



1 ,  
 2 ,  
 3a ,  
 3b 3c 3a ,  
 4 (single) ,  
 5a ,  
 5b (coded excitation pulse)  
 ,  
 6 .

(diagnostic image) (coded ex  
 citation pulse)

(excitation) (object) (array)  
 (transducer) (impedance)  
 (echo)  
 (decoding)  
 - 80 V(volts) + 80 V 0 V 200 V  
 200 V

1 , 1 (100) 가 1 (100)  
 (110), (cable)(120), (130), (limiter)(140), (pre - amplifier)(150)  
 (130)가 (up)/ (down) /  
 terminal) (120) (110) (110) (130) P<sub>out</sub> (  
 (130)  
 (140) (110) (150) (150) (140) (120)  
 (level) ( )

(130) , P<sub>out</sub> , (110) (load) 400 pf(pico - Far  
 aday) (120) 가 100 (ohm) (140)가 ,  
 (130) 가 2 A(ampere) , ,  
 40 ns , 가 12 MHz( , 가 80 ns(nanosecond)) ,  
 , (130)가 20 ns  
 (transformer)  
 2 , 2 1 (130) 가 2  
 , (130) (132)  
 , (132)  
 (132)  
 1 0 V 5 V / 가 , /  
 (134) (132)가 , c2 (136)  
 P<sub>out</sub> , (level shifter) (138, 140)가  
 6 , 2 (130)  
 e) (single) (burst) (high stat  
 가 (low state) 500 ns 30 ns (130)  
 가 가 (transition) P<sub>out</sub> V<sub>pp</sub> ,  
 0 V (132) P<sub>out</sub> V<sub>pp</sub> 0 V V<sub>pp</sub> ,  
 , R4  
 , 가 , (filtering)  
 가 , 가 ,  
 (arbitrary code sequence) 가 , 가 ,  
 , (130) 0 V 5a R4  
 , V<sub>pp</sub> , B  
 , 가 ,  
 , 가 ,

(pulse) , (diagnostic image) 2  
 , 1 2 , 2  
 (sequence) 가 (voltage level)  
 가 (random code)

2 , 2  
 1 2 , 1 가 2 가  
 , 1 2 가 .

3a , 3a (300) 가 . 3a ,  
 NAND (gate)(304) NOR (308) (inverter)(302)  
 (302) NAND (304) NOR (308)  
 P<sub>out</sub> 가 0 V 5 V 가 0 V 5 V 가 (300)  
 가 (300) P<sub>out</sub> 가 .

NAND (304) (306) (pullup) 가 , NOR (308)  
 (310) (pulldown) 가 . n CMOS ( , HVNM  
 OS)(312) , p CMOS ( , HVPMOS)(314)  
 / / 0 V 5 V ,  
 CMOS (312, 314) .

CMOS (312) (source) (ground) , (drain)  
 , 60 R1 (322) R1  
 V<sub>pp</sub> , (322) (Zener) (320)  
 +80 V (positive) , " " V<sub>pp</sub> , V<sub>pp</sub>  
 5 V +80 V -80 V / , 0 V

CMOS (314) V<sub>dd</sub> ( +5 V) , , 120  
 R2 (326) (326) R2  
 (324) V<sub>nn</sub> , V<sub>nn</sub> -80 V 가 (324) R2  
 V<sub>nn</sub> (negative) .  
 , (300) 3b 6 .

3b, CMOS (312)가 - (turn-on) R1, I<sub>R1</sub> (320) (5 V) + (322) I<sub>D3</sub> (2\*1.5 V) V<sub>pp</sub> (node) U<sub>g</sub> 8 V( CMOS (316) (conducting) CMOS (314)가 - (turn-off) D<sub>g</sub> V<sub>nn</sub> C<sub>d</sub> 가 R2 V<sub>nn</sub> ( I<sub>OD</sub> ). D<sub>g</sub> V<sub>nn</sub> .

CMOS (318) CMOS (316) V<sub>pp</sub> (318)가 - 4 5a A CMOS (316) 400 pf (load) (330) I<sub>M3</sub> (320) (322)가 P<sub>out</sub> V<sub>pp</sub> ( , +80 V) CMOS (316) 가 .

MOS (314) CMOS (312)가 - CMOS (314)가 - I<sub>M4</sub> 가 C (324) I<sub>D4</sub> 가 D<sub>g</sub> V<sub>nn</sub> R2 I<sub>R2</sub> 가 6.5 V CMOS (318) U<sub>g</sub> (318)가 - CMOS (312)가 - V<sub>pp</sub> 가 CMOS (316) C<sub>u</sub> 가 R1 ( I<sub>OU</sub> ) U<sub>g</sub> V<sub>pp</sub> 가 CMOS (318) A I<sub>M2</sub> 가 CMOS (318) V<sub>nn</sub> P<sub>out</sub> (330) 가 V<sub>nn</sub> ( , -80 V) CMOS (326) (324) CMOS (318) 가 CMOS (316) CMOS (316) CMOS (318) S (318) p CMOS (316) CMOS (318) n CMO

5a (300) / 가 U<sub>g</sub> V<sub>pp</sub> 가 D<sub>g</sub> V<sub>nn</sub> . CMOS (316, 318)가 - P<sub>out</sub> 5a A V<sub>nn</sub> (328) +80 V -80 V ( , 0 V) . 5b C / 가 ( , ) P<sub>out</sub> 6 / 가 .

가 .

가 . /

200 V CMOS , , 가 .

(57)

1.

(diagnostic image)

(pulse)

,

2

,

2

(voltage level)

(sequence)

,

1

2

,

가

(random code)

.

2.

1

,

.

3.

1

,

가

(logic high)

(low)

.

4.

1

,

2

.

5.

1

,

1

(positive)

2

가

(negative)

.

6.

4

,

2

(switching)

.

7.

1 ,

(inverter)

8.

7 ,

가 NAND (gate)

9.

7 ,

가 NOR

10.

6 ,

11.

6 ,

(Zener)

12.

2 ,

2 2 ,

1

1 ,

2

가 ,

1

2

가

13.

12 ,

가

14.

13 ,

가

15.

12 ,

가

16.

12 ,

2

17.

12 ,

가

18.

12 ,

2

19.

12 ,

20.

19 ,

가 NAND

21.

19 ,

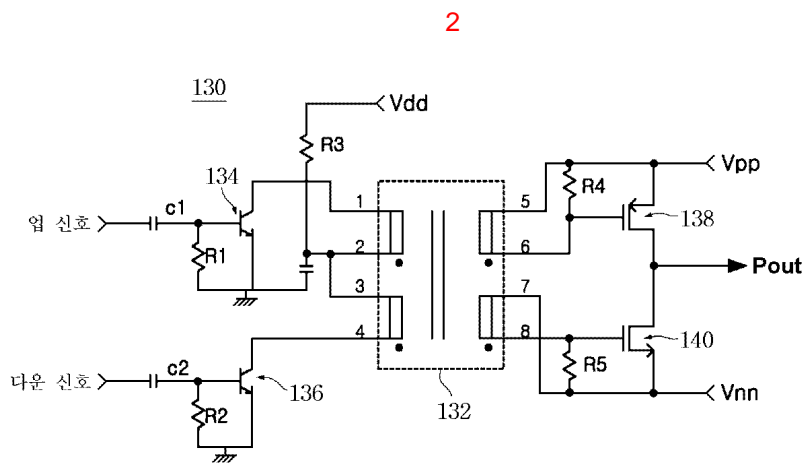
가 NOR

22.

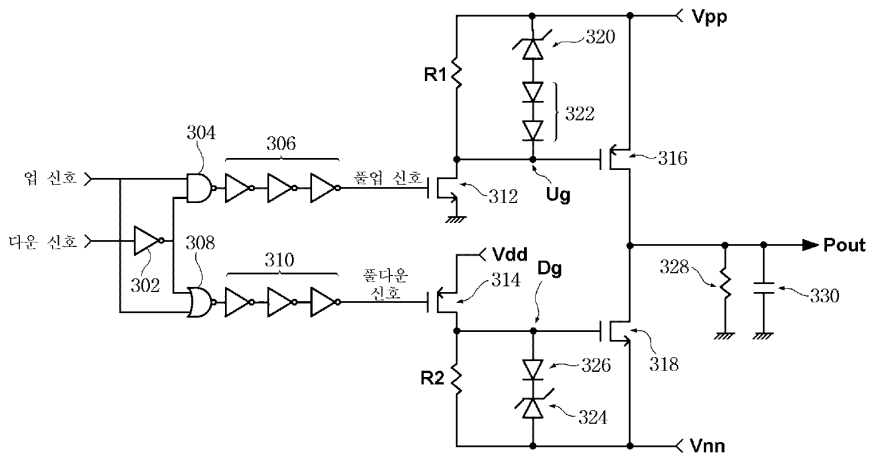
18 ,

23.

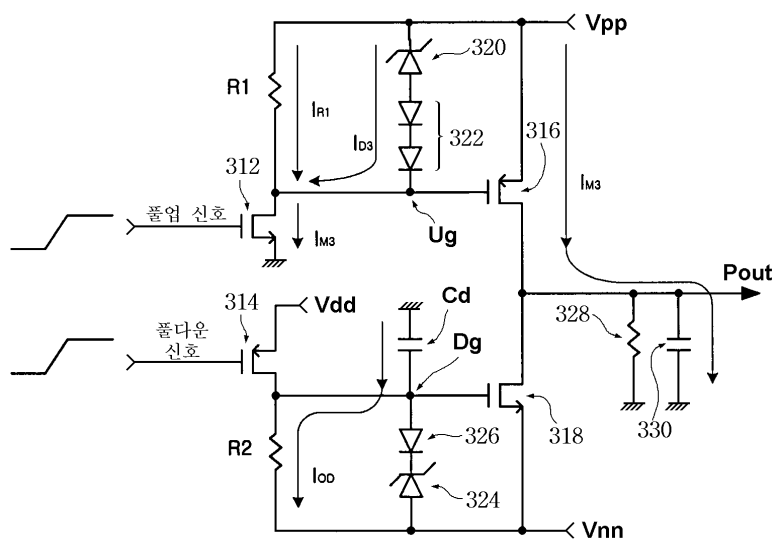
18 ,



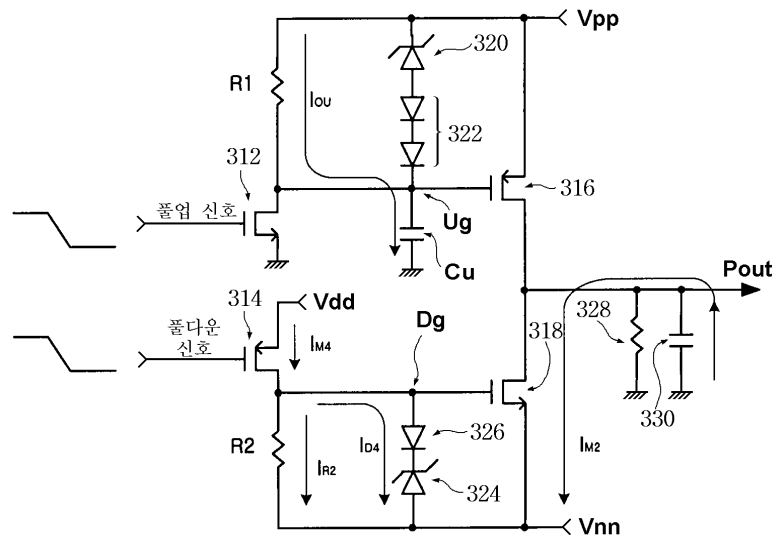
3a



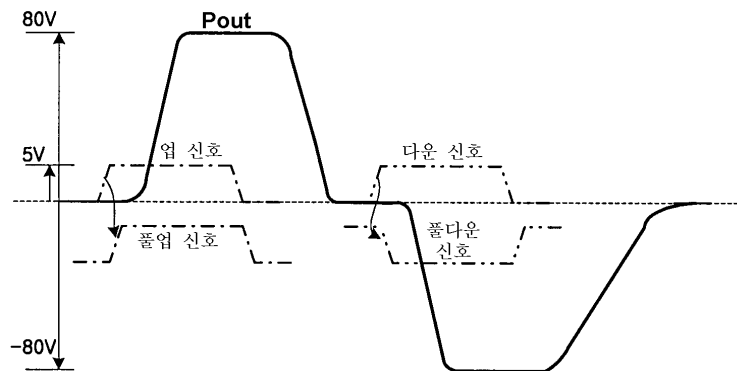
3b



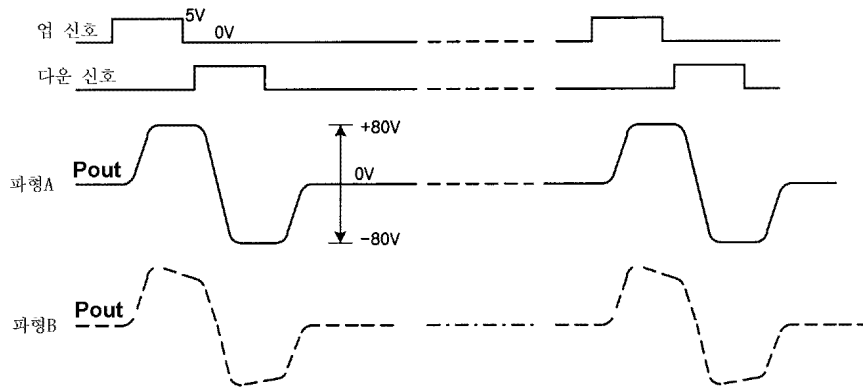
3c



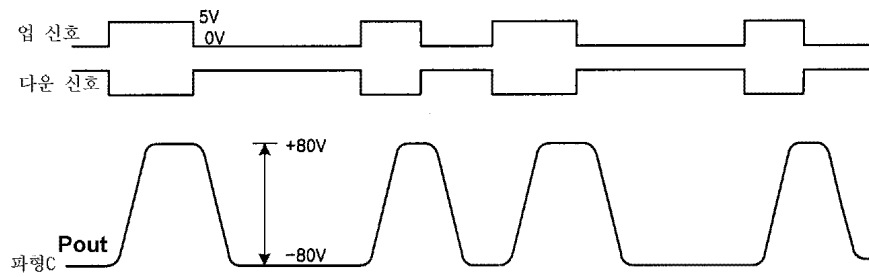
4



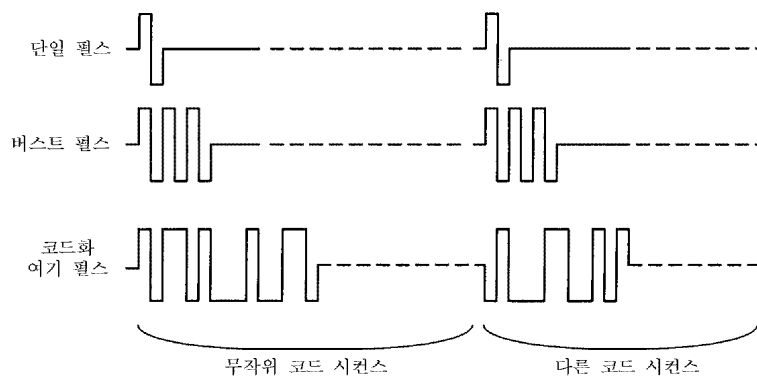
5a



5b



6



专利名称(译)	一种用于医疗超声诊断系统的集成高压脉冲发生器电路		
公开(公告)号	<a href="#">KR1020020029148A</a>	公开(公告)日	2002-04-18
申请号	KR1020000059925	申请日	2000-10-12
[标]申请(专利权)人(译)	三星麦迪森株式会社		
申请(专利权)人(译)	三星麦迪逊有限公司		
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发明人	전기		
IPC分类号	A61B8/00 B06B1/02		
CPC分类号	B06B2201/76 B06B1/0215		
代理人(译)	CHANG, SOO KIL CHU, 晟敏		
其他公开文献	KR100416686B1		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

一种脉冲产生电路，能够产生编码的激励脉冲，用于增加医学超声诊断系统中的诊断图像的分辨率，并且能够使用传统的半导体制造工艺进行集成，提供。脉冲发生电路电连接到至少两个或更多个用于产生驱动信号的装置和至少两个或更多个驱动信号产生装置并用于产生第一和第二电压电位的组合。其中脉冲序列包括一系列随机码。 & lt; RTI ID = 0.0 & gt; 图3A 指数方面 超声波诊断，诊断图像，分辨率，积分，脉冲生成，编码激励脉冲

