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(22) 1999 04 07

(65) 2000 - 0065633  
(43) 2000 11 15

(73)

3 416

(72)

3 1193 - 1 203

13 102 602

(74)

:

(54)

DUT(device under test)

. DUT 가 . 1 2 가 , 1  
2 가 , .  
, , 가 DUT .

3

- 1 ;
- 2 1 가 ;
- 3 1 ;
- 4 4 가 ;
- 5 4 ;
- 6 4 ;
- 7 ;
- 8 4 ;
- 9 4 ;
- 10 4 2 ;
- 11 4 3 .

\*

10 : DUT 20, 200 :

30 :

st system) (semiconductor integrated circuit) (te

( ; device under test, , DUT) (lead) (test board or printed circuit  
board; PCB) (pattern)

(chip) RF(radio frequency)  
가 MHz(mega hertz)  
가 MHz GHz(giga hertz)

(parasitic parameter), CDMA (code division multiple access) PCS (personal communication system), GSM (global system for mobile communications) RF IC (rambus DRAM) (digital)

1 (31) handbook', 2 (20) DUT(10) Johnstech (社) 'test socket performance (11) (11) (20) DUT(10) (11) (11) (30)

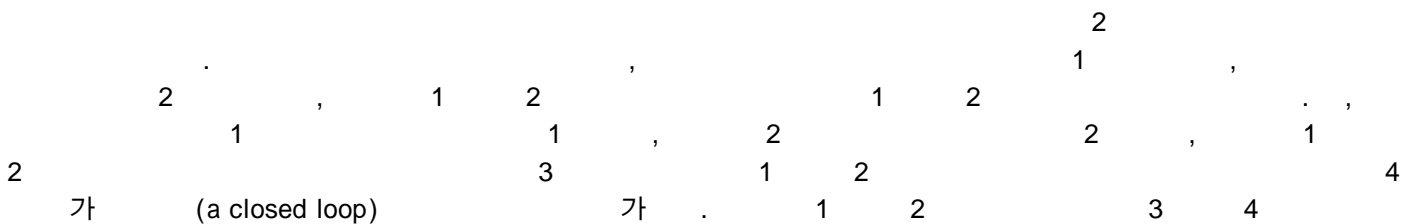
(L), (20) (L), (20) (C) 가 (R), (20) (R) (C) (L) (20) 가 (30) (Z) [ 1] [ 1] (1) (Z) (X<sub>L</sub>) (X<sub>L</sub>) (f) (L)

<sup>1</sup>  
 $Z = R + j X_L \dots\dots (1)$  , R , X<sub>L</sub>

$X_L = \omega L = 2 \pi f L \dots\dots (2)$  , f , L

(20) (Z) (L) (f) (L) (20) 가 (20) (20) 10 20 nH (L)가 , 1GHz 가 (30) , 가

( )



6 , , 1 2 1 2  
 , 1 2 가 1  
 , 3 4 0.5 3  
 (BeCu)

( )

, 1 2  
 , 가 .

( )

, 3 11 .

3 , (200) DUT(10) (11) (30) (31)  
 (31) (200) DUT(10) (11) (30)  
 (ABCD, AEFD) 가 , (200) 가 1 2  
 (200) , , 가 DUT(10)  
 (20)

3 11 , 1 (200) DUT(10) (11) (30)  
 (31) (200) DUT(10) (30)  
 (C) (D) 1 2 (ABCD, AEFD) 가 1 (ABCD) (A), (B),  
 , (AEFD) (A), (E), (F) (D)  
 (C-F), (200) (A) 1 (bar; B-E), (D) 2  
 (B-E, C-D) (E, F) 4 (E-F) 1 2

4a 4b (200) , (20) , 가 , (200) 1  
 2 (ABCD, AEFD) 4a 4b 가 4a 가 ,  
 M (200) (R1, R2), (C1, C2) (L1, L2) 4a ,  
 , Cs

4a 가 4b 가 , 4b , (R') 4a  
 (R1, R2) (R1//R2) , (C') 4a (C1, C2)  
 (C1+C2) (L') 4a (L1, L2)  
 (M) (L1//L2) (L', R') ,  
 (200) (L', R') (200) , (2

0) (L, R) 가 .  
 Raphael™ (20) (200) (L, R) (200) (L', R') (ABCD) Raphael™  
 3 FDM(finite - difference method)  
 (partial inductance)  
 (ABCD) (200') (R) '2.87 m' (C) '0.24 pF'  
 (L) '5.46 nH' (200) (R') '1.43 m' (C)  
 '0.33 pF' (L) '2.65 nH'

5 (200) 1 2 (ABCD, AEFD)  
 (200) 1 (ABCD) 2  
 (AEFD) (200) 1 2  
 (ABCD, AEFD) (L') 'L' 'L'  
 1//L2' (R') 'R' 'R1//R2'  
 가 .

6 (200) 가 . (2  
 00) (A) DUT(10) (11)가 가 , 가 . (2  
 00) (A, D) DUT(10) (11) 가 (F) (A', D') , DUT(  
 10) 가 , (A) 가 (F) (200) (A', D')  
 (A, D) , (200) ( , BeCu; Belyllium Cop  
 per)

7a 7b , 7a 7b (a, b) (200')  
 (insertion loss) (return loss)  
 - 1.1dB , 3b (b) , 7a (a) ,  
 (200') 1.7 GHz DUT(10) - 6.6dB (20)

8a 8b , (200') (c)  
 - 1.1dB , (d) - 6.6dB , (200)  
 200) DUT(10) 1 2 (ABCD, AEFD) 가 , 4 GHz  
 (200) (20, 200') 2

9a 9b , 9a (B - C, E - F)가 '2mm' , (A - B, C - D,  
 A - E, F - D)가 '1mm' '6mm' (L') , 9b  
 (A - B, C - D, A - E, F - D)가 '4mm' , (B - C, E - F)가 '0.5mm' '3mm'  
 (L') , 9a 9b , (200)  
 (200)

가

(200) (A - B:A - E, C - D:F - D)

가

0 10 11 11 2 3 10 11 (200) 1  
2 4 가 (200) 가

2

가

가

가

가

(57)

1.

:

1 ,

2 ,

1 2 1 ,

1 2 2 , 1 2

2.

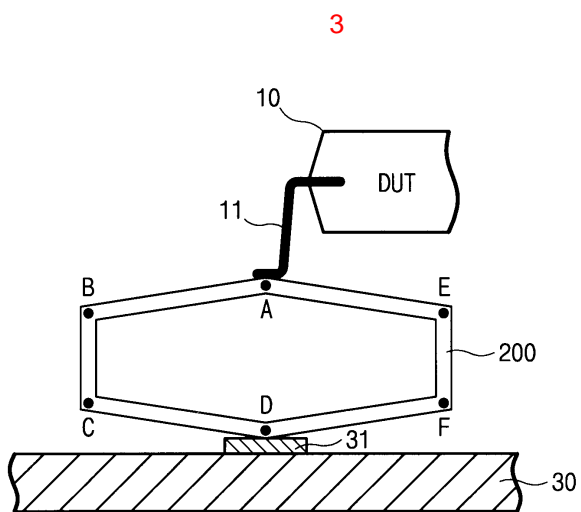
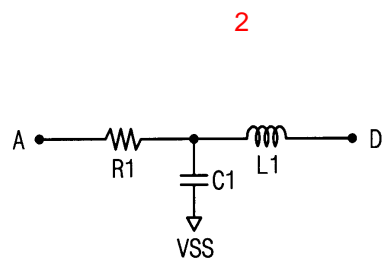
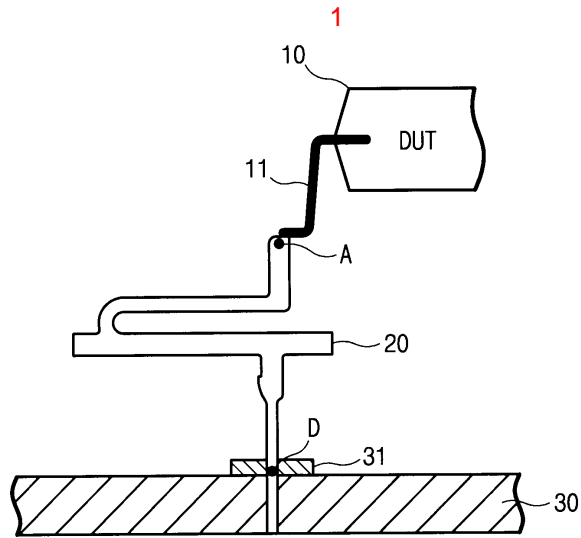
1 ,

1 1 ,

2 2 ,

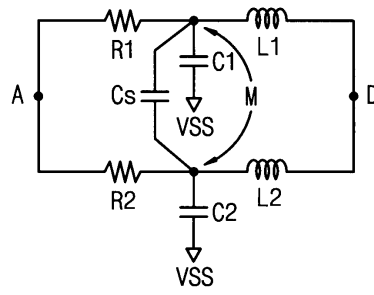
1 2 3 ,

1 2 4 .  
3.  
2 ,  
1 2 3 4 .  
4.  
2 ,  
1 2 1 2 .  
5.  
4 ,  
1 2 1 6 .  
6.  
2 ,  
3 4 0.5 3 .  
7.  
2 ,  
(BeCu) .

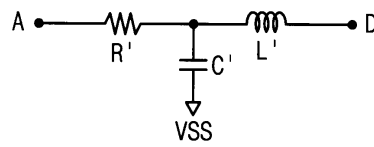




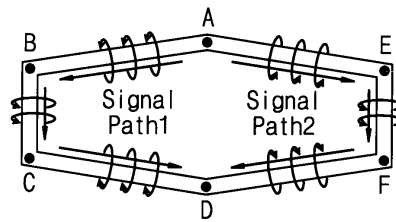
4a



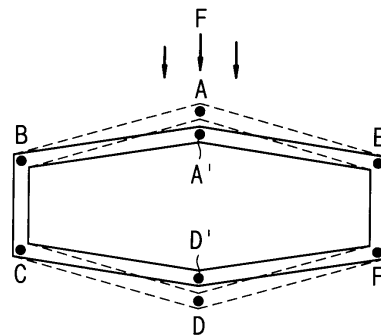
4b



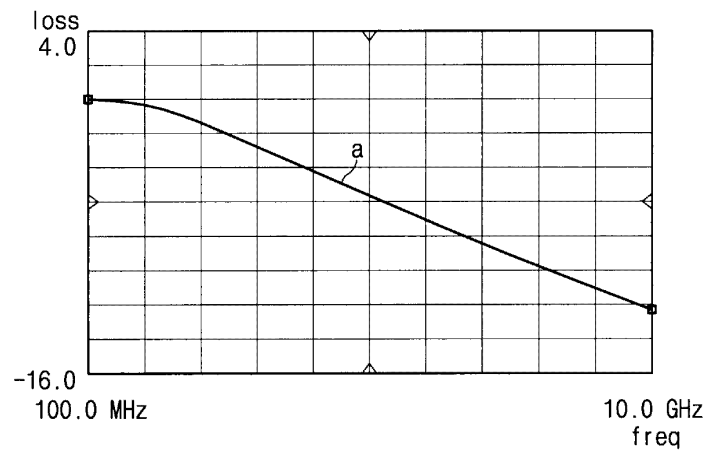
5



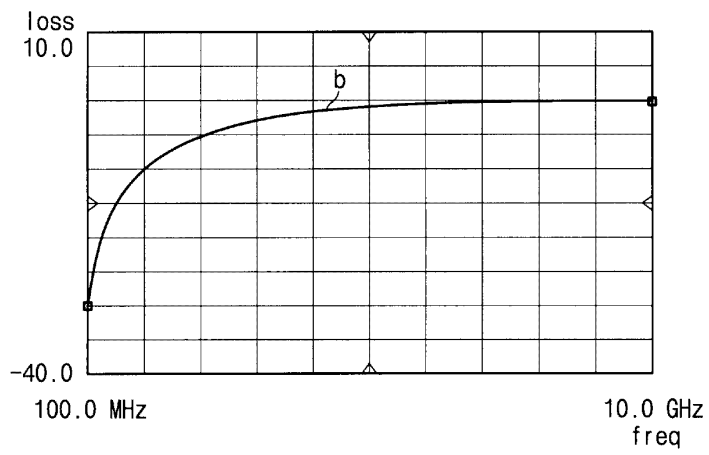
6



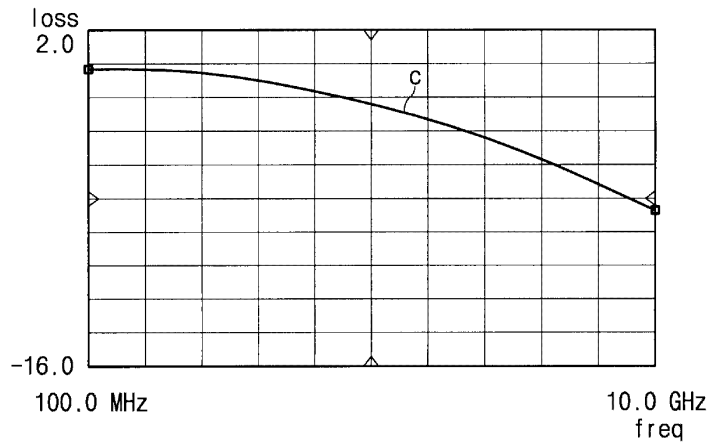
7a



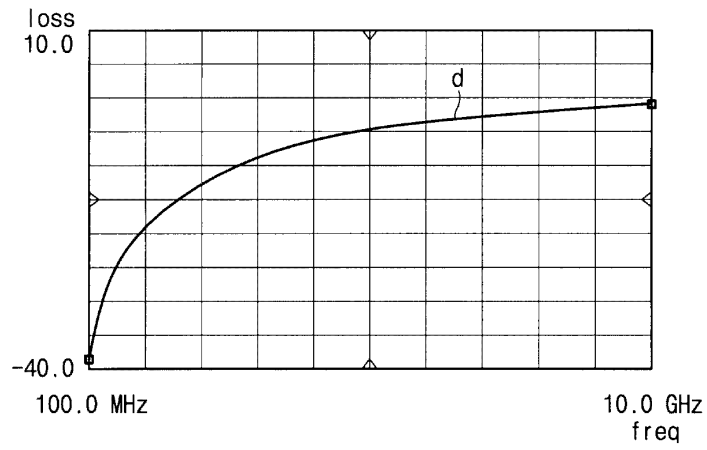
7b



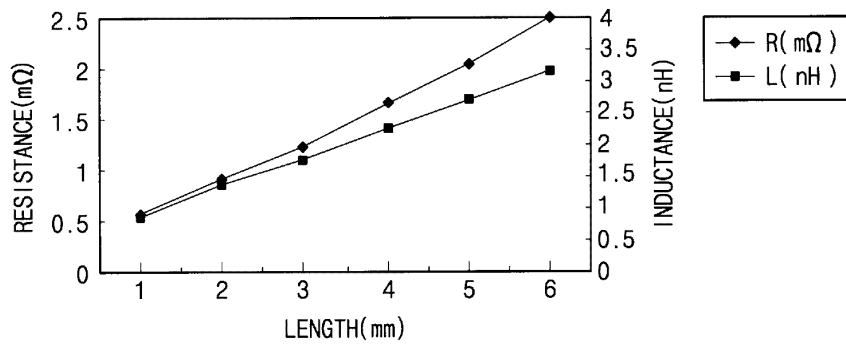
8a



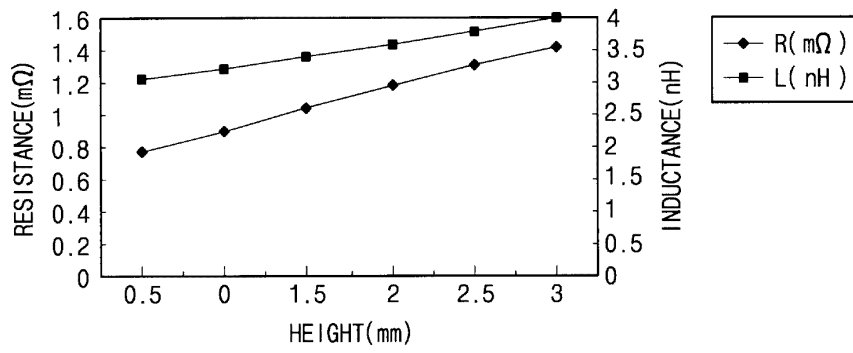
8b



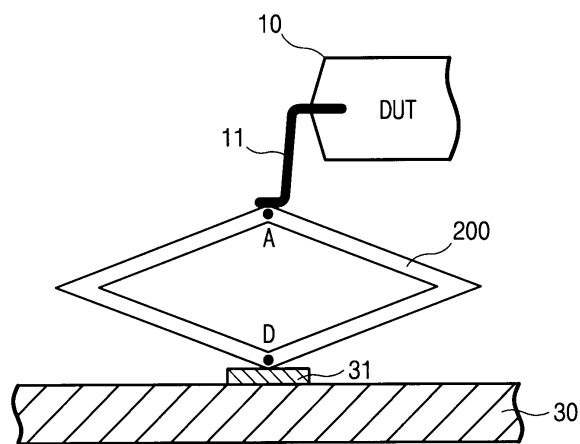
9a



9b



10



11

