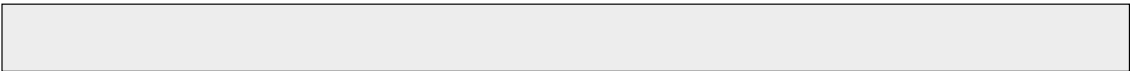
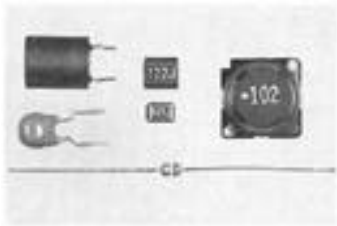


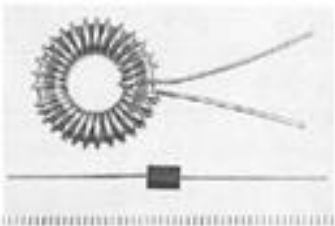
瀬川 毅/小谷 光輝/坂東 政博/
三屋 康宏/中野 正次



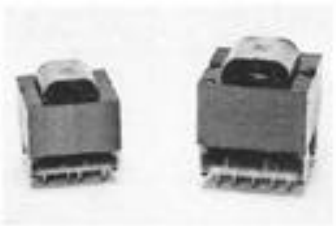
- (1) LC , , .
- (2) , , .
- (3) 가 , 가 1MHz 가 ,
- (4) Q 가
- (5) , , .



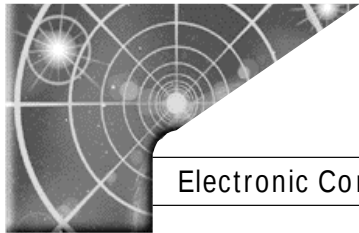
1.



2.



3.
[()]



가 10MHz

• 가 (6)
B-H 가

PC
가

CRT

<瀬川 毅>



가

가

1

• IF RF
(M GHz)
(空芯) Q

가 가

MHz
(透磁率)

가

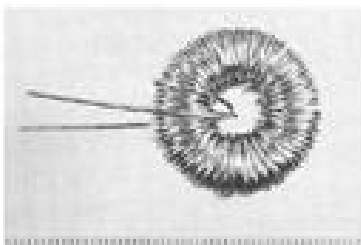
Q

Q가

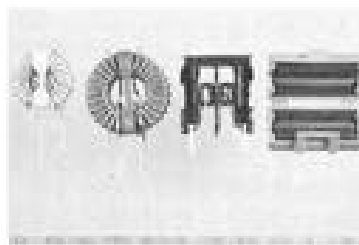
가

Q

Q가



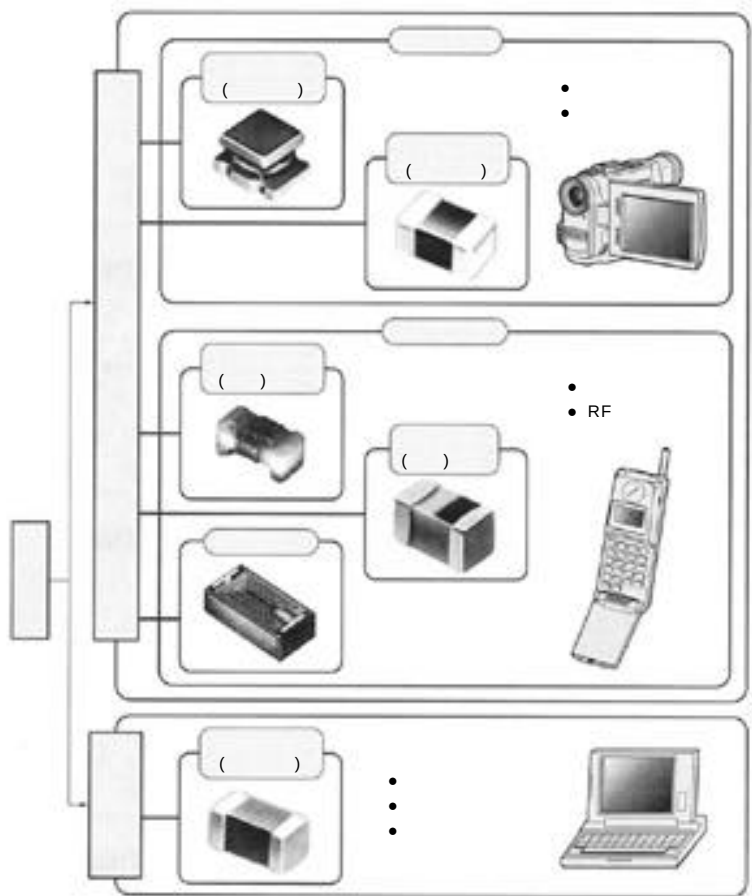
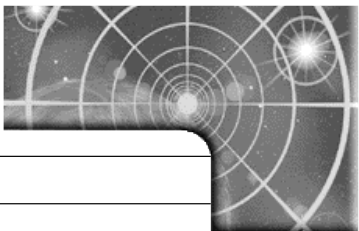
4.



5.



6. 가



1. [()]

가 가

<小谷光輝/坂東定博>

가?

가

가

가

(起電力)

가

 μ μ
$$B = \mu$$
 $B-H$

(

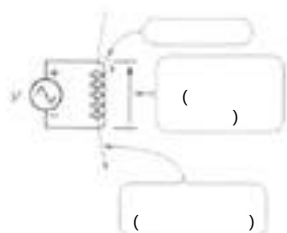
 $\mu:$ μ 가 A_L

•

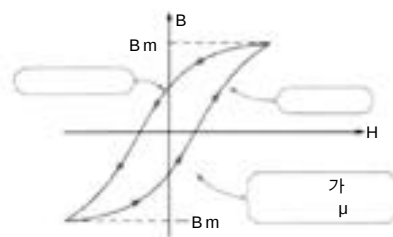
 μ, B_m, A_L 가

가

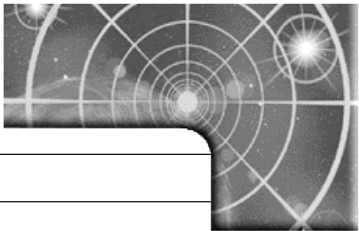
(磁



1.



2. B-H



(鐵損)

가 가

가

Q가

Q

μ 가

μ 가 가
<瀬川 毅>

(銅損)

LAN

가

가 (가

MHz
2

GHz

$\pm 2\% / \pm 3\%$

($\pm 2\%$)

Q가

Q가

3

6 Q

SAW

Q가
Q가

4

7

Q가

가

Q가

Q가

가

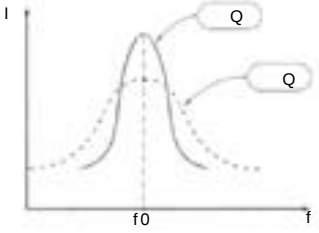
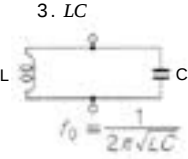
가

가

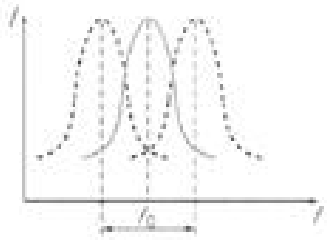
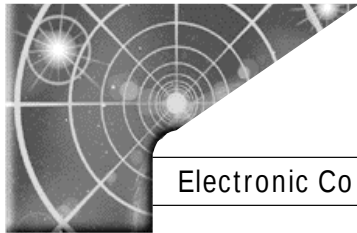
5

2.

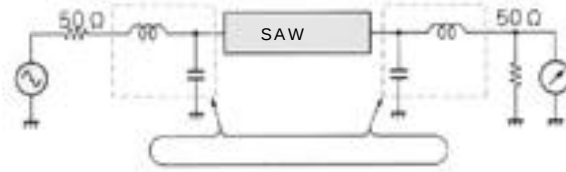
RF		RF IF	
IF		PLL	
		RF IF	



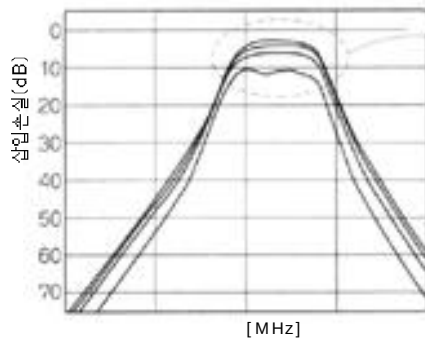
4.



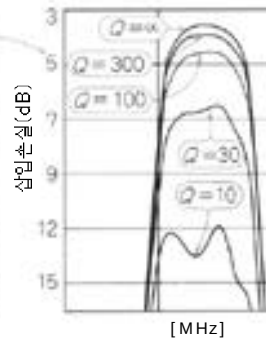
5.



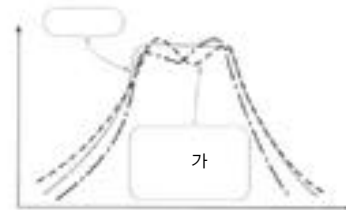
6. Q SAW



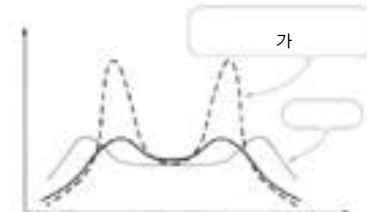
7.



Q



8. SAW



9. SAW

가
가

10 LQW1608A, LQG11A, LQP11A Q

8,

9 1st IF SAW

가

RF IF

RF IF

가 300Ω

$$Z |Z| = 2\pi fL$$

L

$$L = Z / 2\pi f(f: , Z 300[\Omega])$$

800MHz

L = 56 68nH, 260MHz(2nd IF)

150 180nH

RF

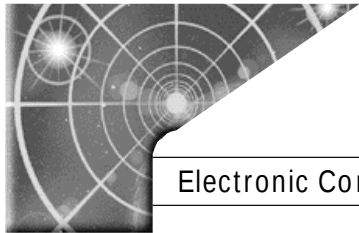
100nH

Q

가

±

2%



(開磁路) . 12(b)

()

가

,

가

가

,

가

() 가

MHz

가

Ni-Zn

가

,

,

•

가

,

$$D \frac{P^{DC} \times R_{DC}}{D}$$

, D : [W], I_{DC} :

[A], R_{DC} :

[Ω]

가

()

<小谷充輝/坂東定博>



•

•

(13).

14

가 ,

“

”

가

,

16

15

• ()

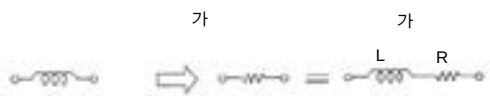
()

가

,

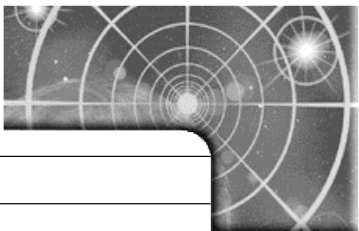
가

가

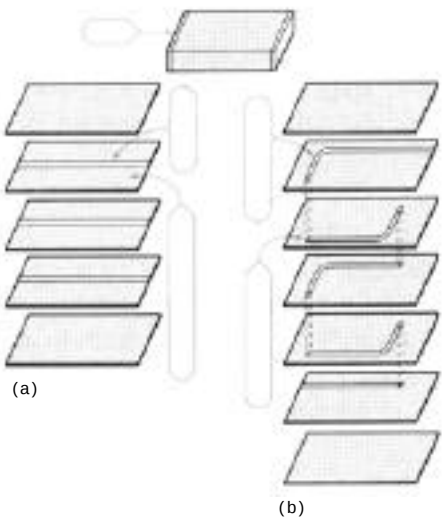
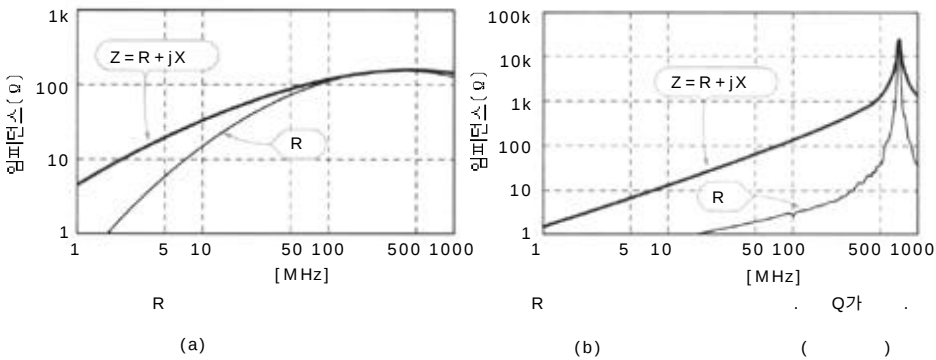


13.

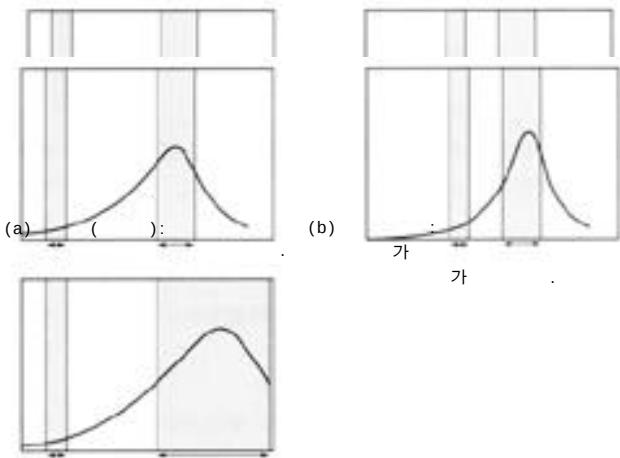
가



14.



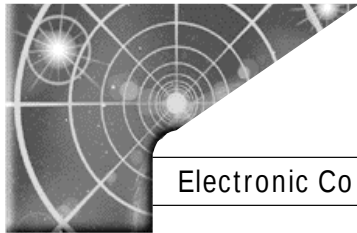
15.



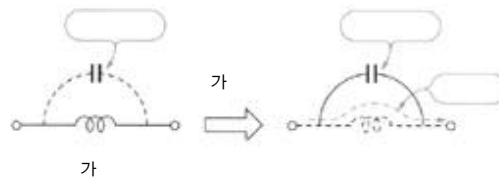
16.

(17).
1GHz 1kΩ 가
18 BLM11HA, BLM11HB

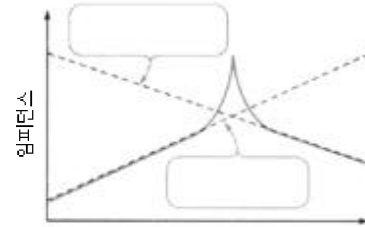
CPU , (500M GHz)
100MHz
• DC
DC 가 가
가 BLM-P [()
]



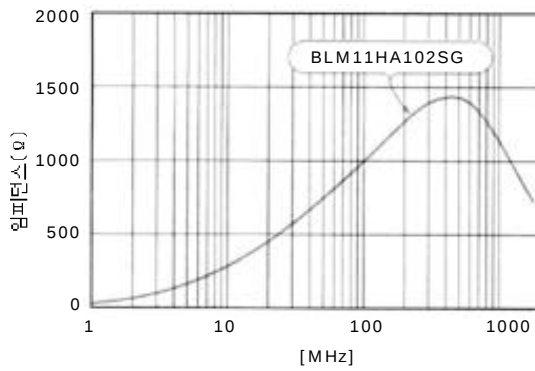
17.



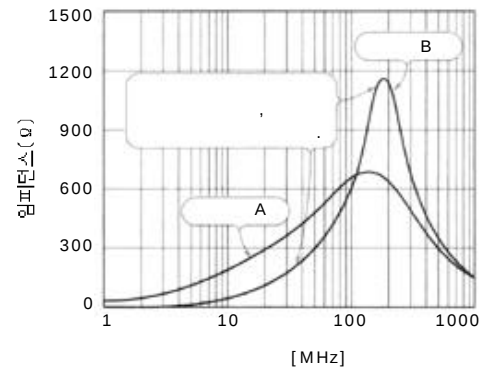
(a) 가



(b)

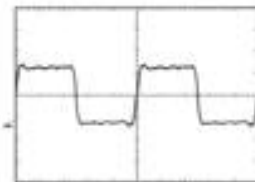


18. 1GHz 1kΩ
BLM11HA102SG [()]

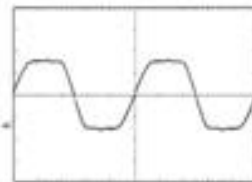


19. 2

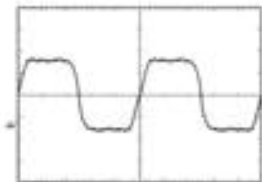
7.



(a)



(b) A



(c) B

가 가 .

가

,

가 . 가

가

가

가 ,
가
BLM-P

가 ,
가

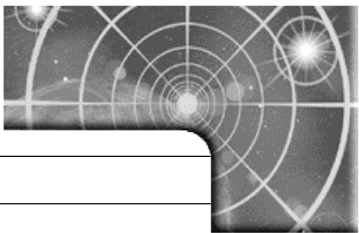
[()] .

. 7 ,

•

•

A... 가 (



19)

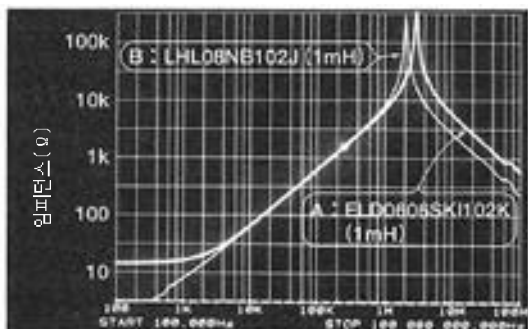
- B... (19) , B 가
- 3 10MHz

A 가
(低次) 가

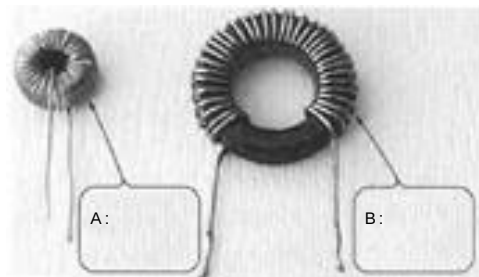
<小谷充輝/坂東定博>

RFC()

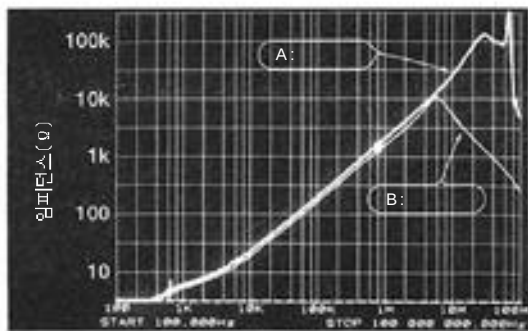
- 가
- (capacitance)가
- 가 2 1.0mH RFC
- TDK EL0606SKI102K
- LHL08NB102J 9
- 8 2.11MHz 2.95MHz (10)



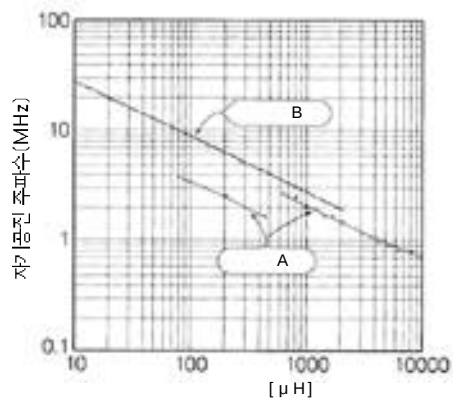
8. 1.0mH RFC



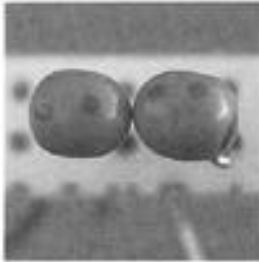
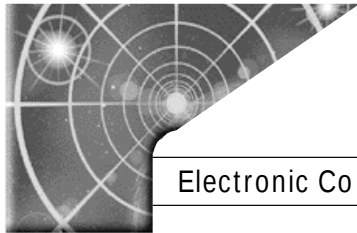
10.



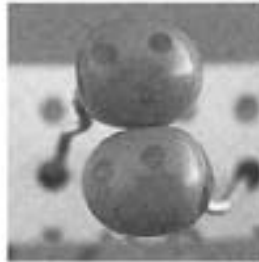
9.



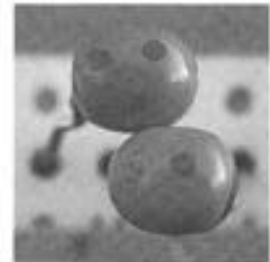
10.



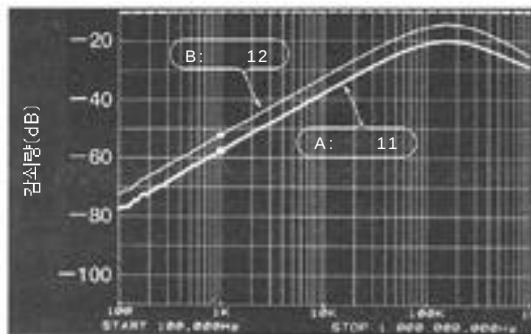
11.



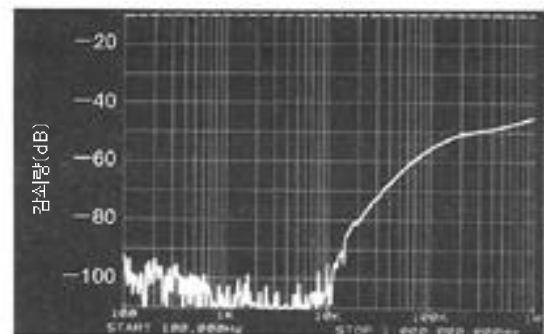
12.



14.



13.

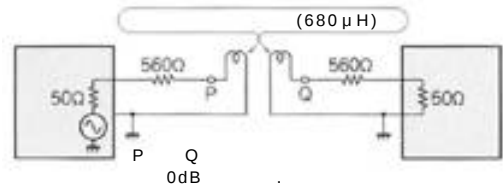


15.

5

2

20



21.

(600Ω)

()

21

11, 12

20kHz -38dB

(13).

14

가

가 가

(15).

가

가

<中野 正次>



680 μH

2