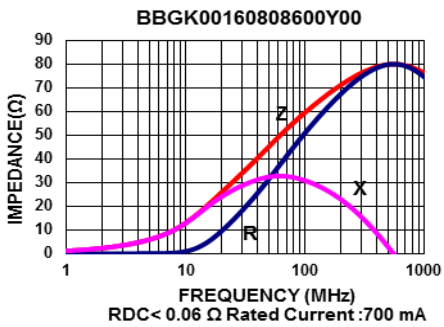












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Test Instruments：Agilent E4991A Impedance / Material Analyzer

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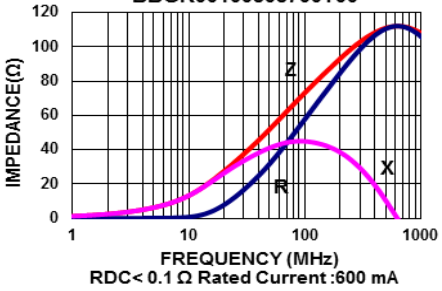

RDC< 0.1 Ω Rated Current :600 mA

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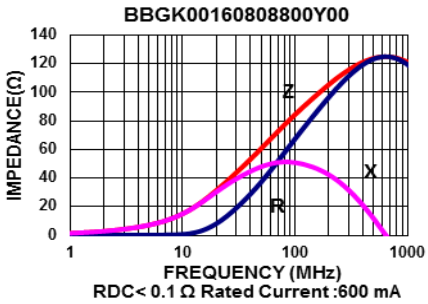

RDC< 0.1 Ω Rated Current :600 mA

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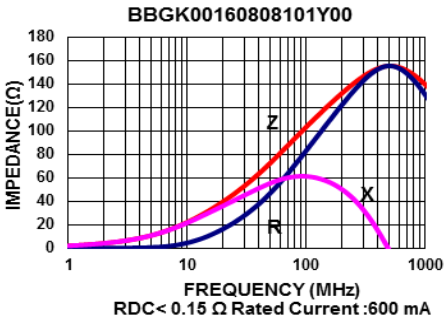

RDC< 0.15 Ω Rated Current :600 mA

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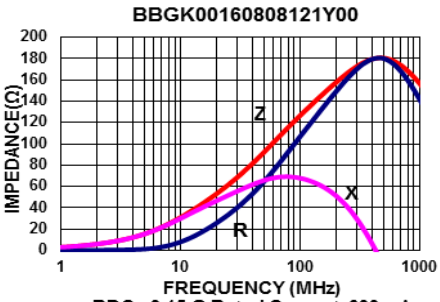

RDC< 0.15 Ω Rated Current :600 mA

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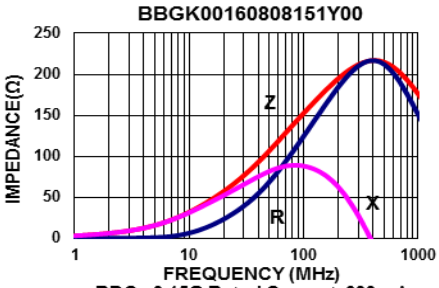

RDC< 0.15Ω Rated Current :600 mA

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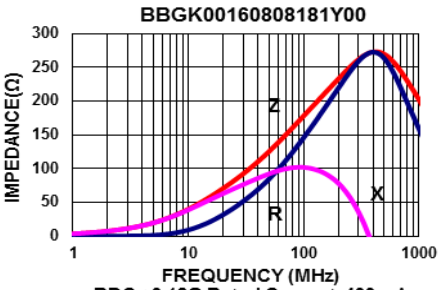

RDC< 0.18Ω Rated Current :400 mA

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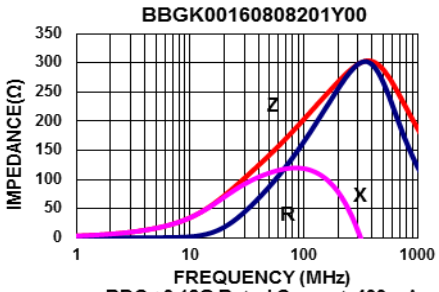

RDC< 0.18Ω Rated Current :400 mA

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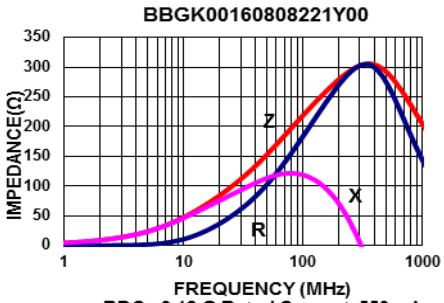

RDC< 0.18 Ω Rated Current :550 mA

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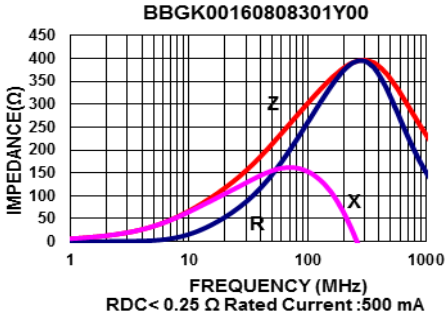

RDC< 0.25 Ω Rated Current :500 mA

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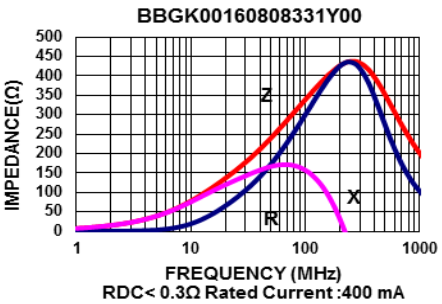

RDC< 0.3Ω Rated Current :400 mA

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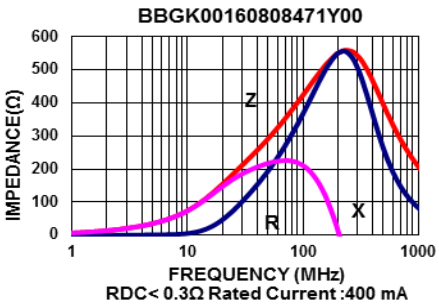

RDC< 0.3Ω Rated Current :400 mA

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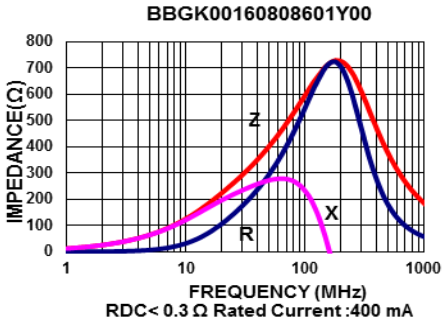

RDC< 0.3 Ω Rated Current :400 mA

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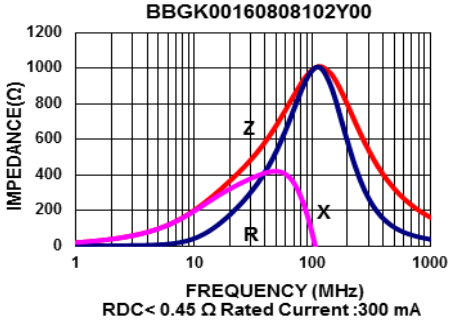

RDC< 0.45 Ω Rated Current :300 mA

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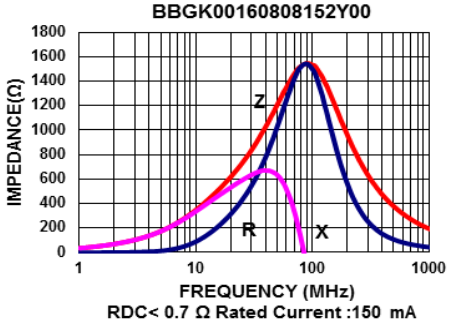

RDC< 0.7 Ω Rated Current :150 mA

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Electrical Characteristics

Part Number	Impedance (Ω±25%)	Test Frequency (MHz)	RDC (Ω) Max	Rated current (mA) Max
BBGK00201209600Y00	60	100	0.10	900
BBGK00201209121Y00	120	100	0.15	800
BBGK00201209221Y00	220	100	0.18	750
BBGK00201209301Y00	300	100	0.18	700
BBGK00201209601Y00	600	100	0.25	500
BBGK00201209102Y00	1000	100	0.30	400
BBGK00201209152Y00	1500	100	0.40	400
BBGK00201209202Y00	2000	100	0.55	400

Note: When ordering, please specify tolerance code. Tolerance : Y=±25%

- Operating temperature range - 55℃ ~ 125℃(Including self - temperature rise)
- Rate Current：Applied the current to coils, the temperature rise shall not be more than 30℃
- Measure Equipment：

  Z：HP4291A

  RDC：HP4338B or CHEN HWA 502

Test Instruments：Agilent E4991A Impedance / Material Analyzer

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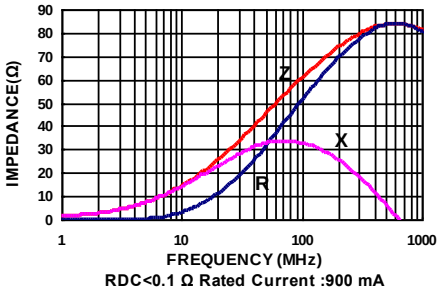
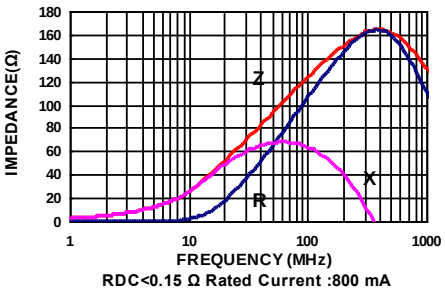


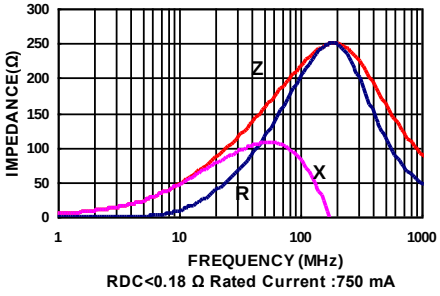
RDC<0.1 Ω Rated Current :900 mA

BBGK00201209121Y00



RDC<0.15 Ω Rated Current :800 mA

BBGK00201209221Y00



RDC<0.18 Ω Rated Current :750 mA

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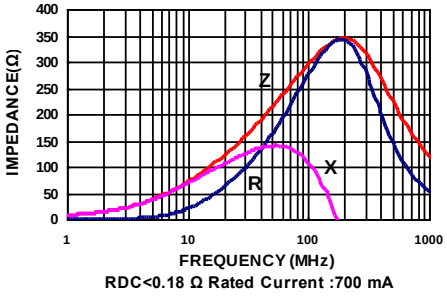

RDC<0.18 Ω Rated Current :700 mA

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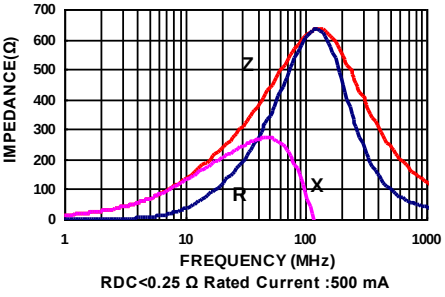

RDC<0.25 Ω Rated Current :500 mA

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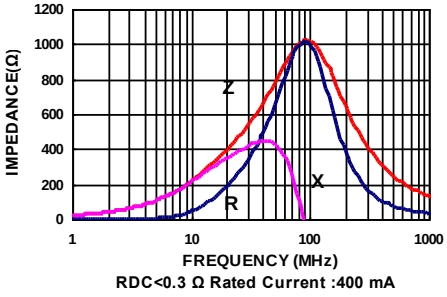

RDC<0.3 Ω Rated Current :400 mA

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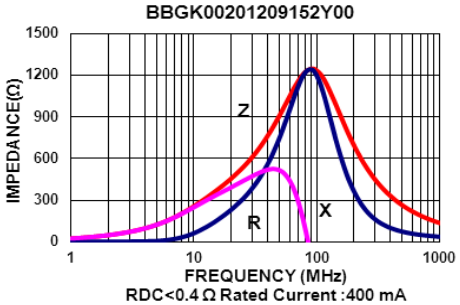

RDC<0.4 Ω Rated Current :400 mA

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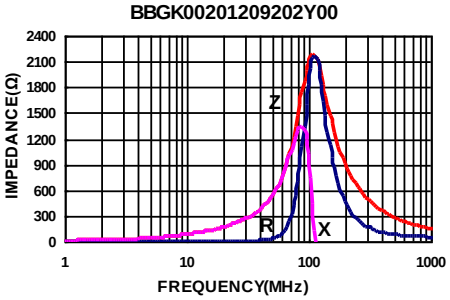

RDC<0.55 Ω Rated Current :400 mA

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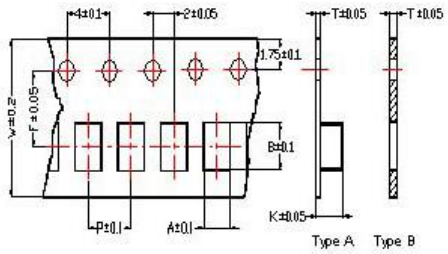
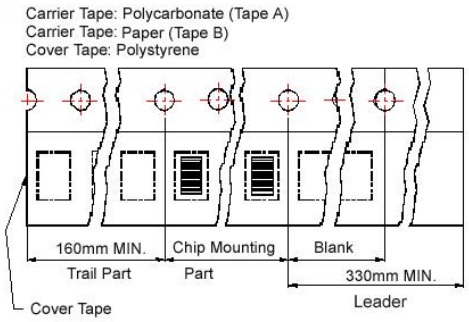
Packaging Specifications

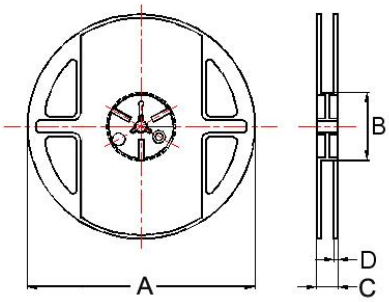
Tape Dimensions



Tape Material



Reel Dimensions



①：BBSY/BBSJ/BBNQ/BBPY ③：BBUP
②：BBSY/BBSJ/BBNQ/BBPY/BBUP/BBFY/BBFJ
④：BBBK/BBSJ/BBGK/BBPY/BBNQ/BBUP/BBHV
⑤：BBBK/BBGK/BBPY/BBUP
⑥：BBSY/BBBK/BBPY/BBUP
⑦：BBPY/BBUP

Dimensions in mm

TYPE	Tape Dimensions								Reel Dimensions				Quantity
	A	B	T	W	P	F	K	Tape	A	B	C	D	PCS / REEL
①060303	0.37	0.67	0.42	8.0	2.0	3.5	-	B	178	60	10	2	15000
②100505	0.62	1.12	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
③160805	1.05	1.85	0.60	8.0	2.0	3.5	-	B	178	60	12	2	10000
④160808	1.05	1.85	0.95	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑤201209	1.50	2.30	0.97	8.0	4.0	3.5	-	B	178	60	12	2	4000
⑥321611	1.88	3.50	0.22	8.0	4.0	3.5	1.27	A	178	60	12	2	3000
⑦453215	3.66	4.95	0.24	12	8.0	5.5	1.85	A	178	60	14	2	1000