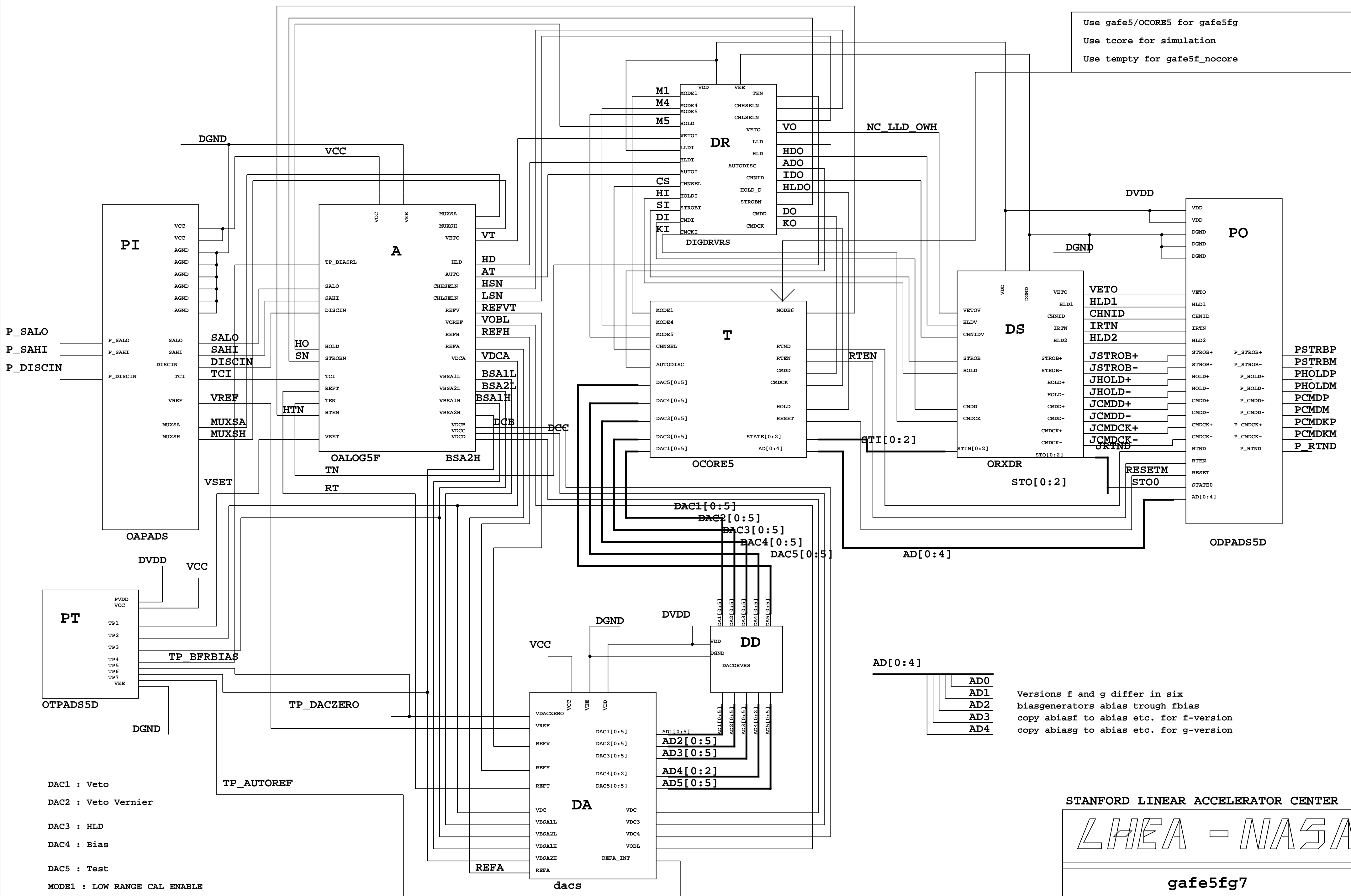


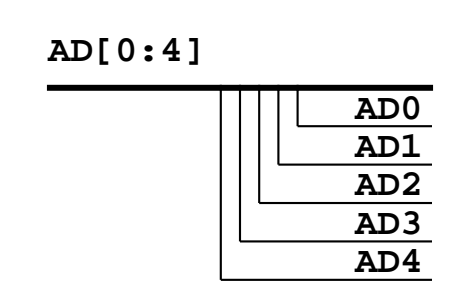
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| STANFORD LINEAR ACCELERATOR CENTER<br>U.S. DEPARTMENT OF ENERGY   |      |           |
| STANFORD UNIVERSITY<br>STANFORD, CALIFORNIA   |      |           |
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| SHEET           | OF |
| sim_gafe5       |    |
| 6-24-2003_12:56 |    |

Use gafe5/OCORE5 for gafe5fg  
 Use tcore for simulation  
 Use tempty for gafe5f\_nocore

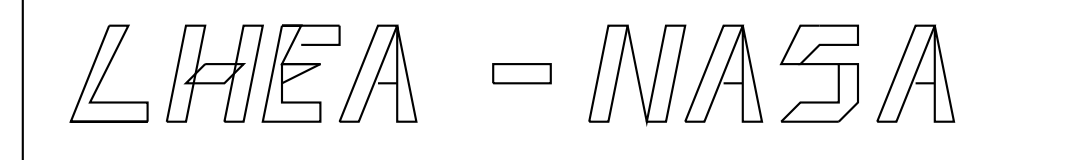


- DAC1 : Veto
- DAC2 : Veto Vernier
- DAC3 : HLD
- DAC4 : Bias
- DAC5 : Test
- MODE1 : LOW RANGE CAL ENABLE
- MODE4 : VETO DISCRIMINATOR ENABLE
- MODE5 : HIGH ENERGY DISCRIMINATOR ENABLE
- MODE6 : HIGH RANGE CAL ENABLE



Versions f and g differ in six biasgenerators abias trough fbias  
 copy abiasf to abias etc. for f-version  
 copy abiasg to abias etc. for g-version

STANFORD LINEAR ACCELERATOR CENTER

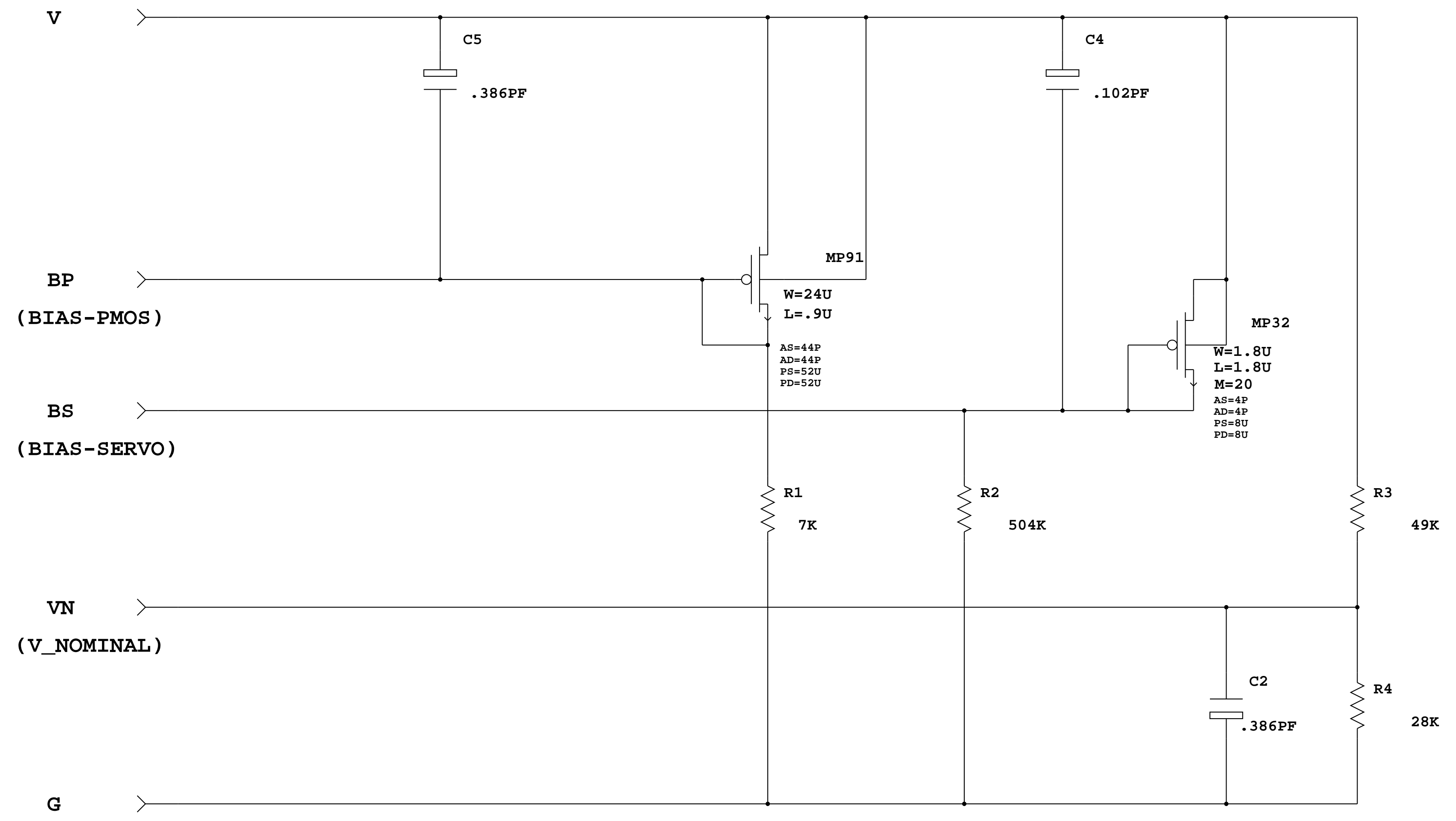


**gafe5fg7**

Proj: GLAST ACD  
 6-26-2003\_13:49

ver: GAFE4

Satpal Singh, Oren Milgrome  
 DRAWN BY:



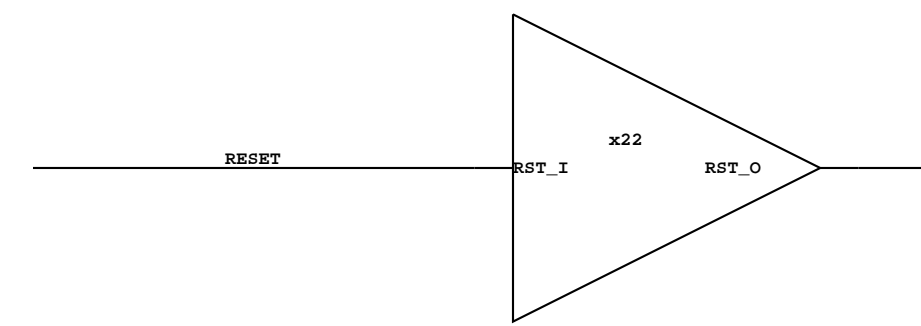
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5-9-2002\_15:29

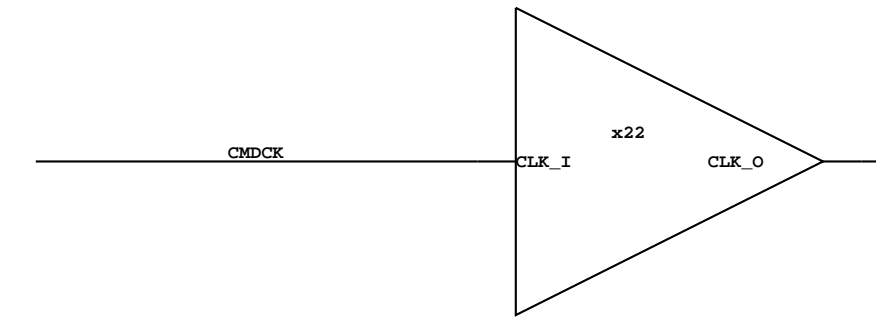
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| STANFORD LINEAR ACCELERATOR CENTER<br>U. S. DEPARTMENT OF ENERGY   |                      |           |
| STANFORD UNIVERSITY  | STANFORD, CALIFORNIA |           |
| <small>PROPRIETARY DATA OF STANFORD UNIVERSITY AND/OR U.S. DEPARTMENT OF ENERGY. RECIPIENT SHALL NOT PUBLISH THE INFORMATION WITHIN UNLESS GRANTED SPECIFIC PERMISSION OF STANFORD UNIVERSITY.</small> |                      |           |
| DATE   | DATE                 | APPROVALS |
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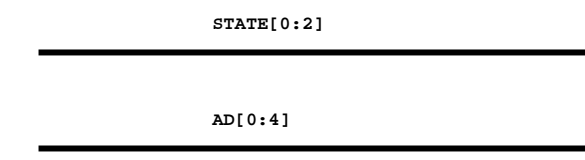
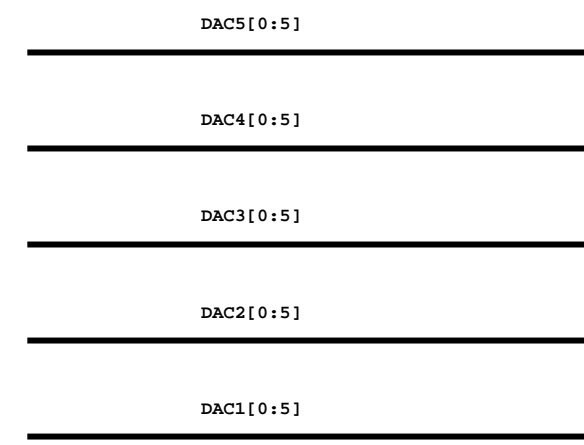
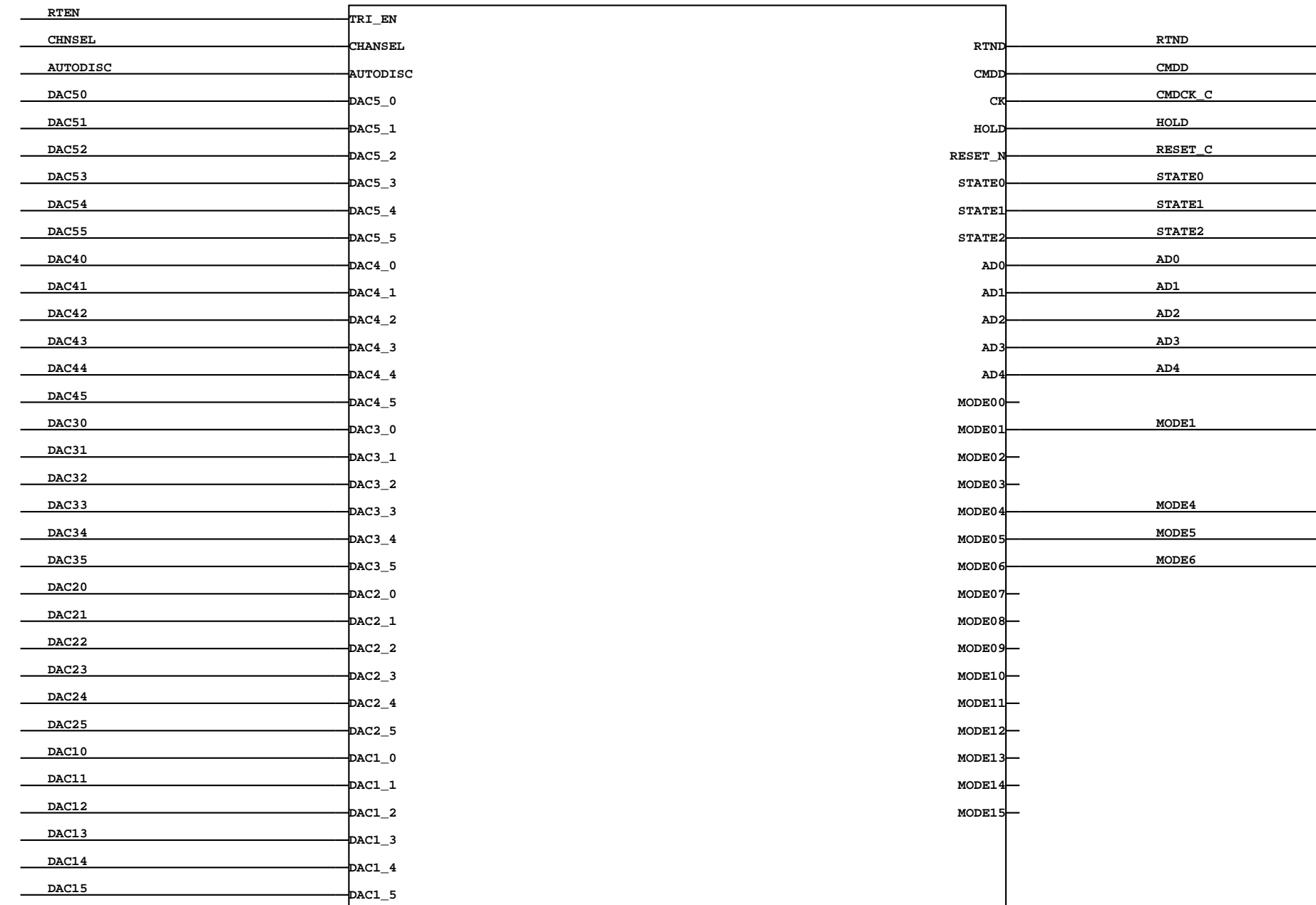
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BUFFER**



**CORE CLOCK  
BUFFER**

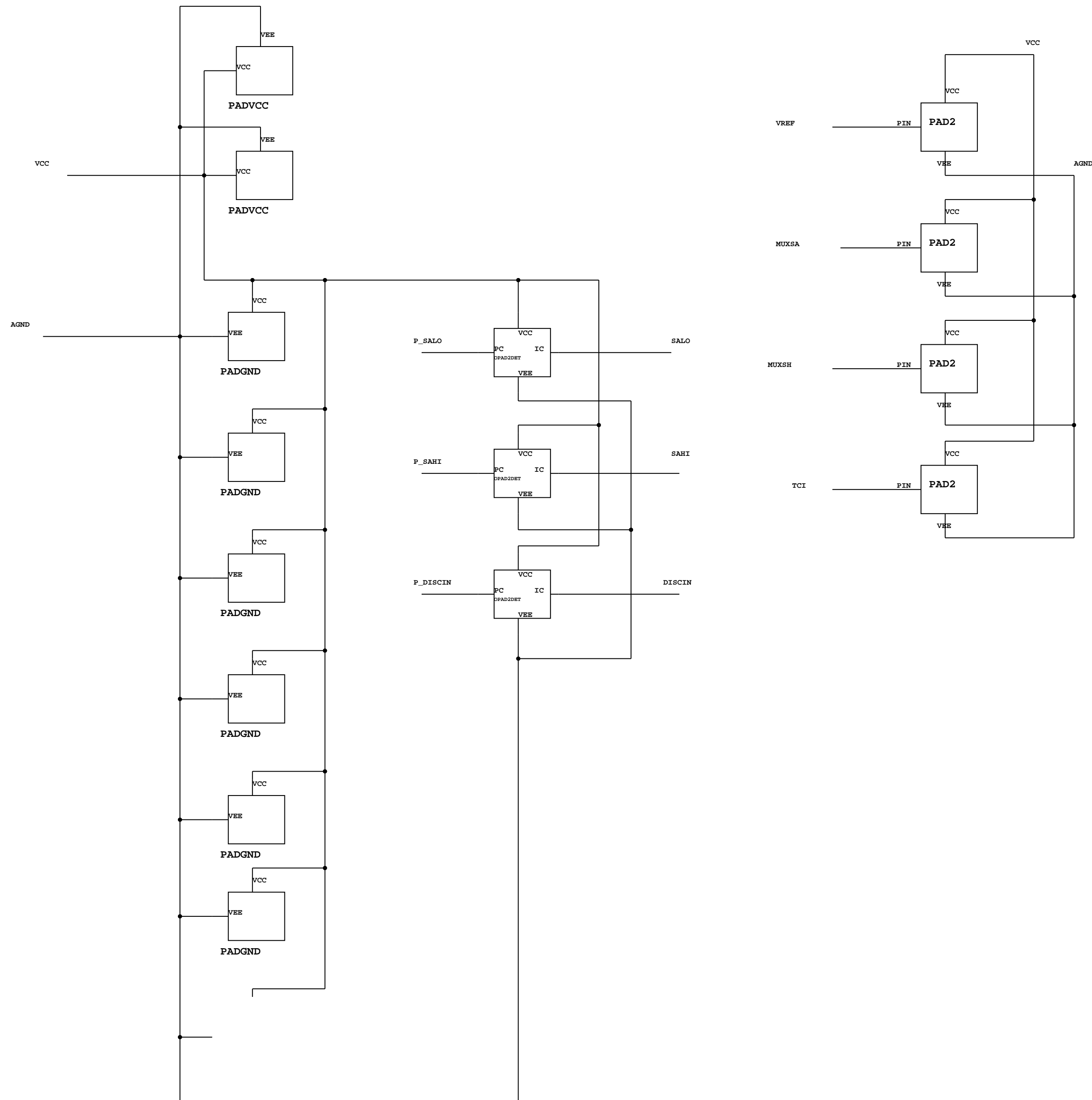


**GAFE\_CORE**



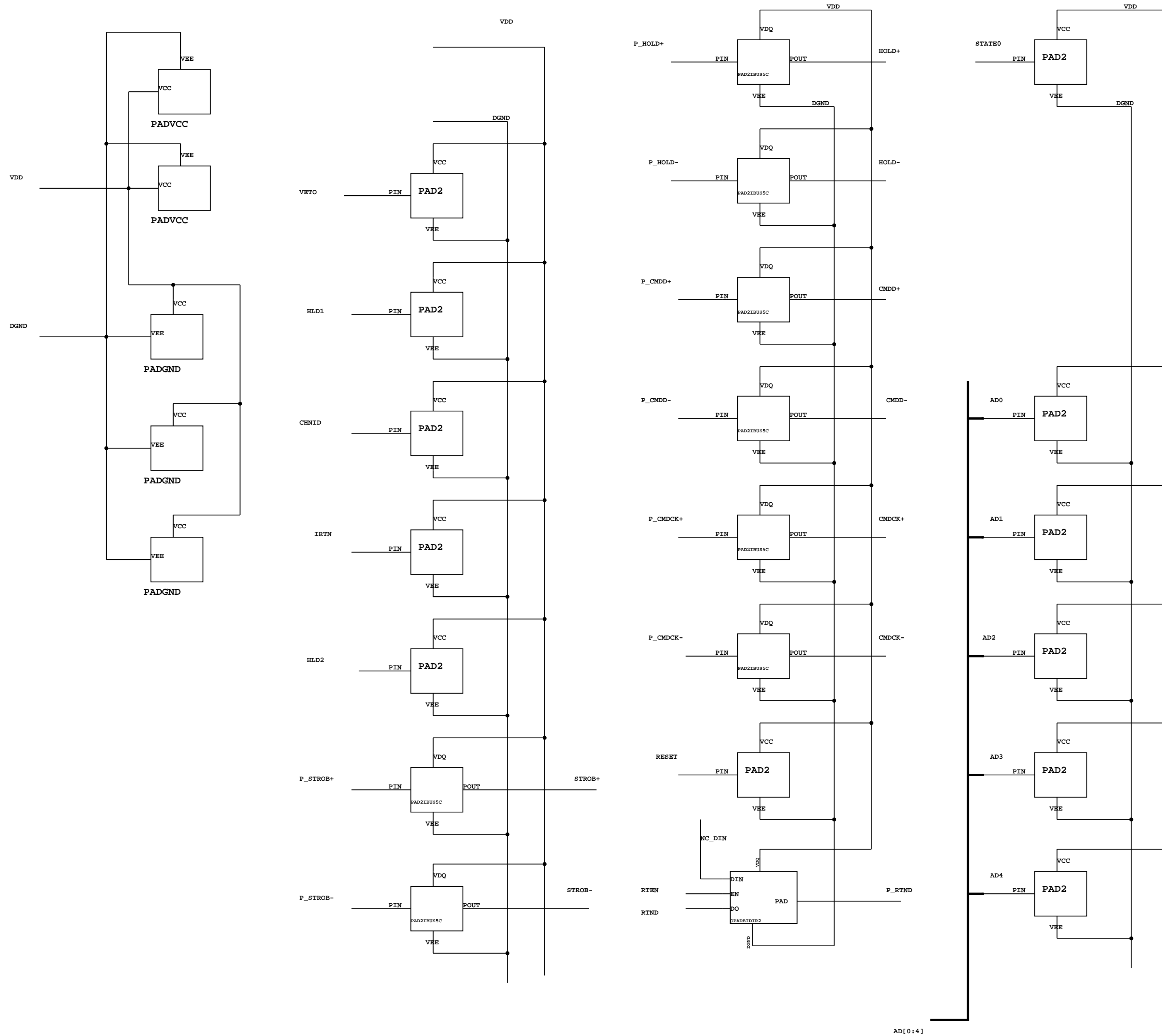
12-3-2002\_17:11  
OCORE5

|                    |                        |
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| <b>LHEA - NASA</b> |                        |
| CORER              | 3.6.02                 |
| Proj: GLAST ACD    |                        |
| ver: GAFEL_1       | DRAWN BY: Satpal Singh |



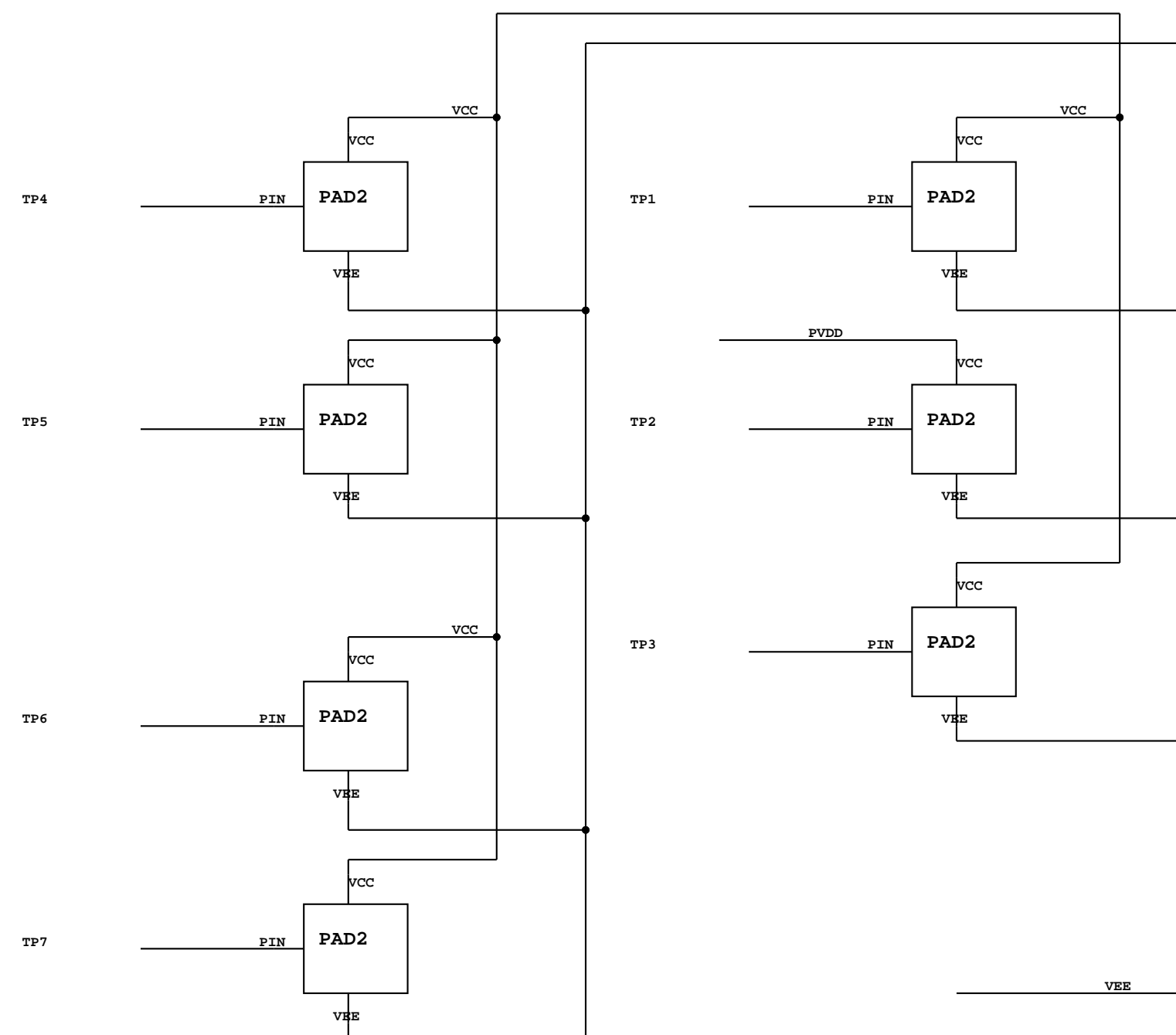
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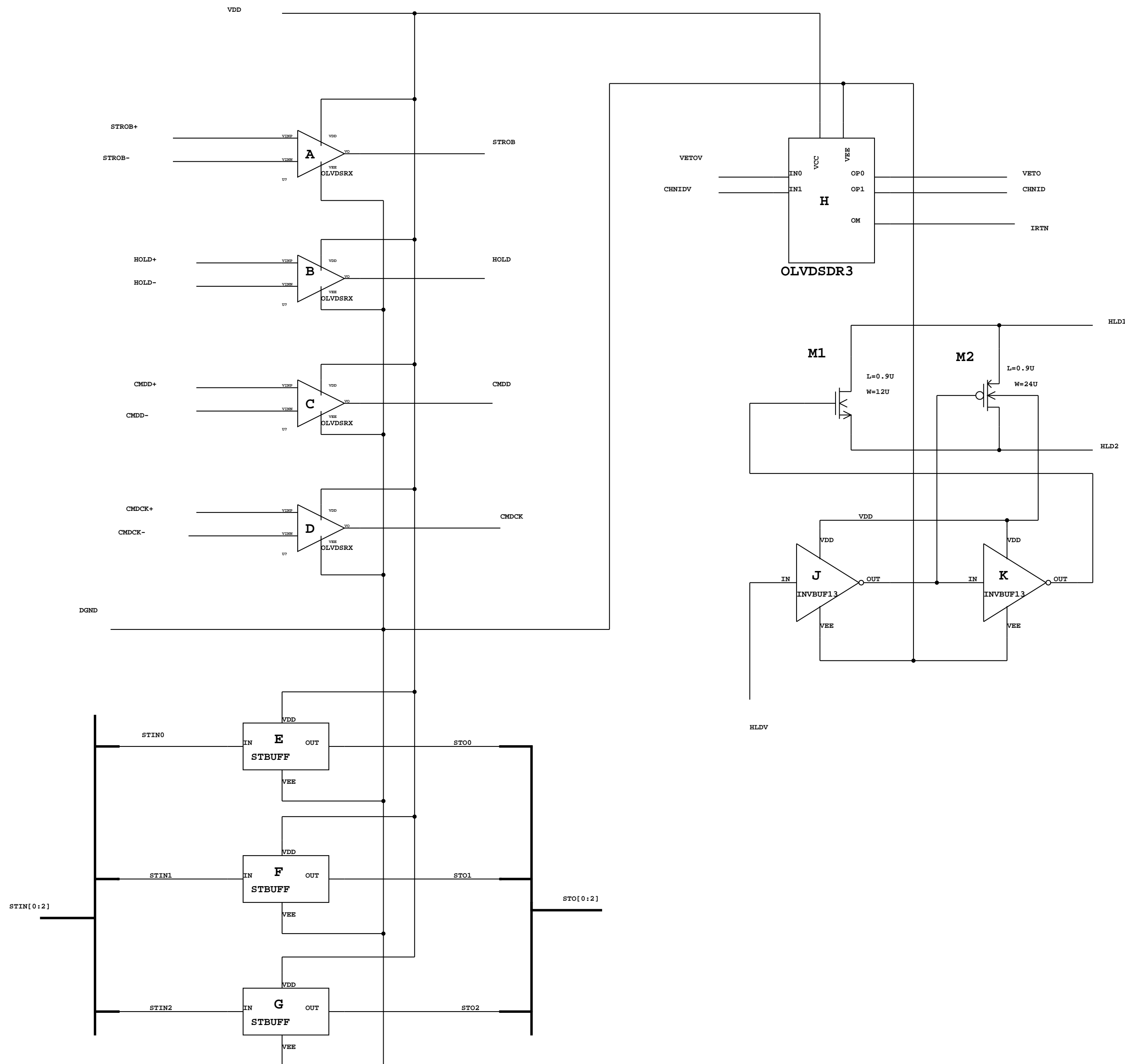
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| <h1>LHEA - NASA</h1>     |                        |
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| ver: GAFEL_1             | DRAWN BY: Satpal Singh |



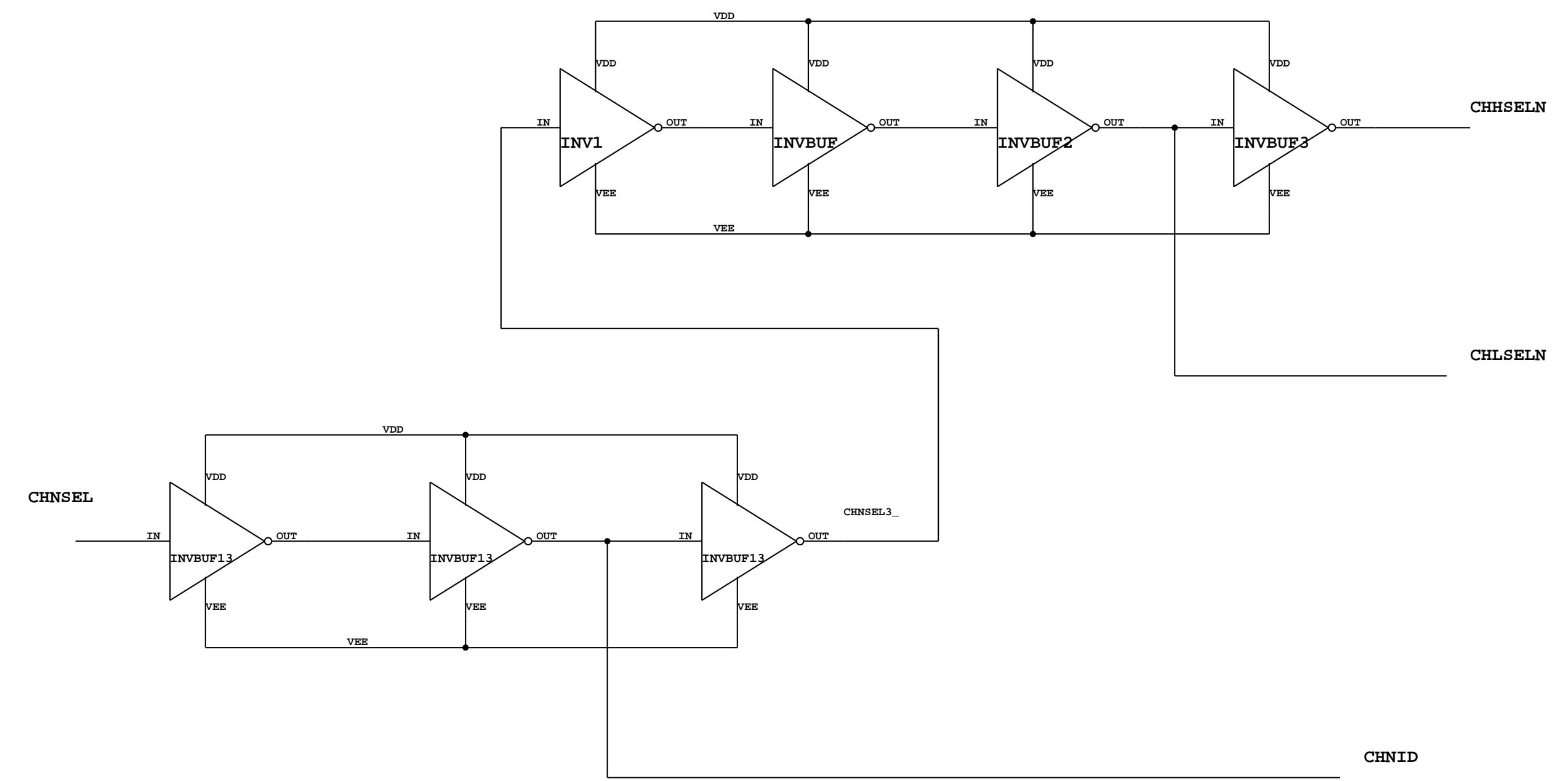
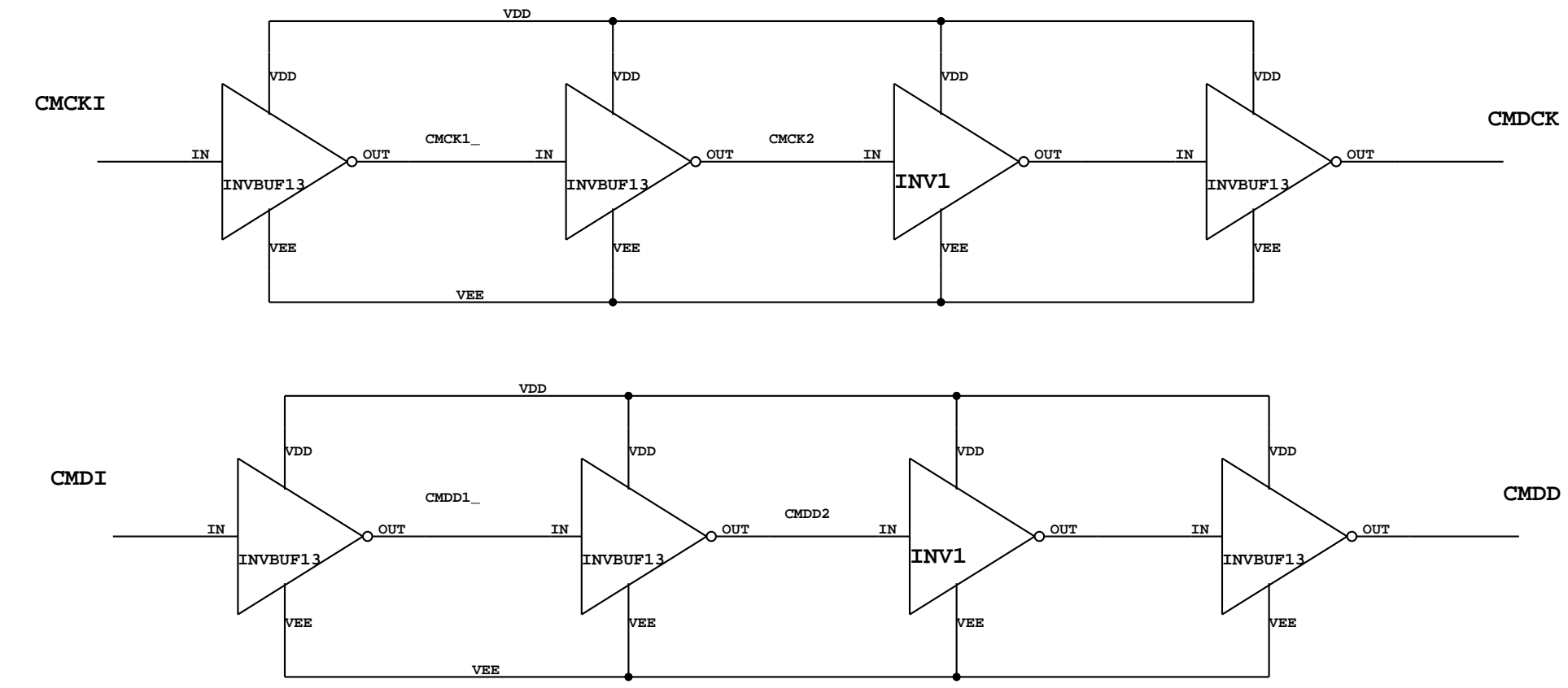
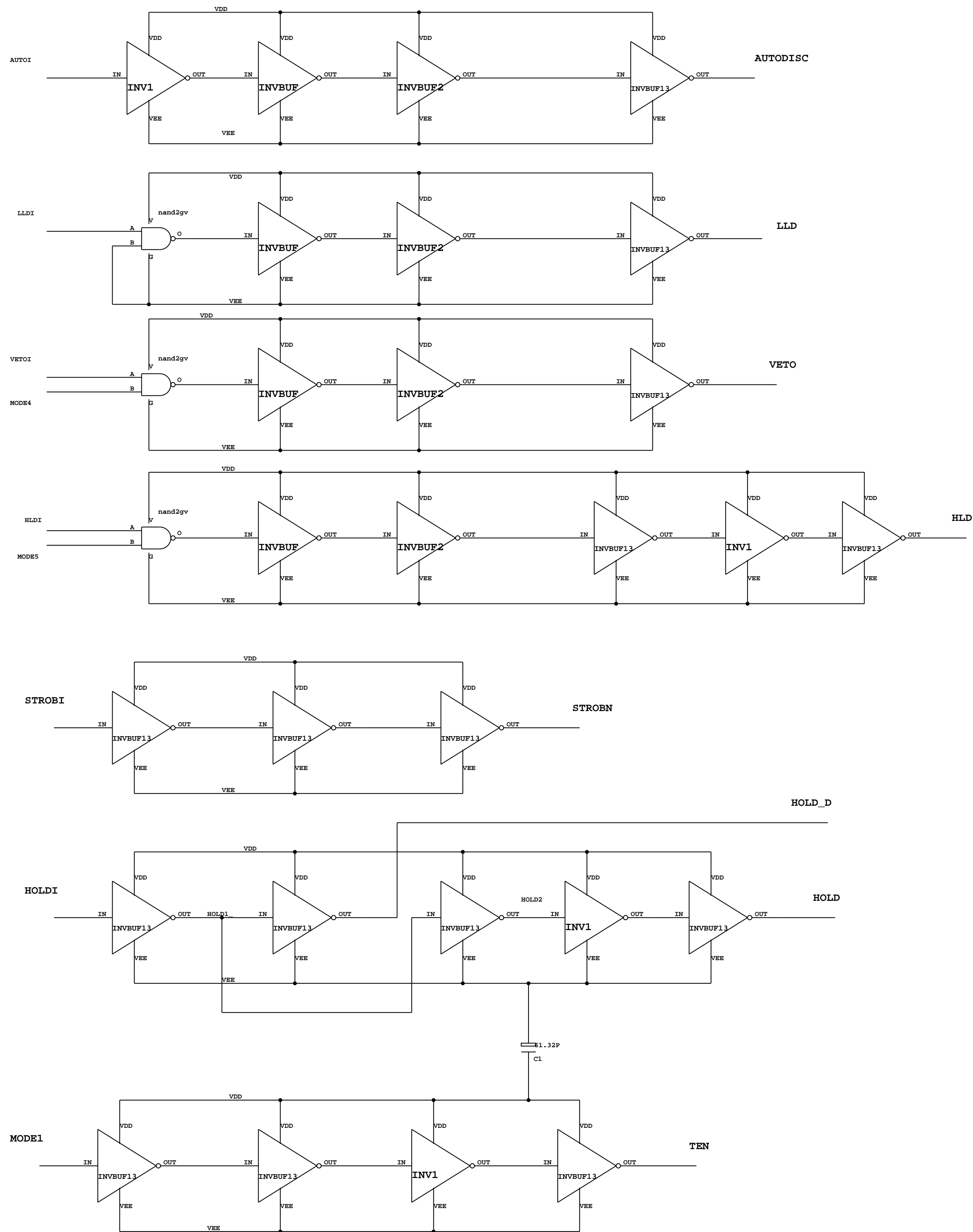
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otpads5d

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| <b>LHEA - NASA</b>       |                        |
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| ver: GAFEL_1             | DRAWN BY: Satpal Singh |



6-16-2003\_14:32  
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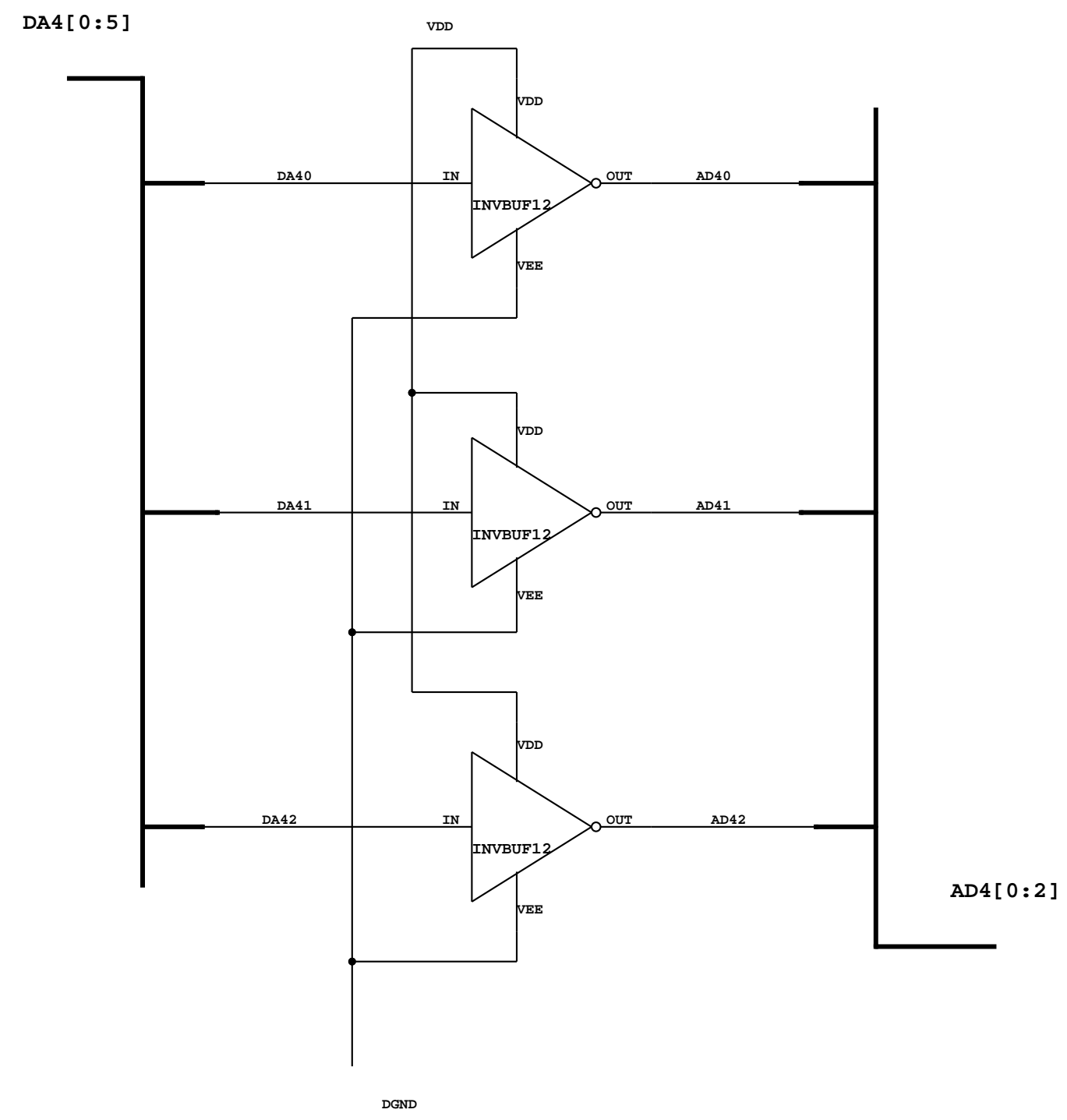
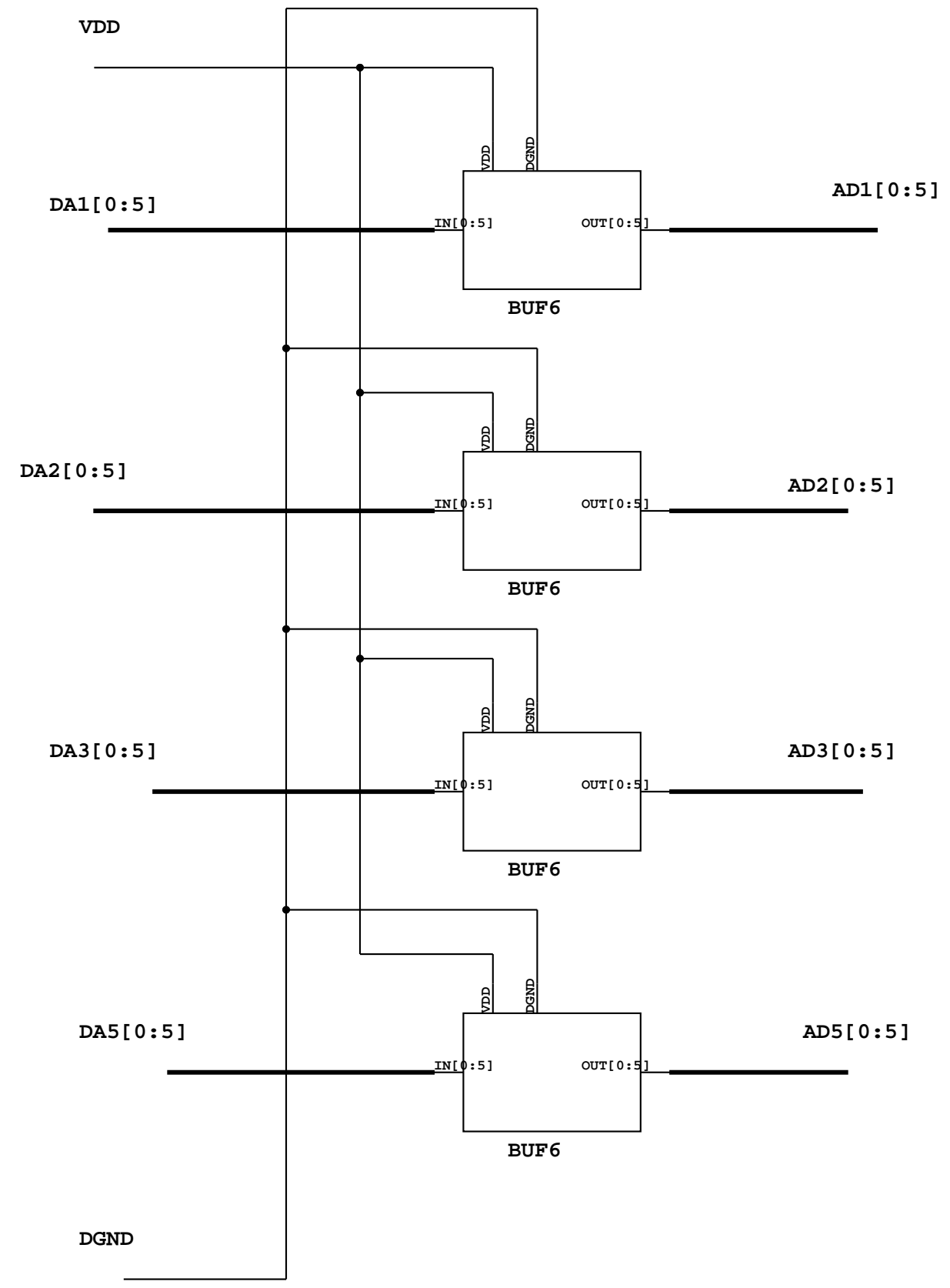
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| <h1>LHEA - NASA</h1> |                           |
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| Proj: GLAST ACD      |                           |
| ver: GAF1_1          | DRAWN BY: Satpal Singh    |



9-17-2002\_14:54  
digdrvrs

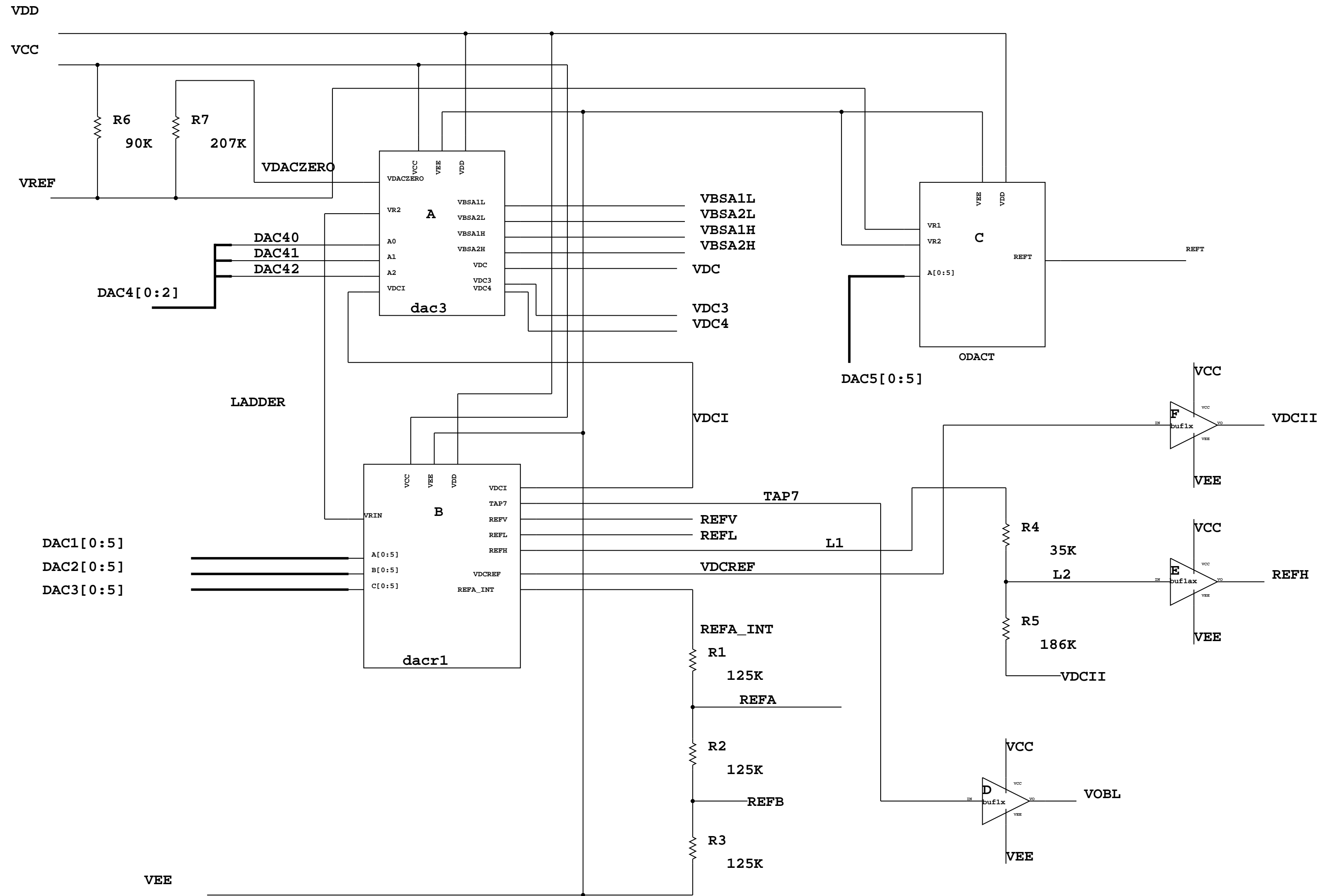
LHEA - NASA

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| digdrvrs        |           | 9-17-2002_14:54 |  |
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| ver: GAPEL_1    | DRAWN BY: | Satpal Singh    |  |

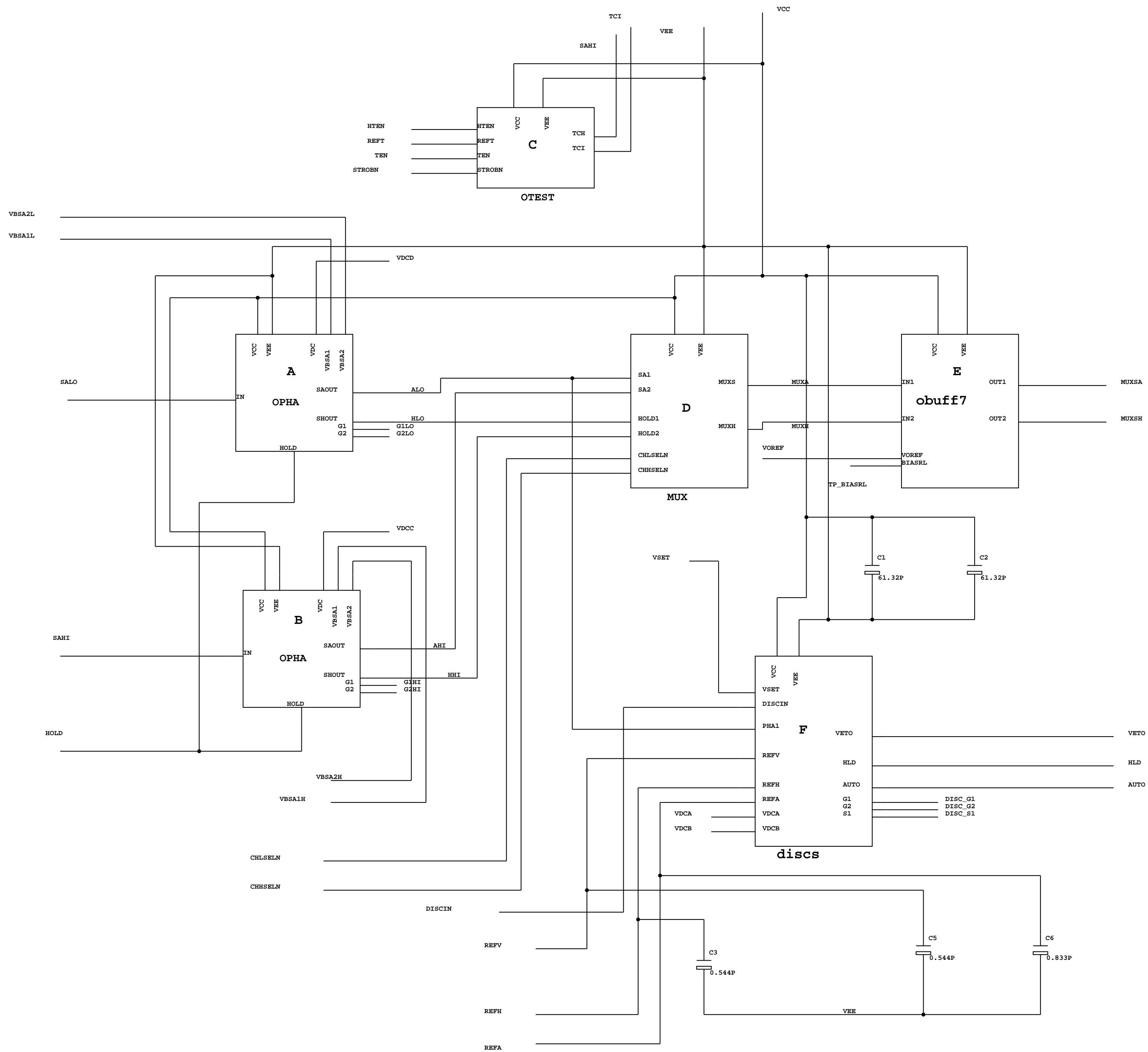


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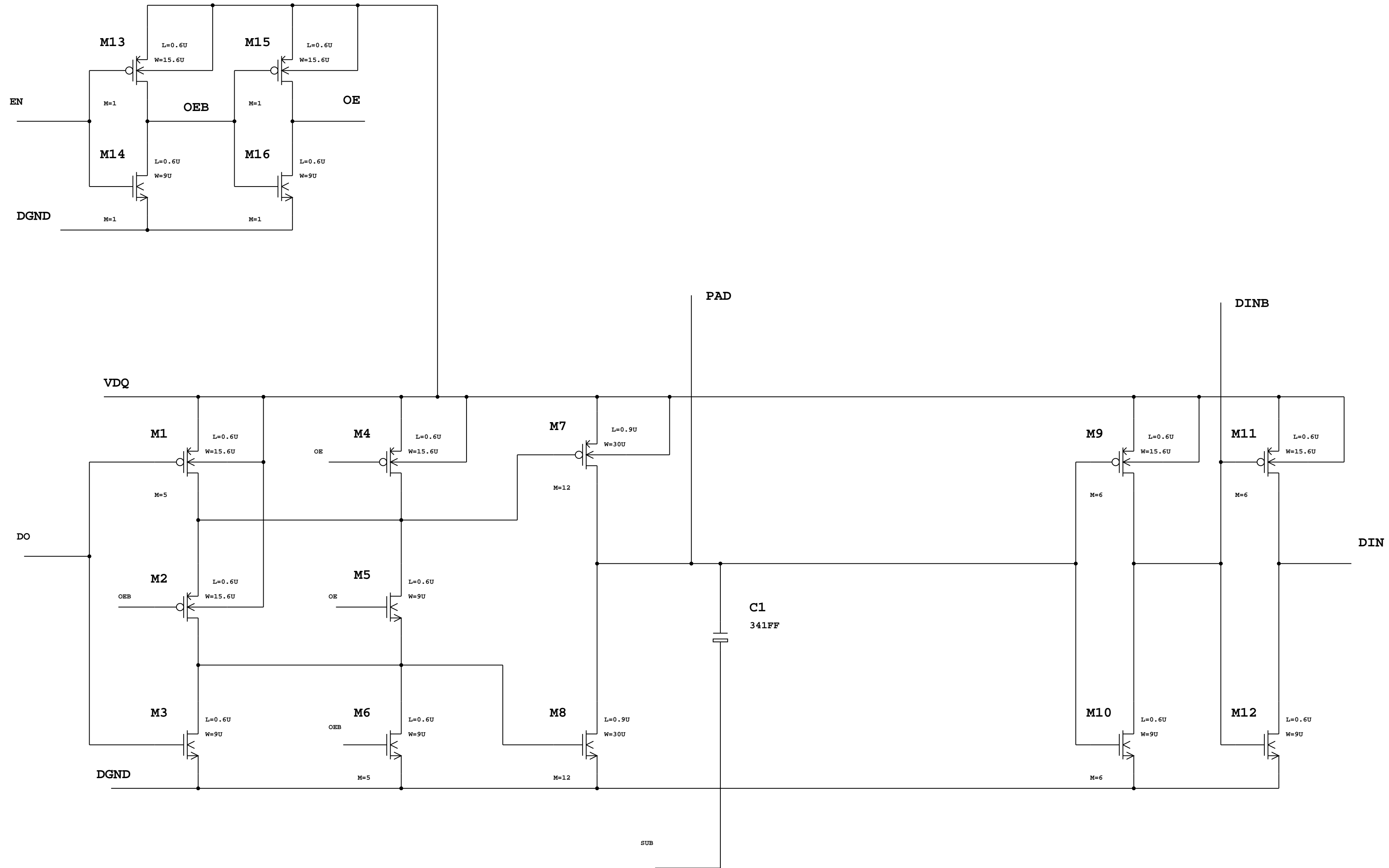


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| <h1>LHEA - NASA</h1> |                        |
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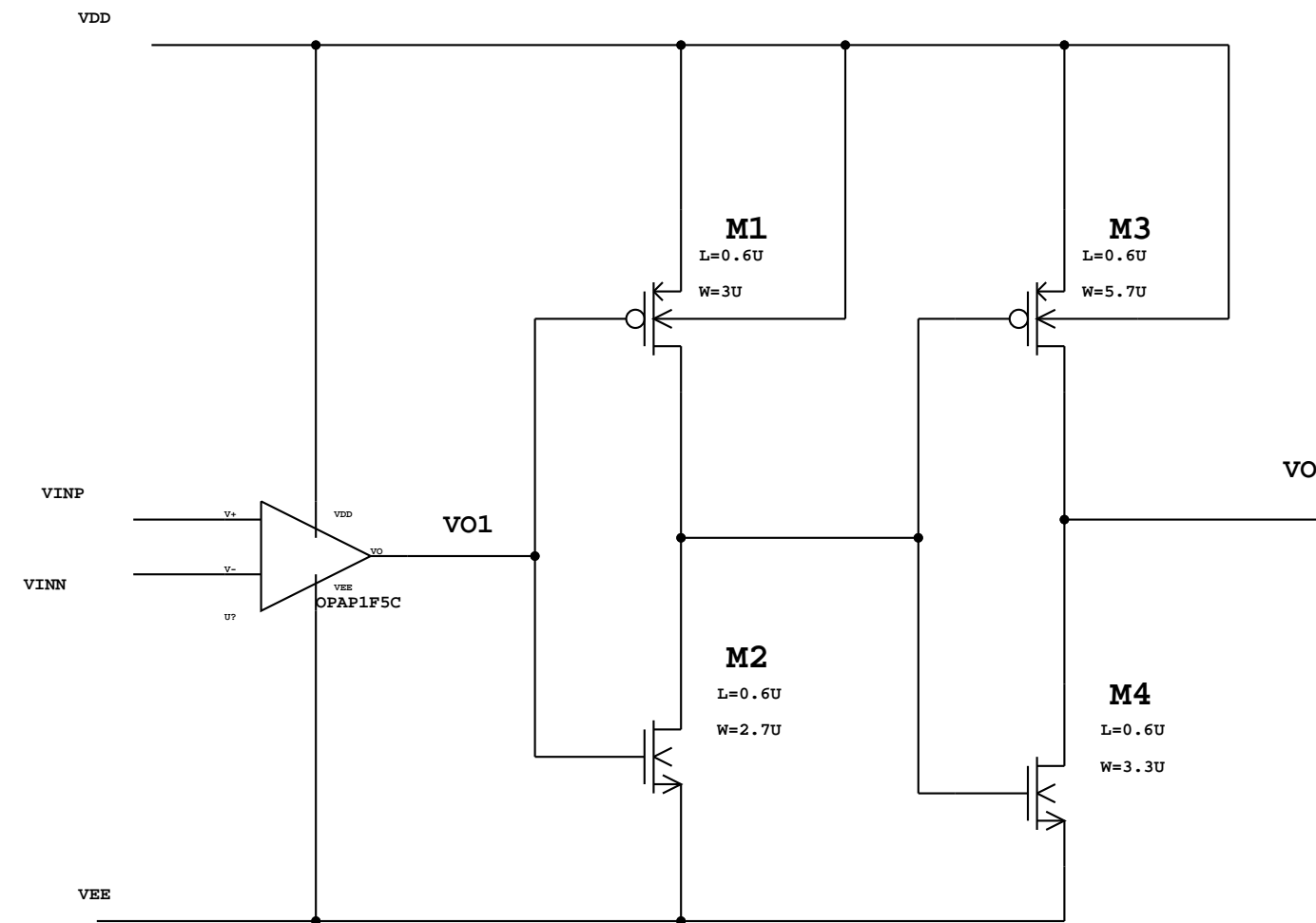
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analog5

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| <b>LHEA - NASA</b> |                        |
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| Proj: GLAST ACD    |                        |
| ver: GAFEL_1       | DRAWN BY: Satpal Singh |



1-1-2003\_19:33  
opadbidir2

|                    |                        |
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| <b>LHEA - NASA</b> |                        |
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| Proj: GLAST ACD    | 1-1-2003_19:33         |
| ver: GAFEL_1       | DRAWN BY: Satpal Singh |



6-12-2003\_11:11

lvdsrx

*VIEWlogic™*

**OLVDSRX**

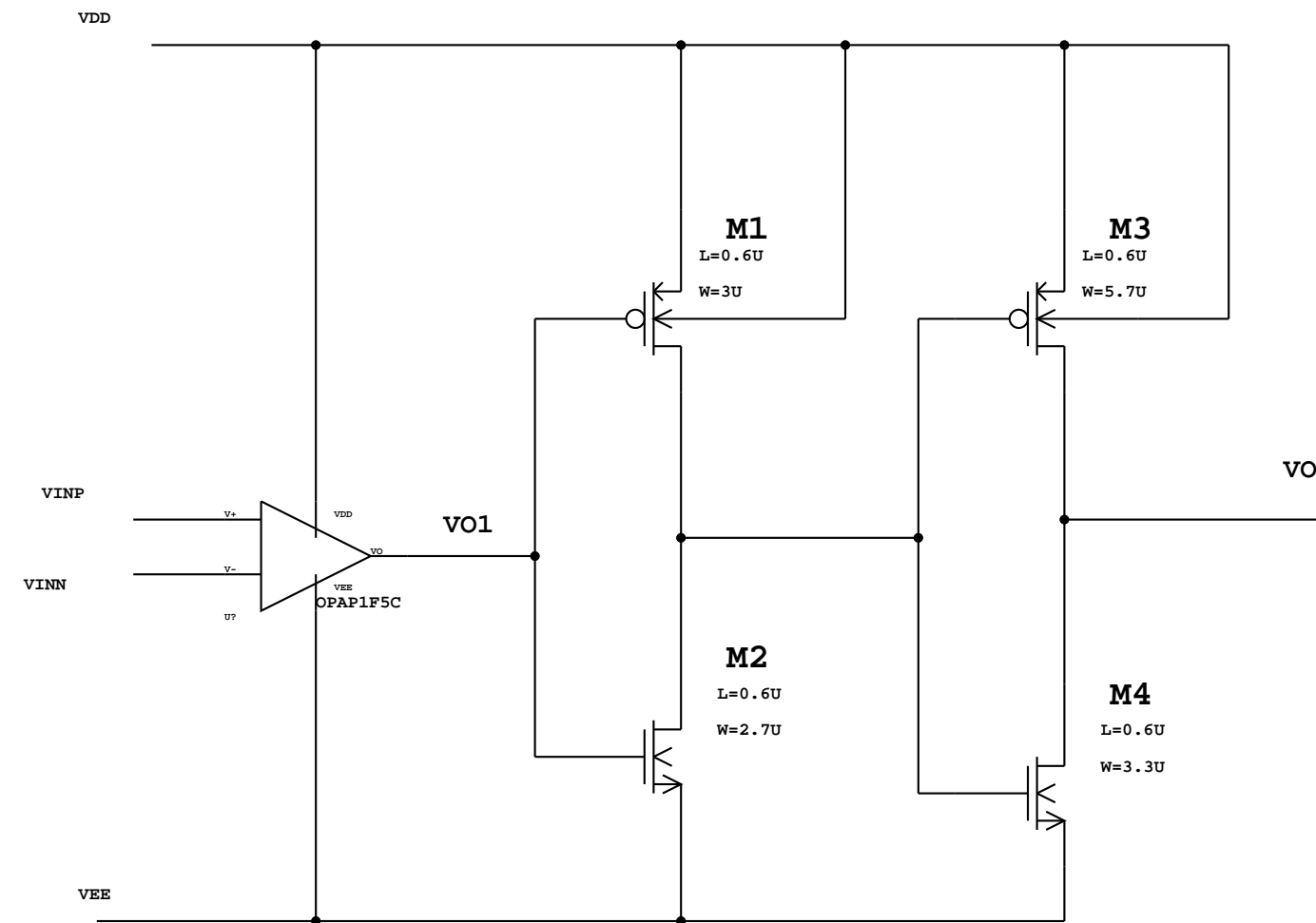
GLAST / Ag - 0.5u

2.1.02

Ver: GAFE1\_1

DRAWN BY:

SATPAL SINGH



6-12-2003\_11:11

lvdsrx

*VIEWlogic™*

**OLVDSRX**

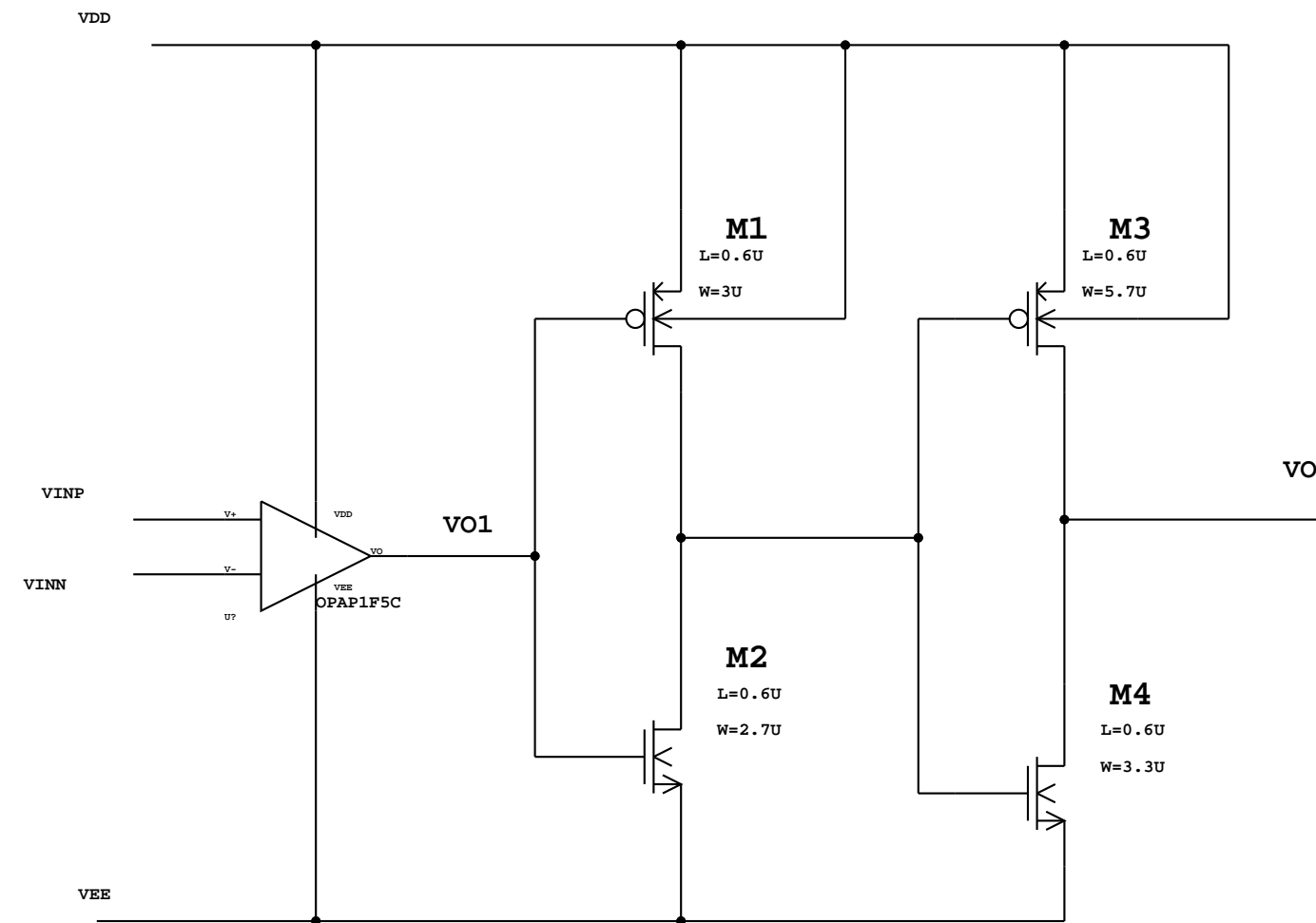
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2.1.02

Ver: GAFE1\_1

DRAWN BY:

SATPAL SINGH



6-12-2003\_11:11

lvdsrx

*VIEWlogic™*

**OLVDSRX**

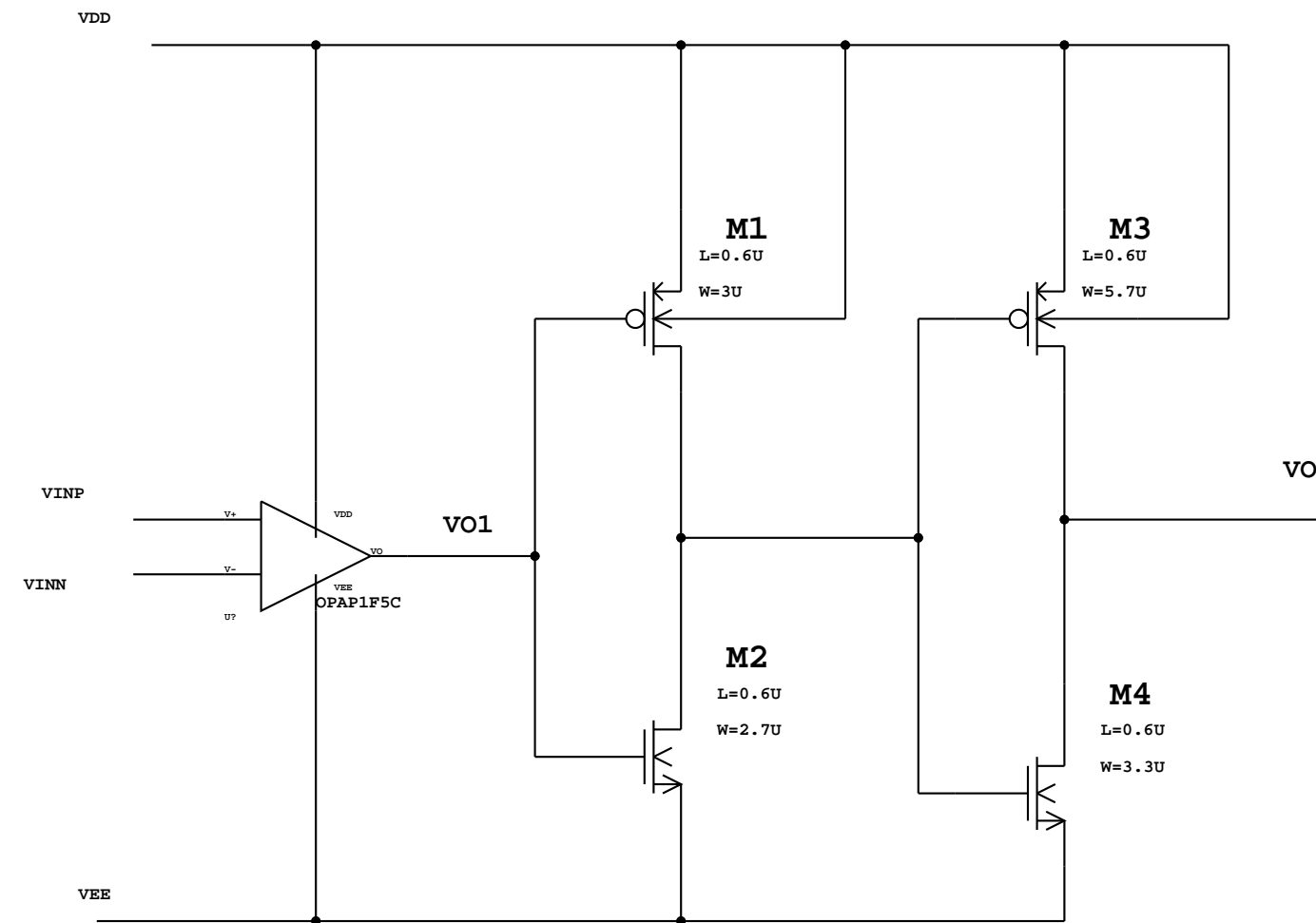
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Ver: GAFE1\_1

DRAWN BY:

SATPAL SINGH



6-12-2003\_11:11

lvdsrx

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**OLVDSRX**

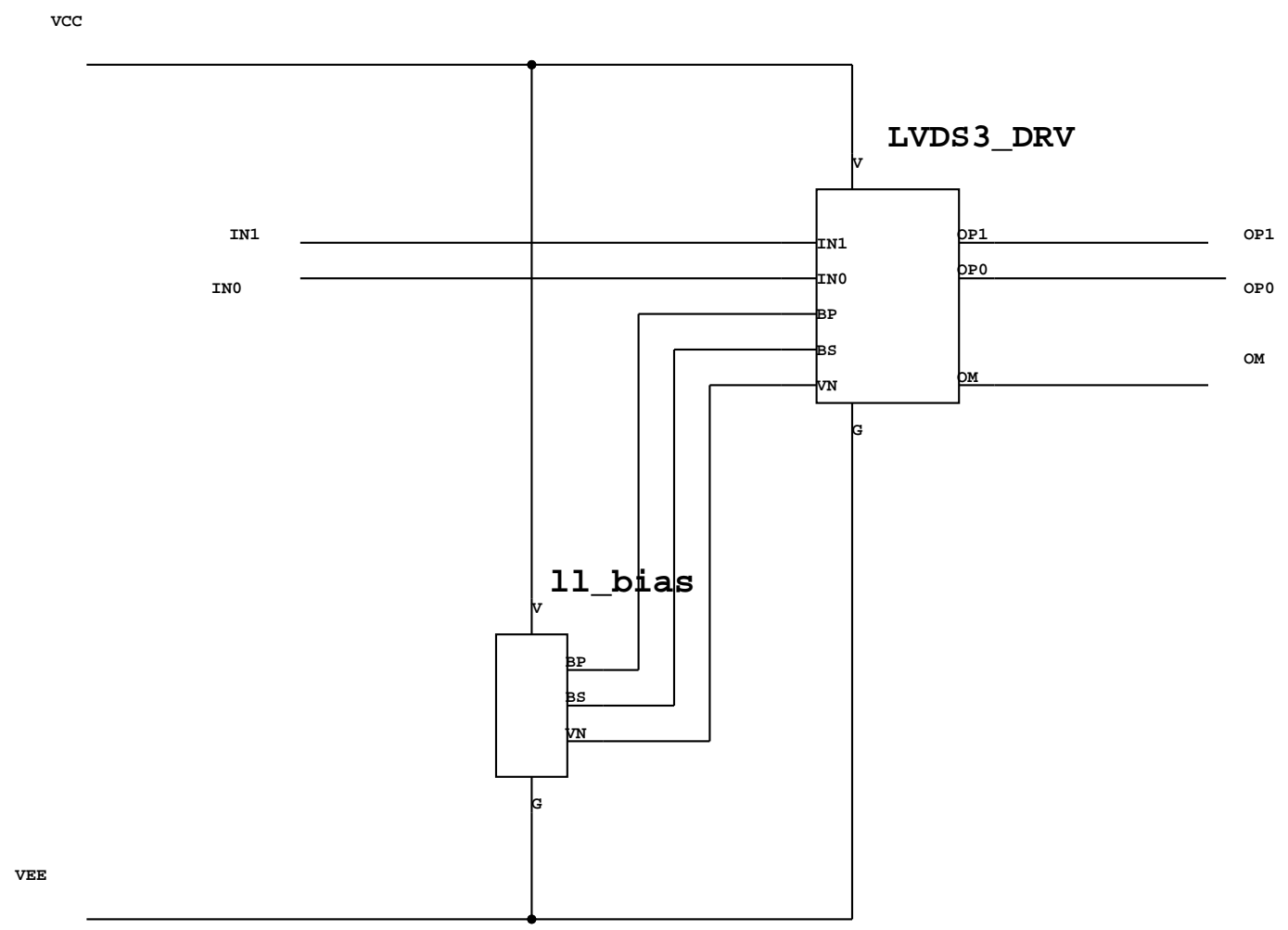
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2.1.02

Ver: GAFE1\_1

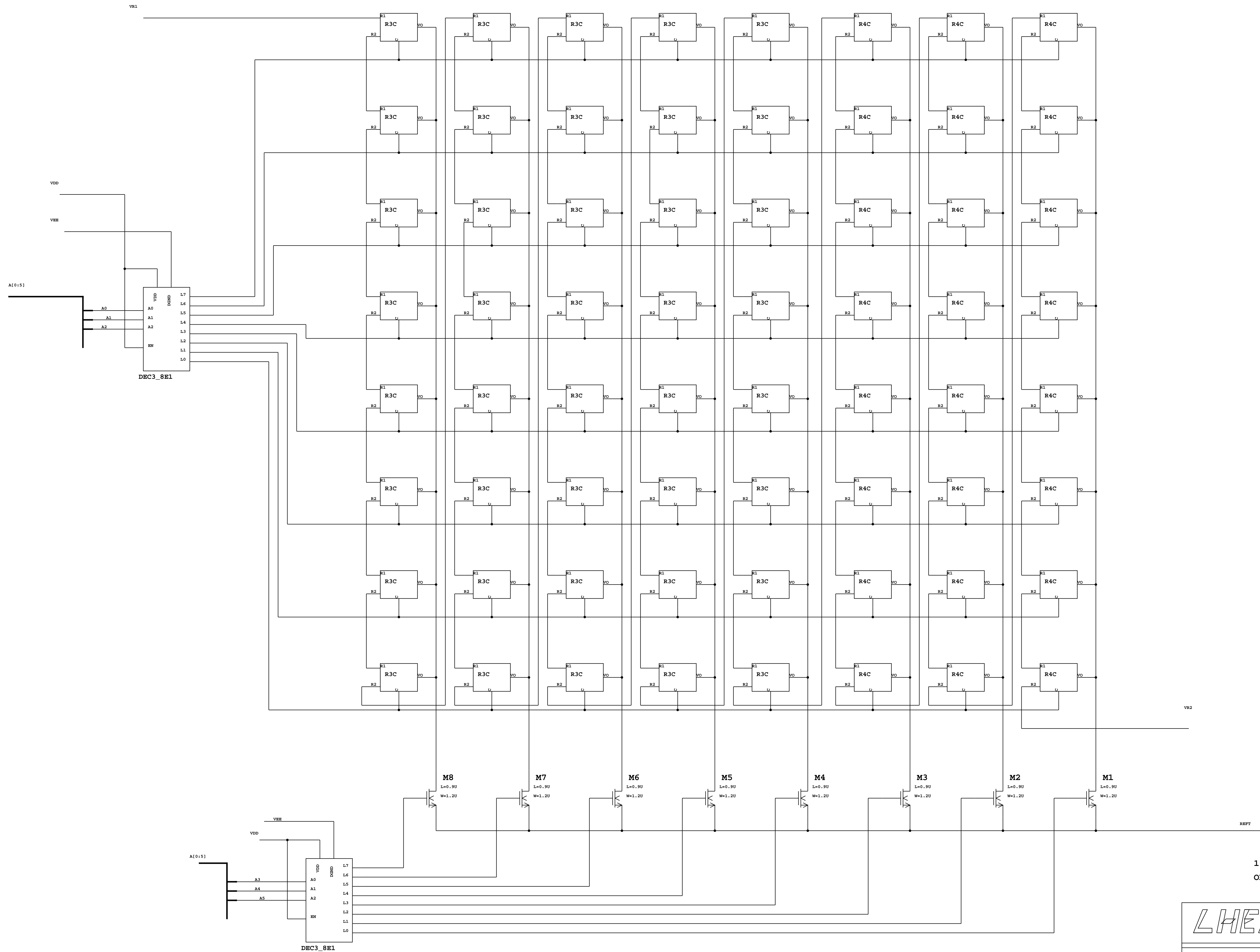
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SATPAL SINGH



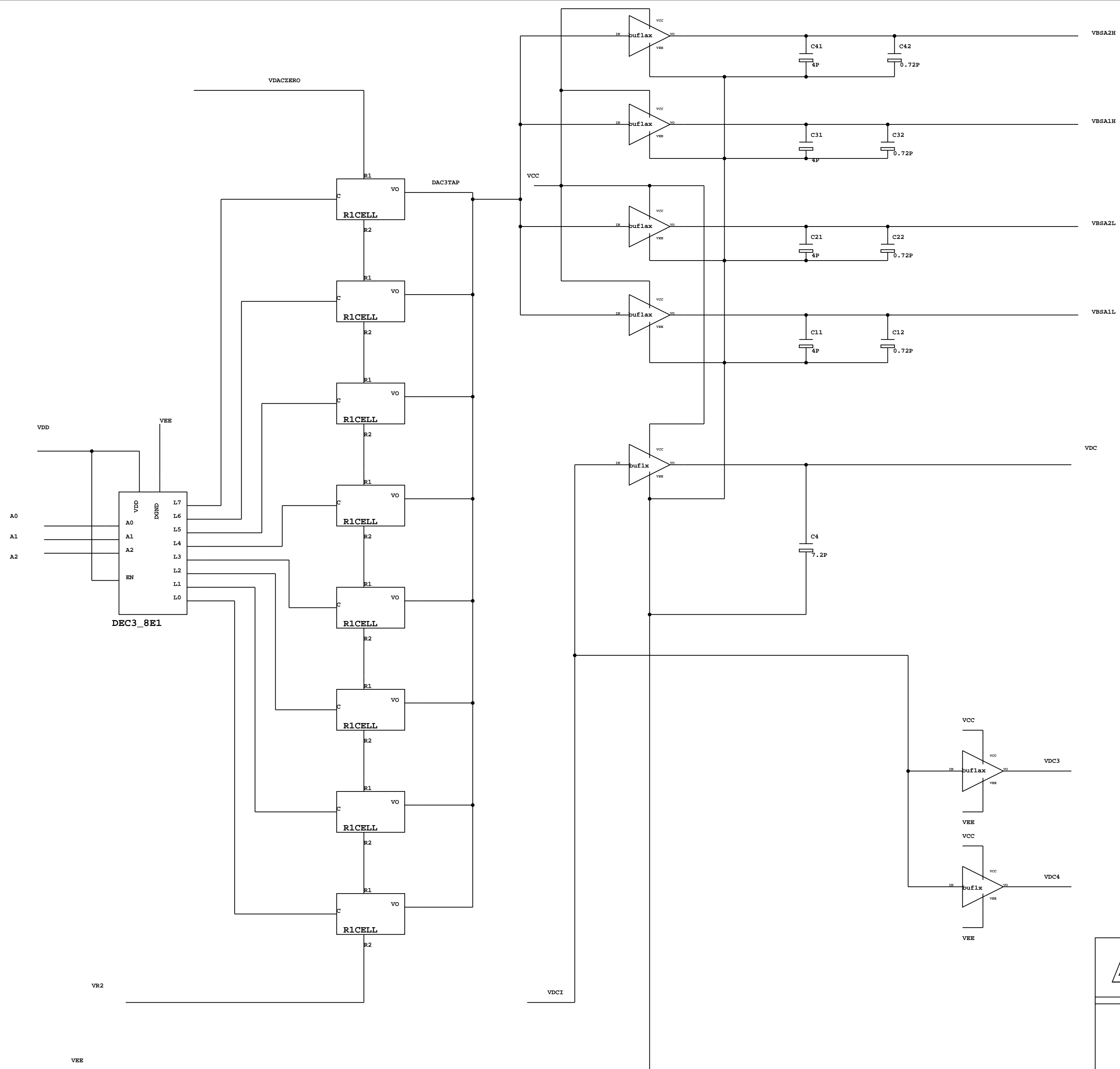
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 olvdsdr3

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| <b>LHEA - NASA</b> |                        |
| <b>LVDSDR3</b>     | 3.20.02                |
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| ver: GAFE1_1       | DRAWN BY: Satpal Singh |

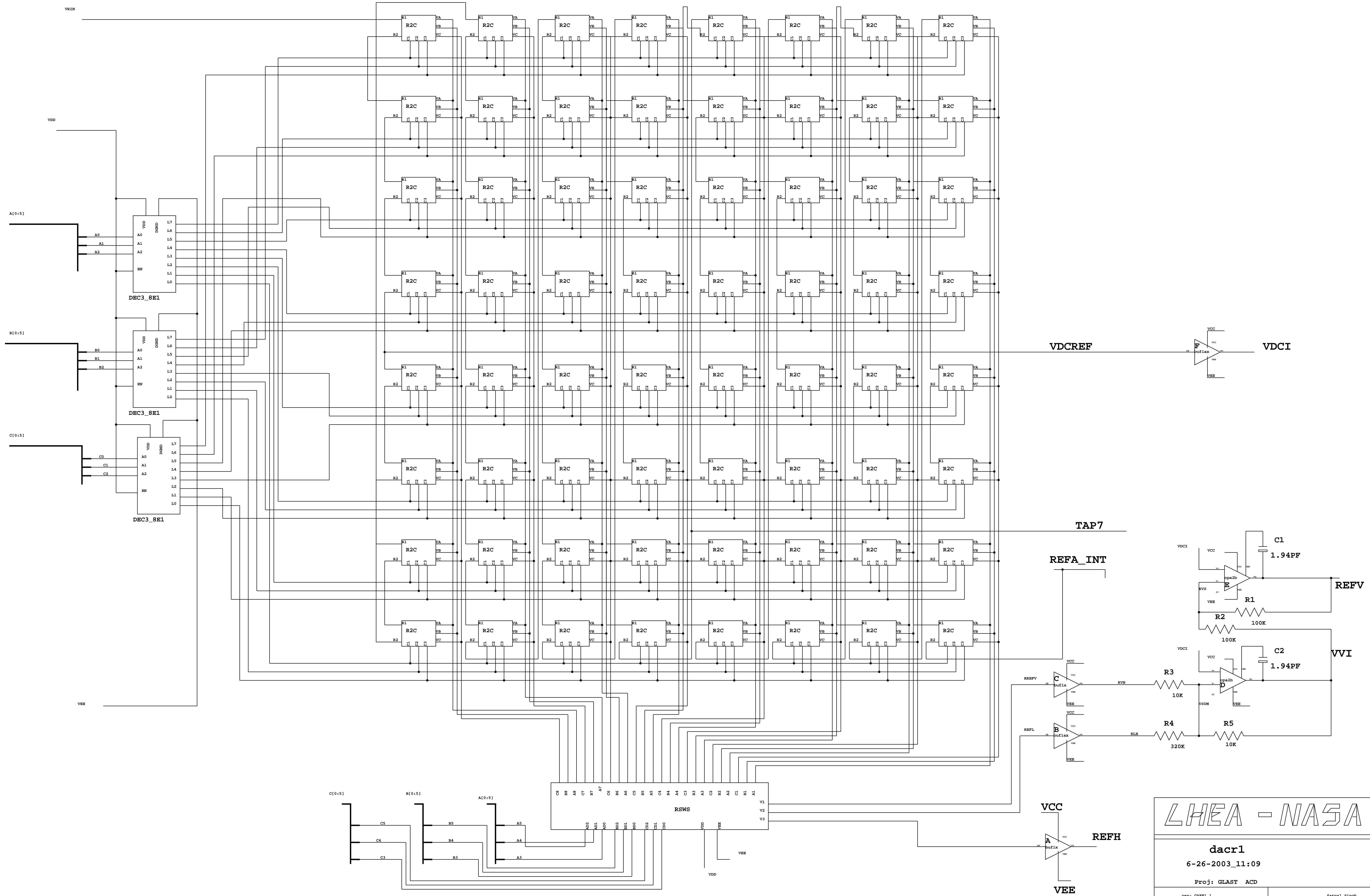


10-23-2002\_20:32  
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| Ver: GAPE1_1       | DRAWN BY: Satpal Singh |



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| <b>LHEA - NASA</b> |                        |
| <b>dac3</b>        |                        |
| 6-24-2003_12:25    |                        |
| Proj: GLAST ACD    |                        |
| ver: GAFEL_1       | DRAWN BY: Satpal Singh |



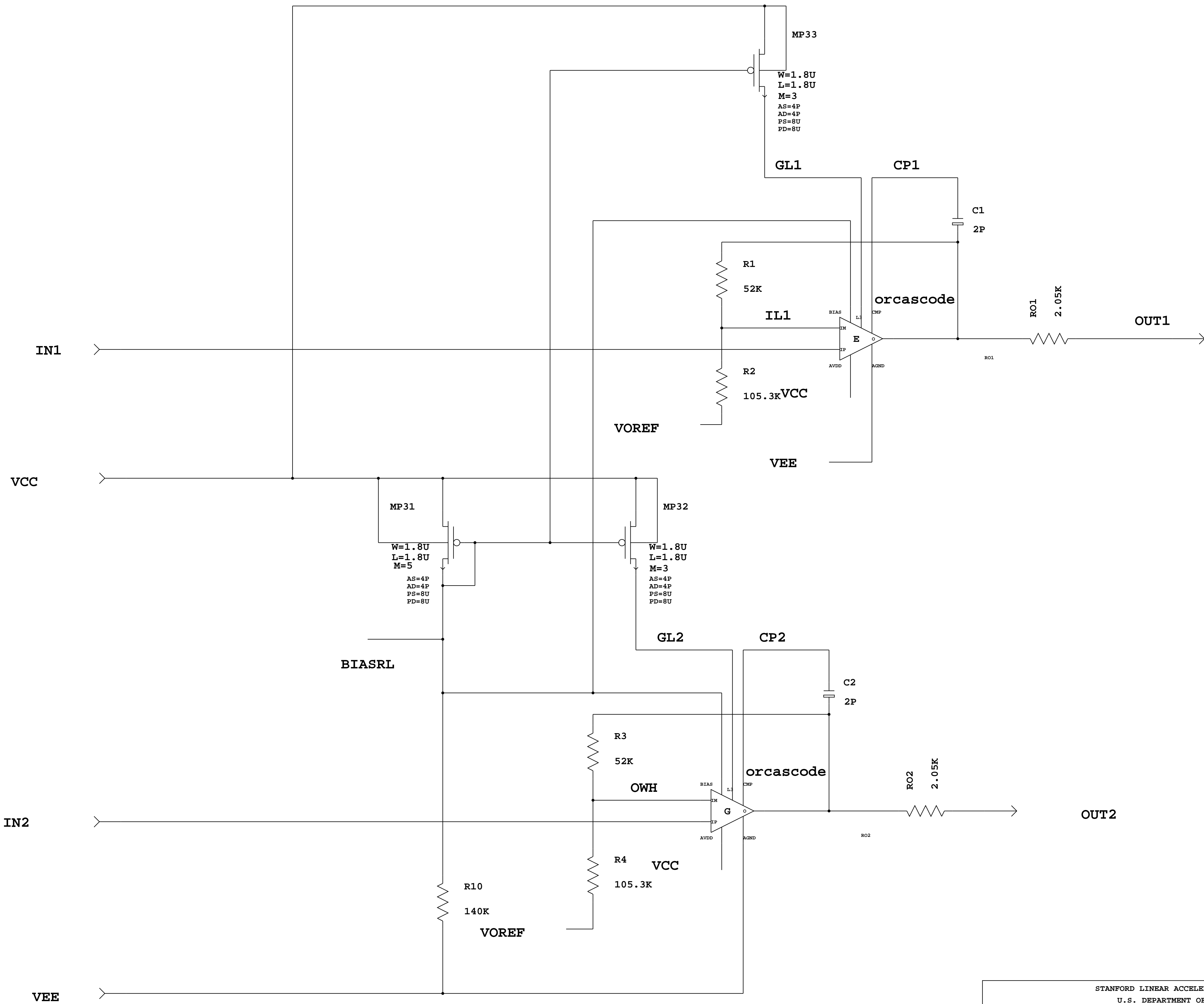
**LHEA - NASA**

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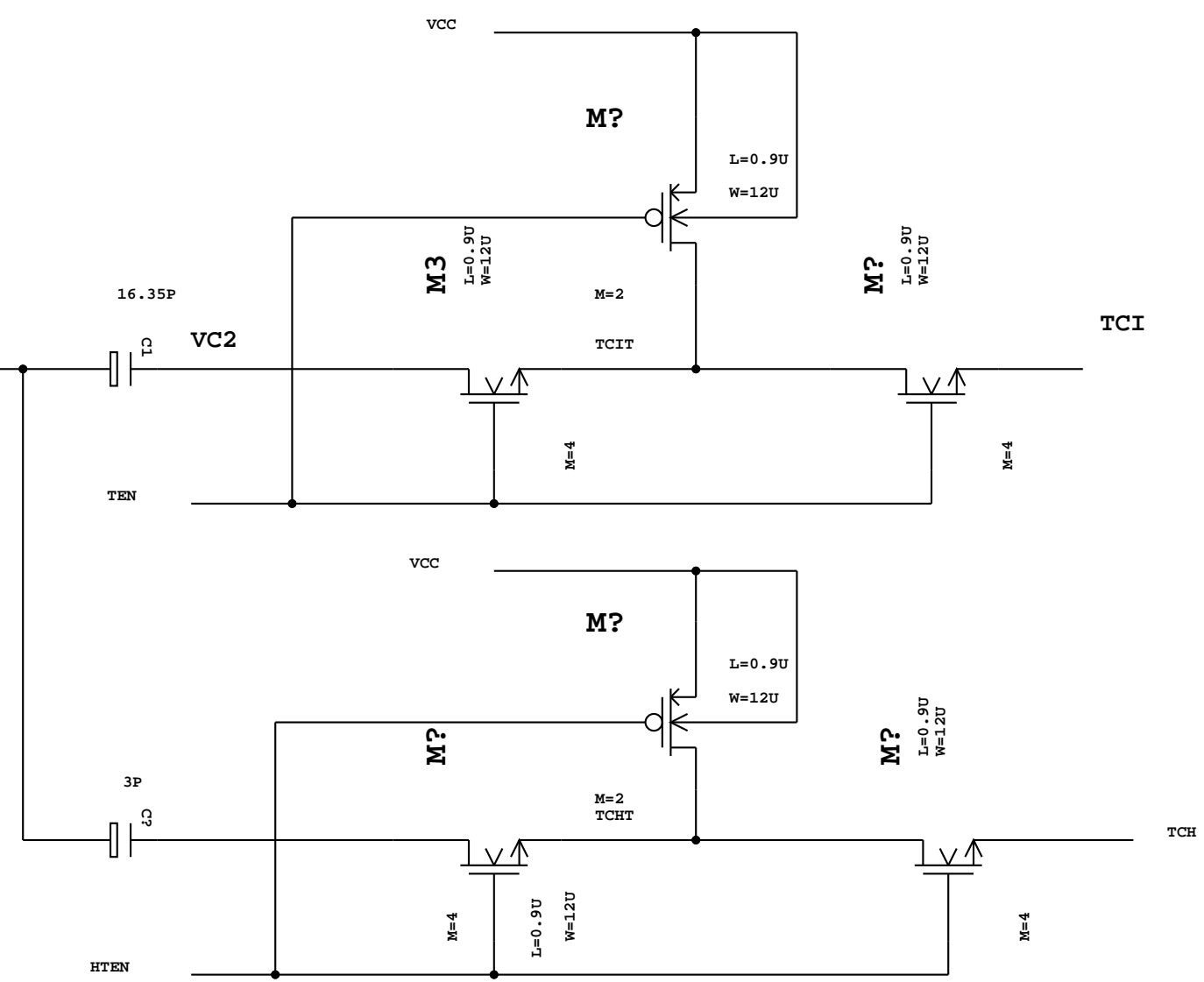
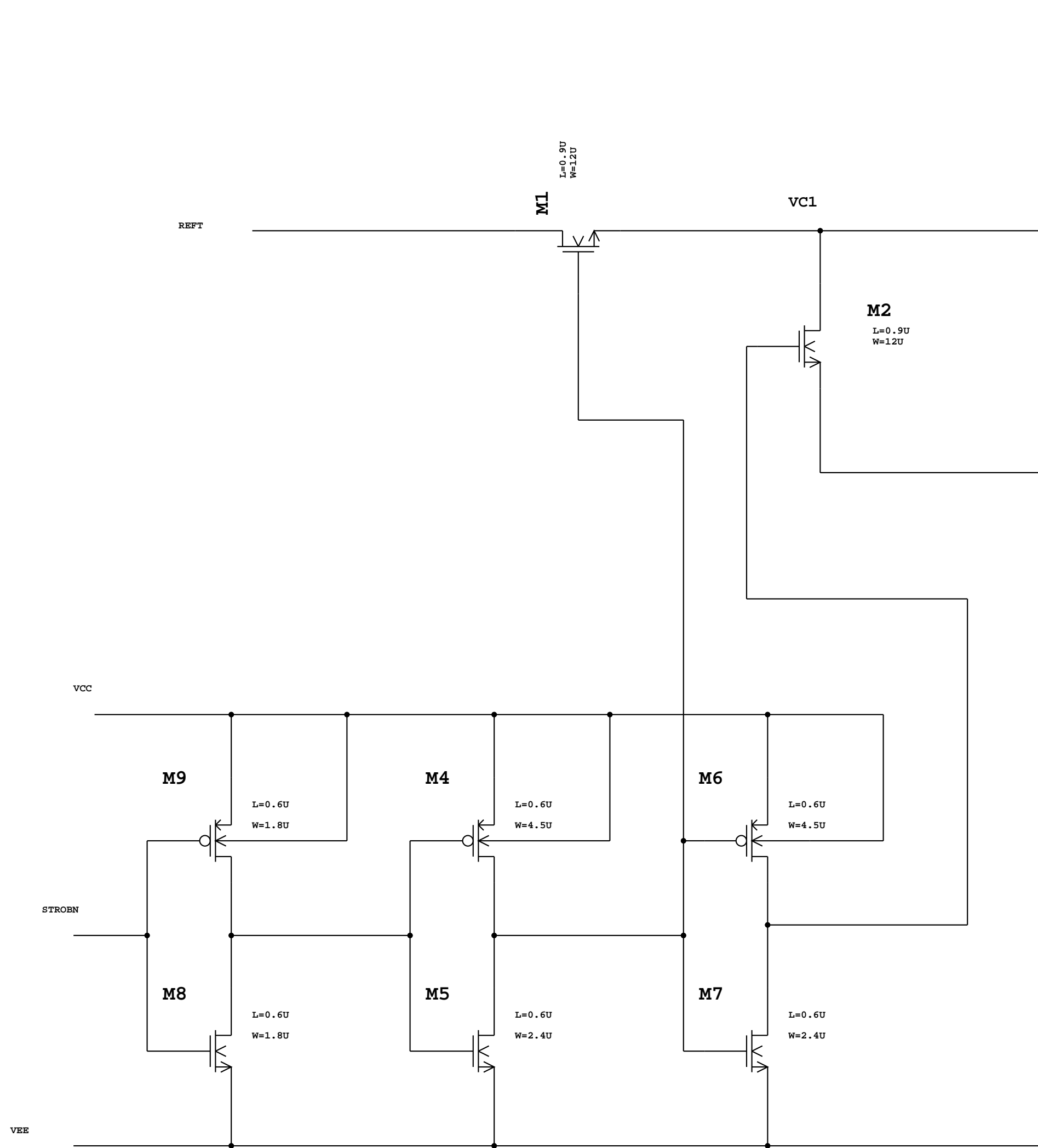
Proj: GLAST ACD

ver: GAPEL\_1 DRAWN BY: Satpal Singh



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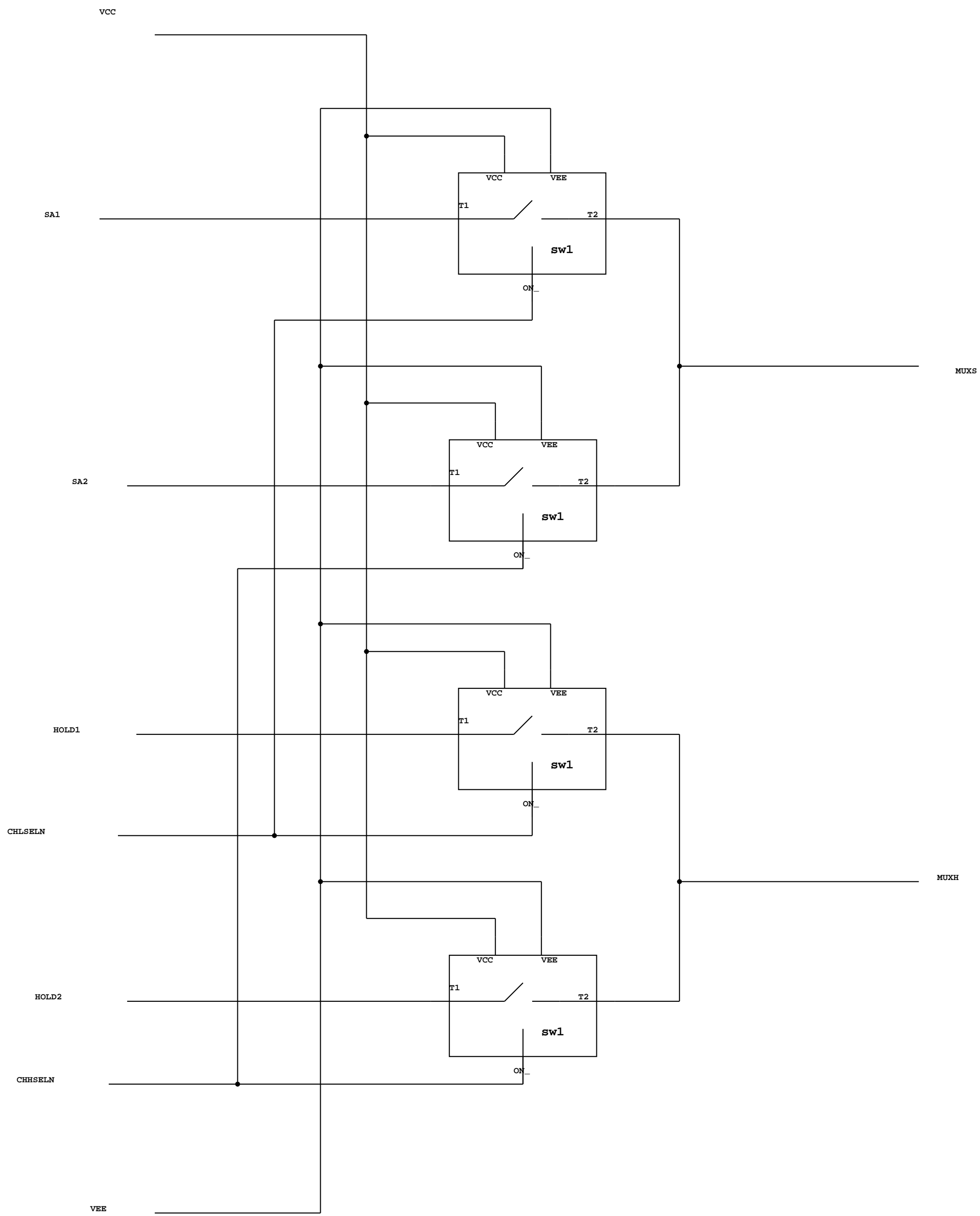
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10-31-2002\_12:44

OTEST

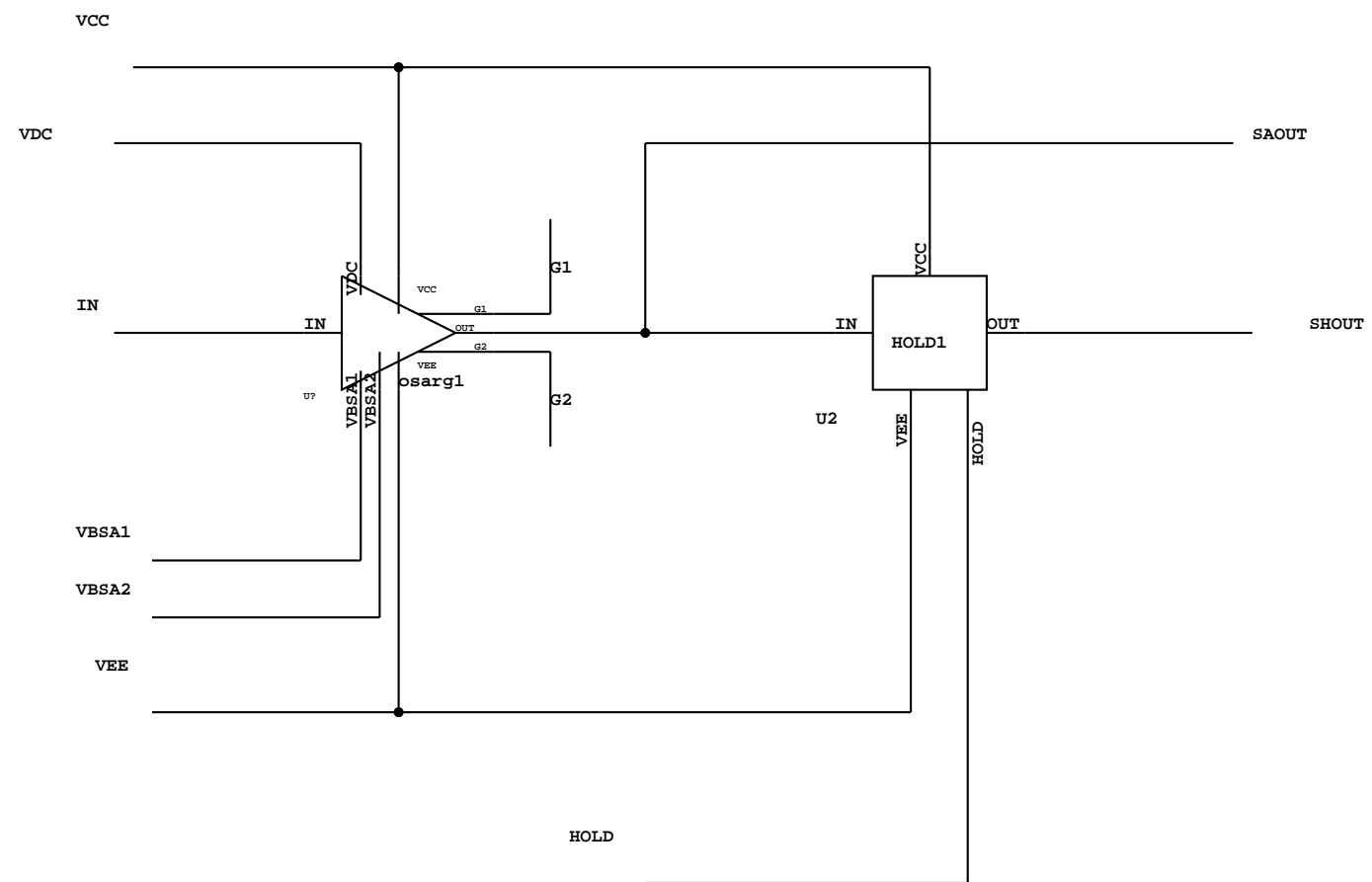
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| <b>LHEA - NASA</b> |                        |
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| Ver: GAFE1_1       | DRAWN BY: SATPAL SINGH |



5-9-2002\_15:13

**mux**

|                    |                        |
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| <b>LHEA - NASA</b> |                        |
| MUX                | 3.6.02                 |
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| ver: GAFEL_1       | DRAWN BY: Satpal Singh |



6-20-2003\_12:02

pha

LHEA - NASA

PHA

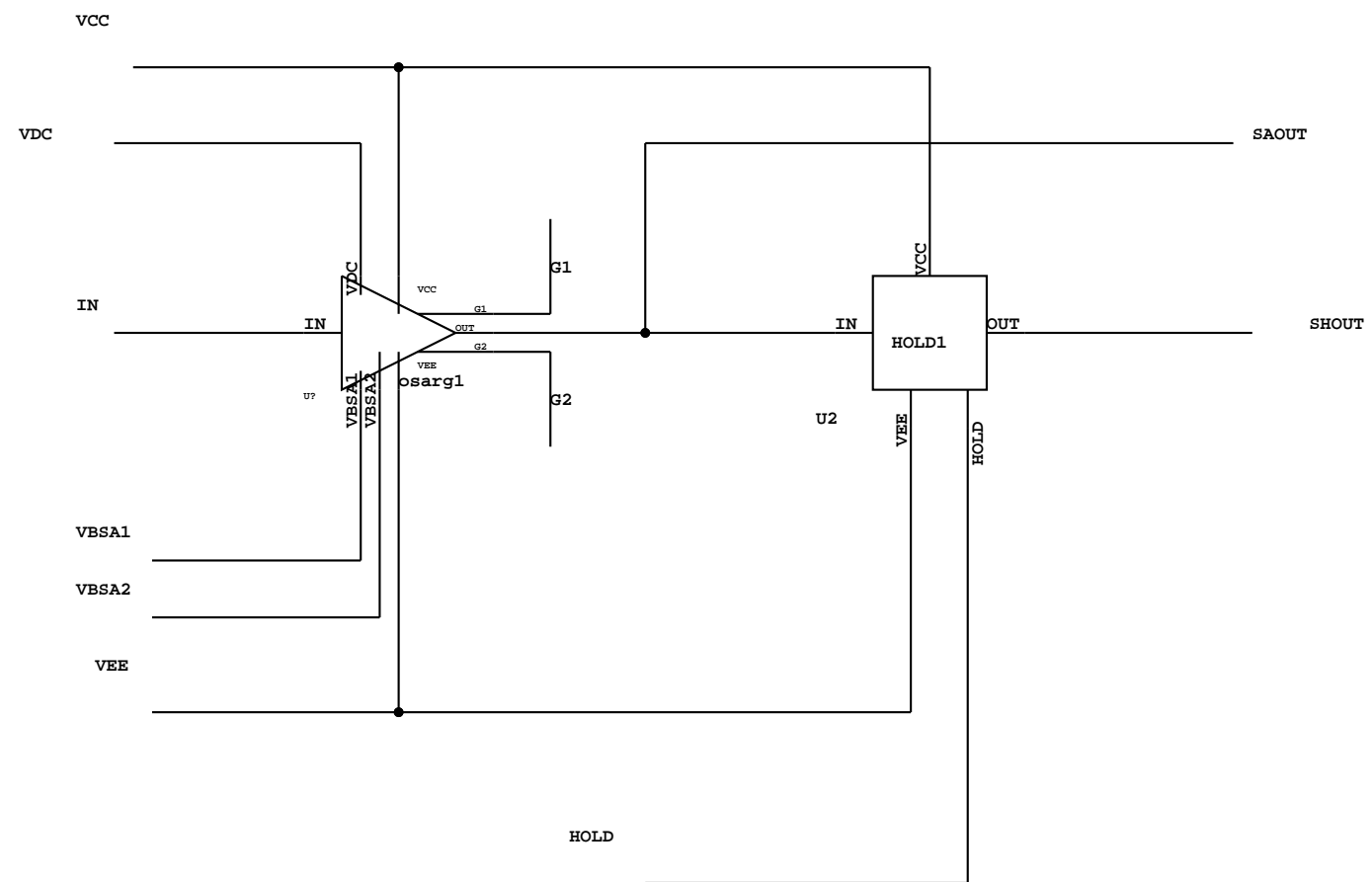
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Proj: GLAST ACD

ver: GAFE1\_1

DRAWN BY:

Satpal Singh



6-20-2003\_12:02

pha

LHEA - NASA

PHA

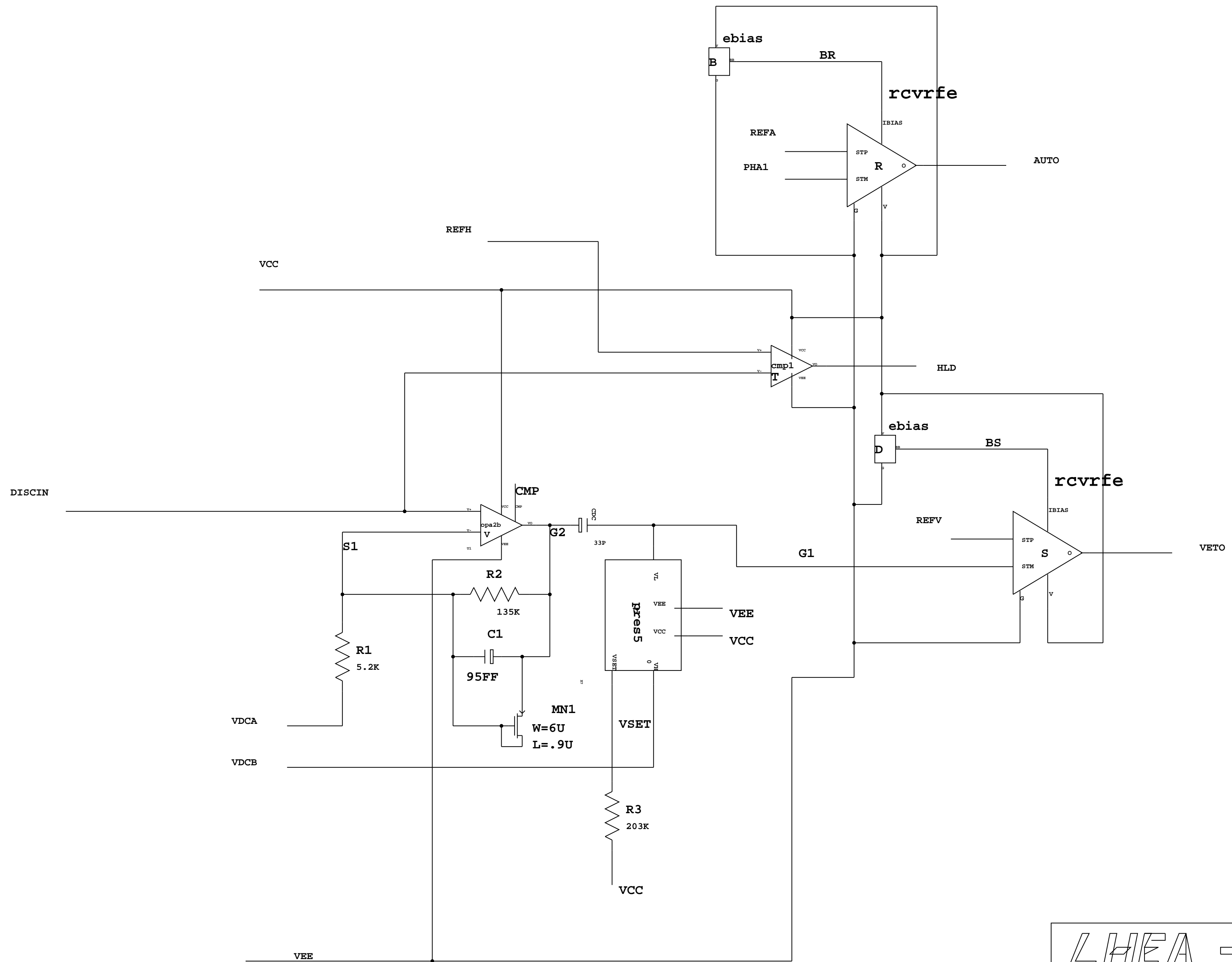
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ver: GAFE1\_1

DRAWN BY:

Satpal Singh



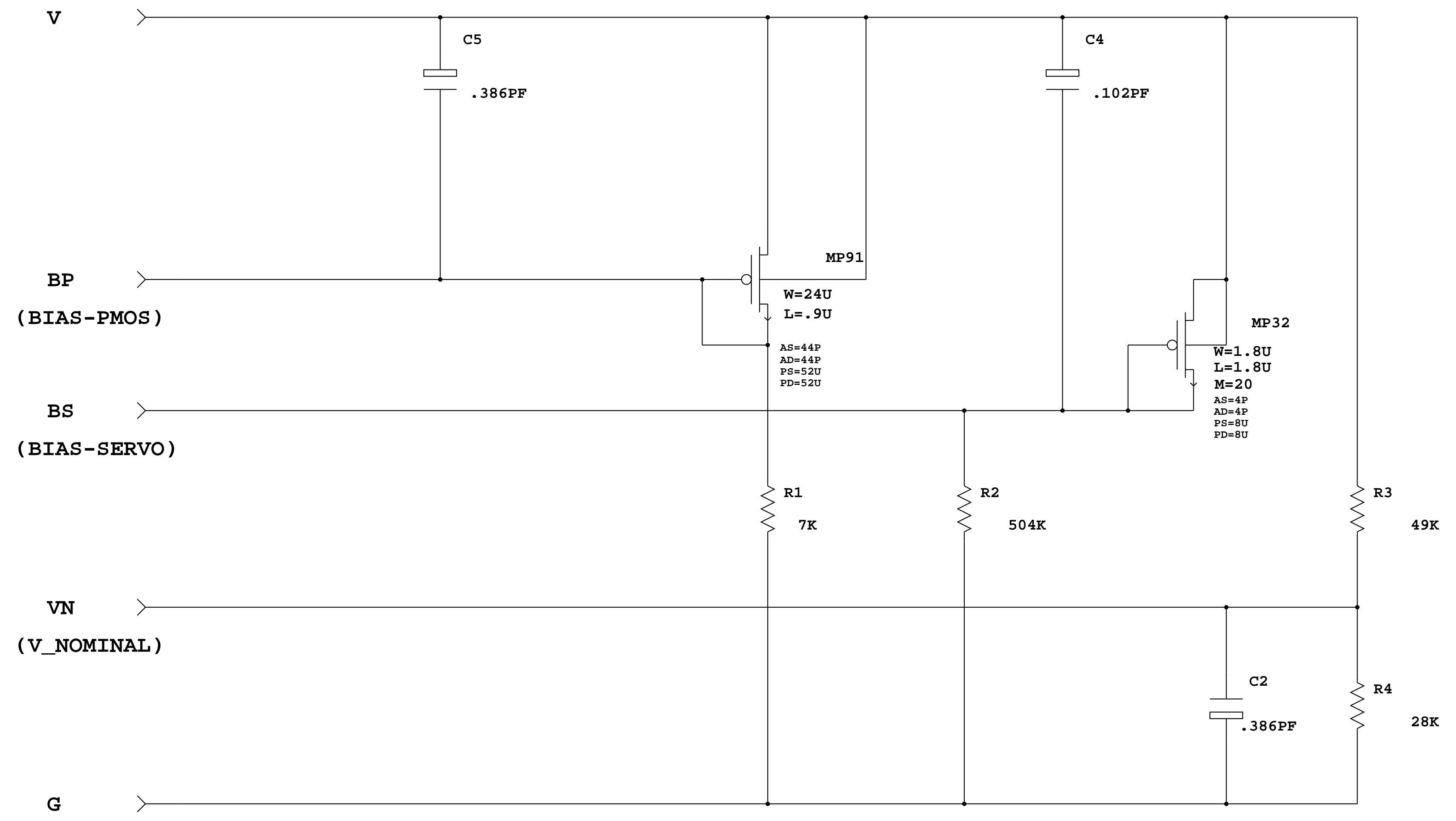
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| <b>LHEA - NASA</b> |                                    |
| <b>discs</b>       |                                    |
| 6-26-2003_11:01    |                                    |
| Proj: GLAST ACD    |                                    |
| ver: GAF1_1        | S. SINGH/ O. MILGROME<br>DRAWN BY: |











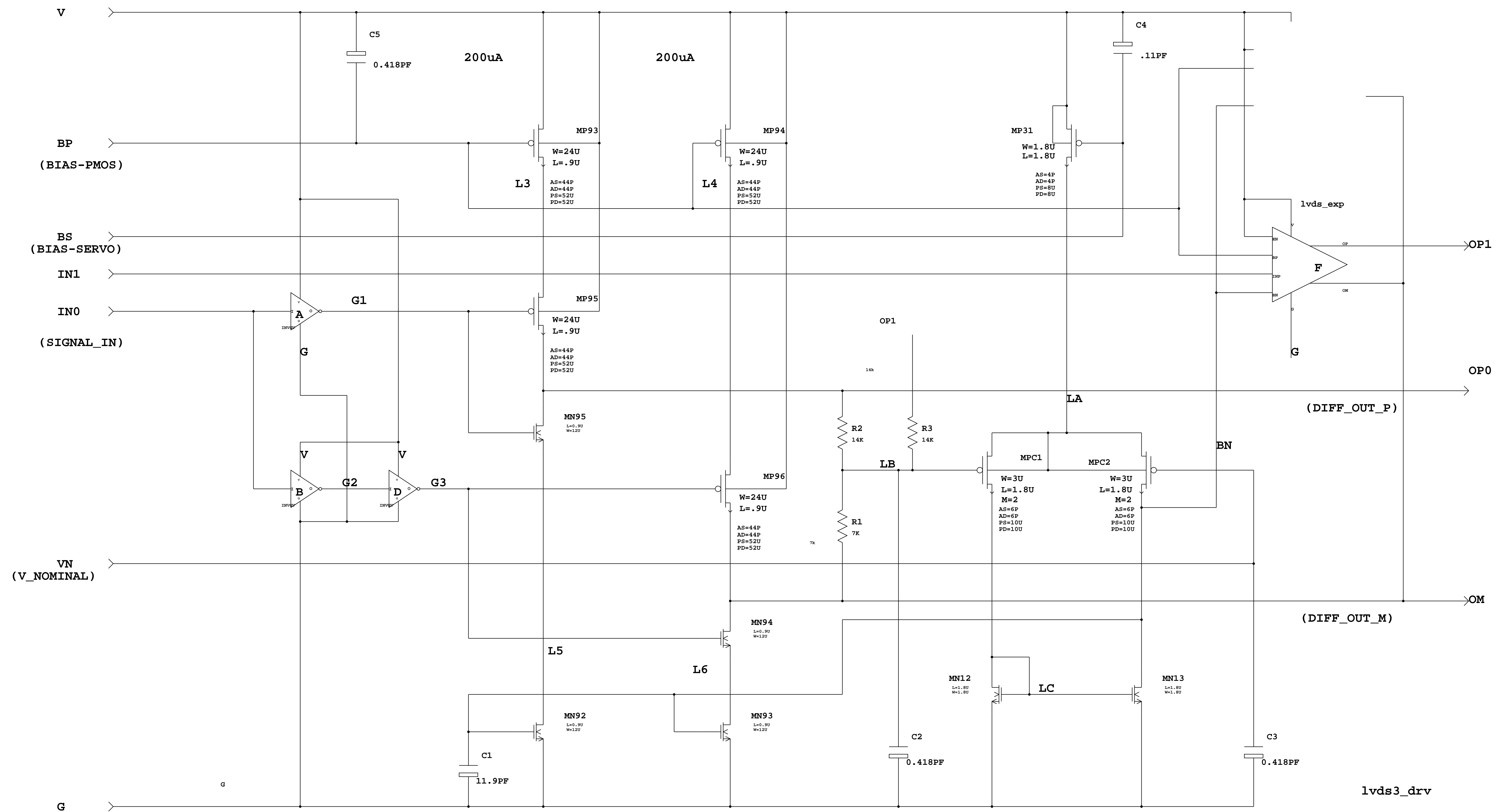
1l\_bias

5-9-2002\_15:29

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|--|------|----------------------|
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SHEET OF

Servo Amplifier

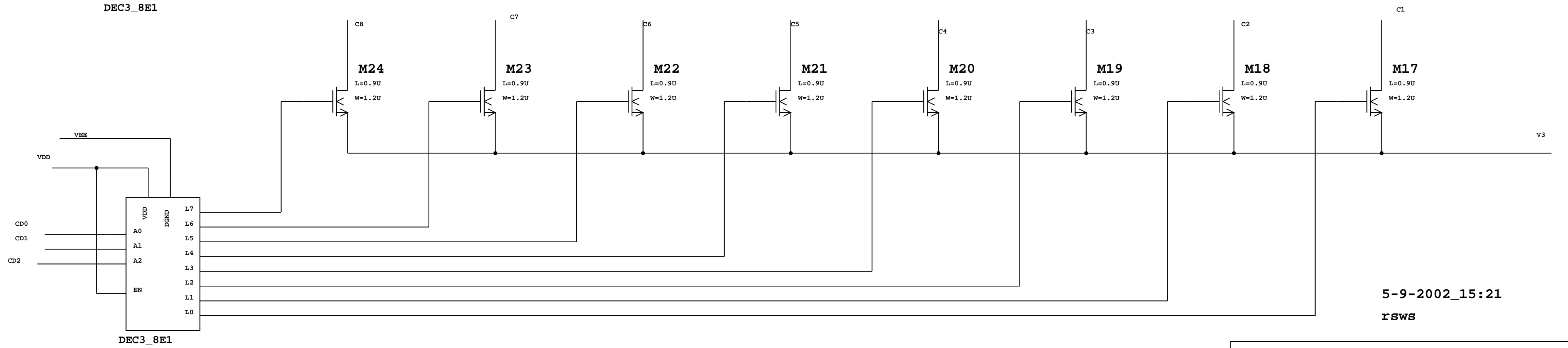
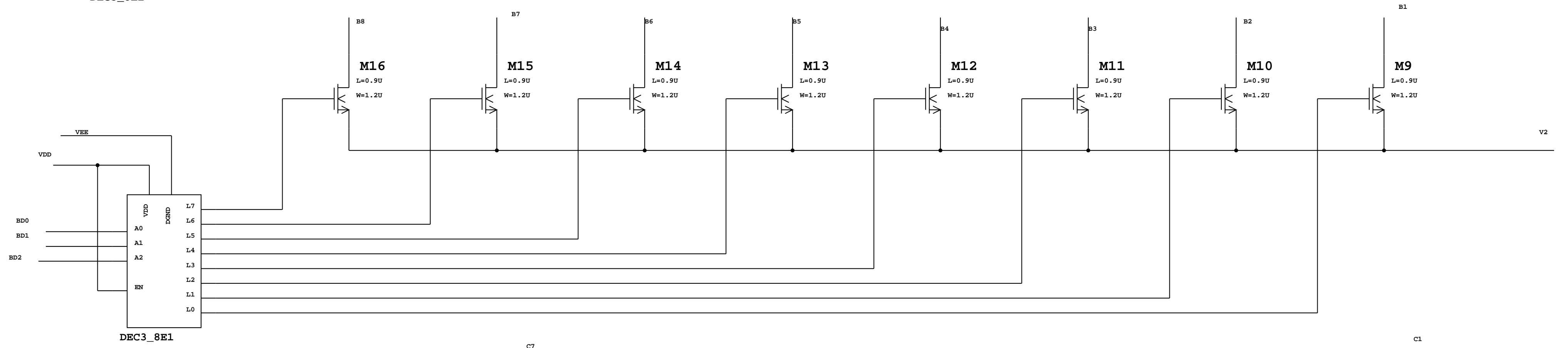
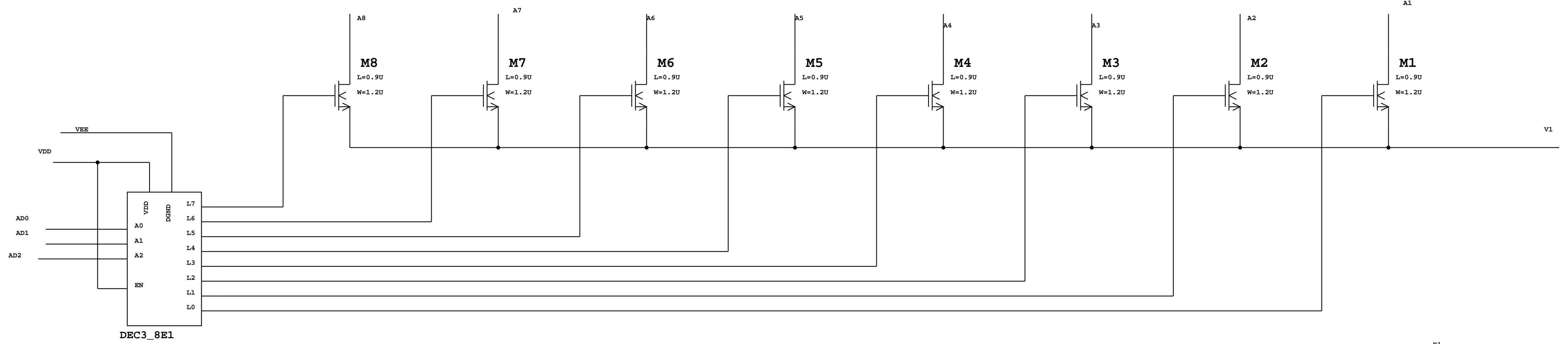


lvds3\_drv

9-17-2002\_15:10

|   |      |           |
|---|------|-----------|
| STANFORD LINEAR ACCELERATOR CENTER<br>U.S. DEPARTMENT OF ENERGY   |      |           |
| STANFORD UNIVERSITY<br>STANFORD, CALIFORNIA   |      |           |
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5-9-2002\_15:21  
rsws

|                    |                        |
|--------------------|------------------------|
| <b>LHEA - NASA</b> |                        |
| RWS                | 3.6.02                 |
| Proj: GLAST ACD    |                        |
| ver: GAFEL_1       | DRAWN BY: Satpal Singh |

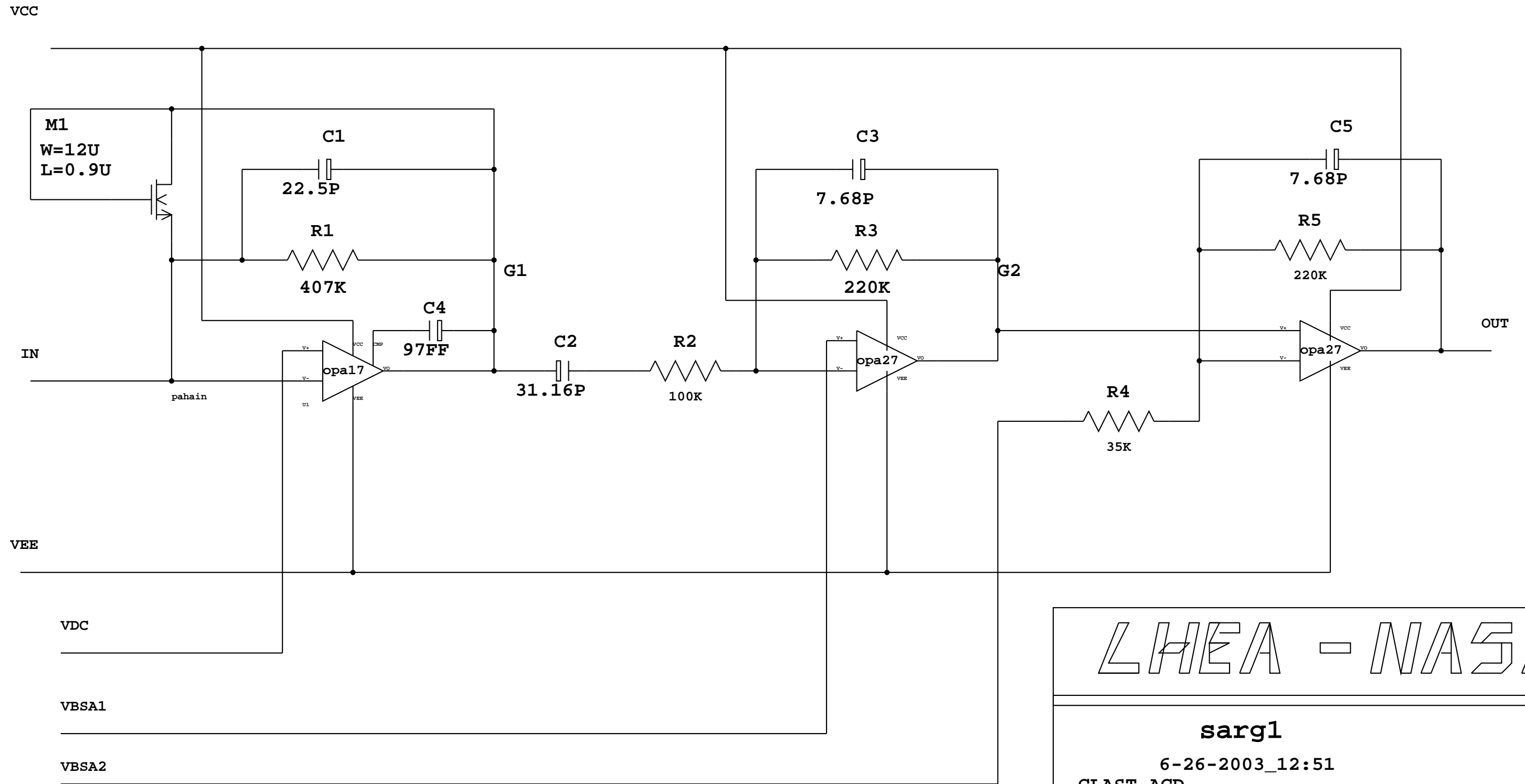
Changes c.f. version5:

C1 was 20 PF, R1 was 220K, C4 was 220FF, R4 was 20K

Expected gain change c.f. version 5:  $(20*20*255)/(22*240*35) = 0.55$

(This accounts for C1, R4 only)

(The increase in R1 should boost this a little.)



LHEA - NASA

sarg1

6-26-2003\_12:51

GLAST ACD

Ver: GAFE1\_1

DRAWN BY: SATPAL SINGH

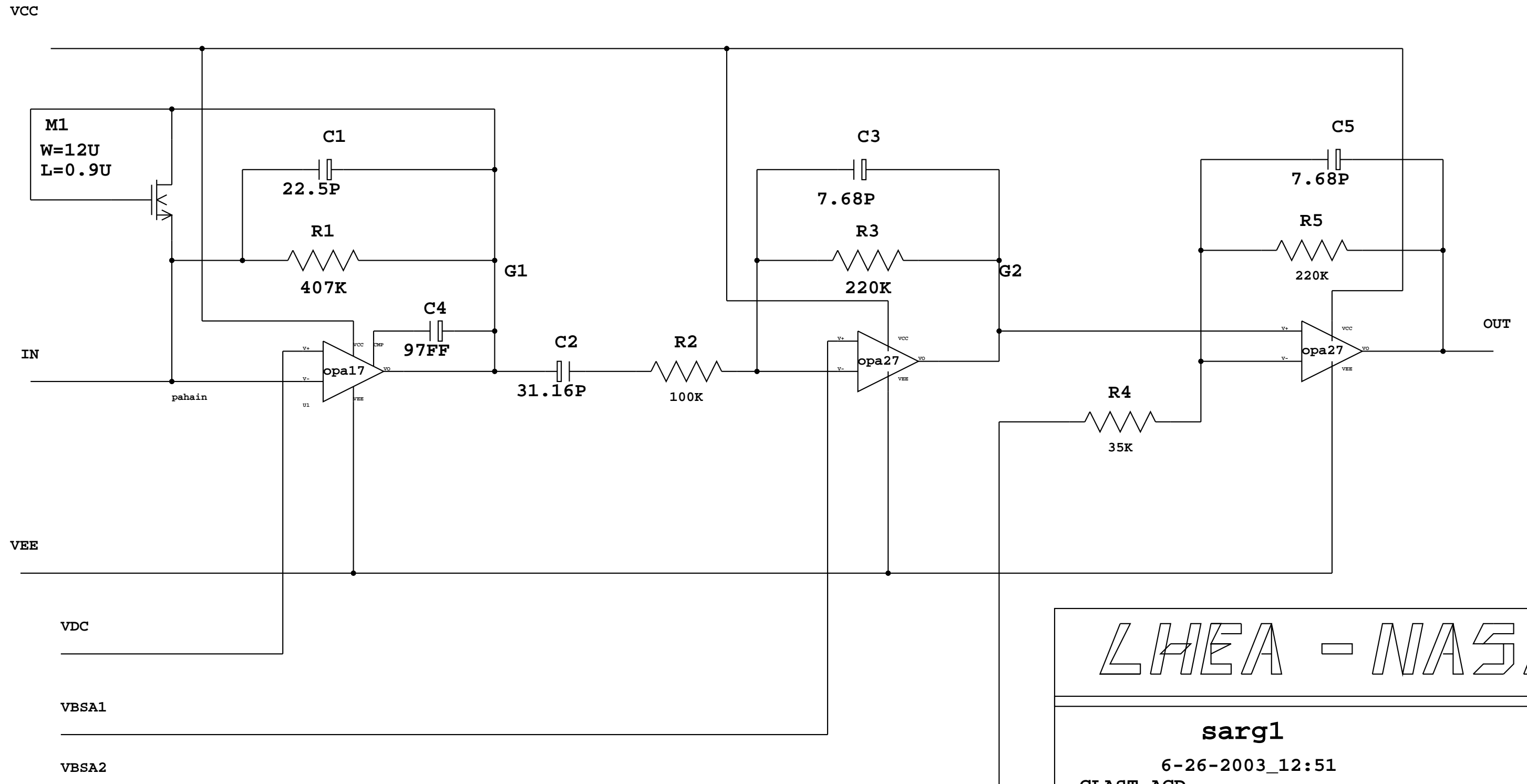
Changes c.f. version5:

C1 was 20 PF, R1 was 220K, C4 was 220FF, R4 was 20K

Expected gain change c.f. version 5:  $(20*20*255)/(22*240*35) = 0.55$

(This accounts for C1, R4 only)

(The increase in R1 should boost this a little.)



LHEA - NASA

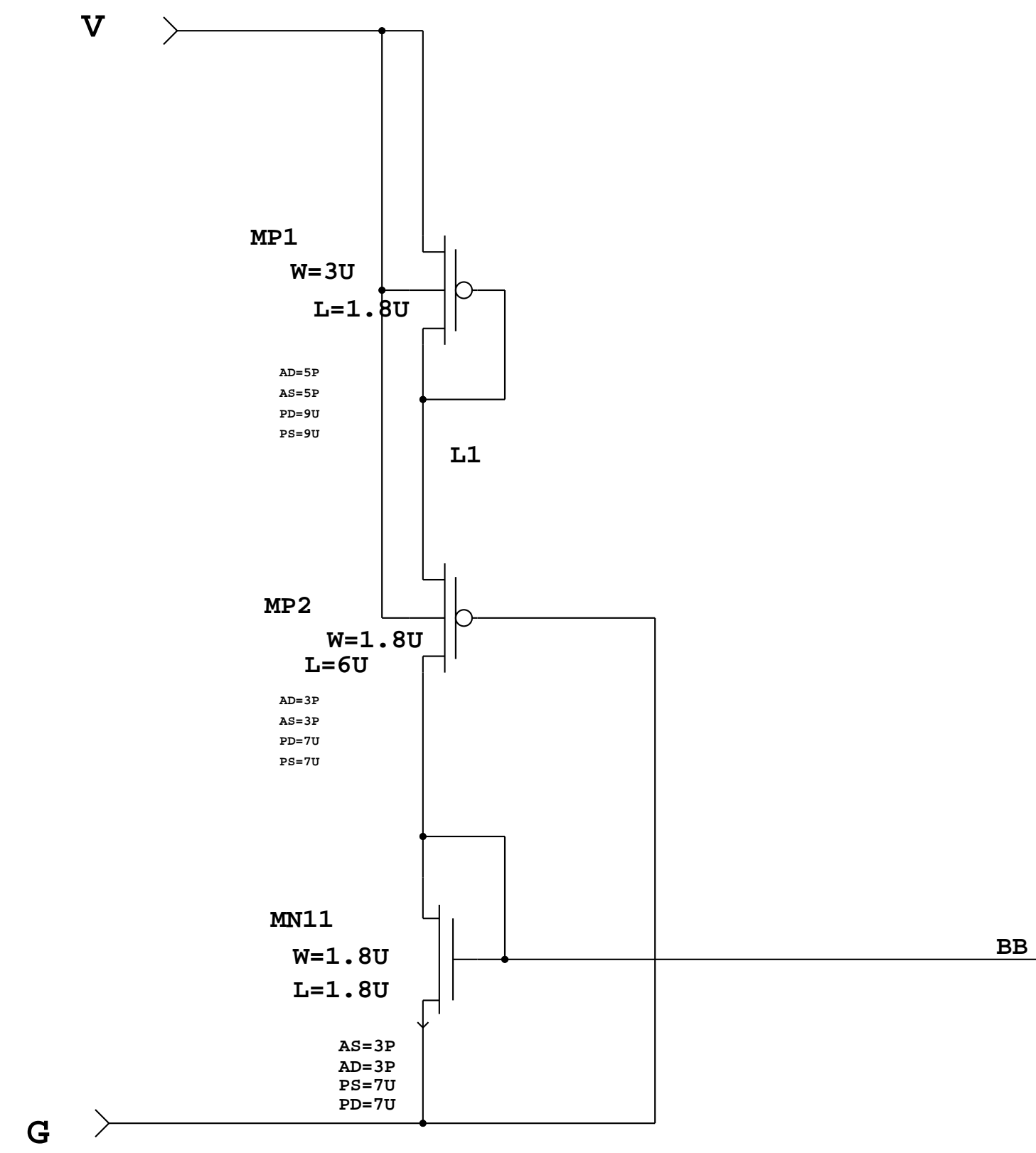
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GLAST ACD

Ver: GAFE1\_1

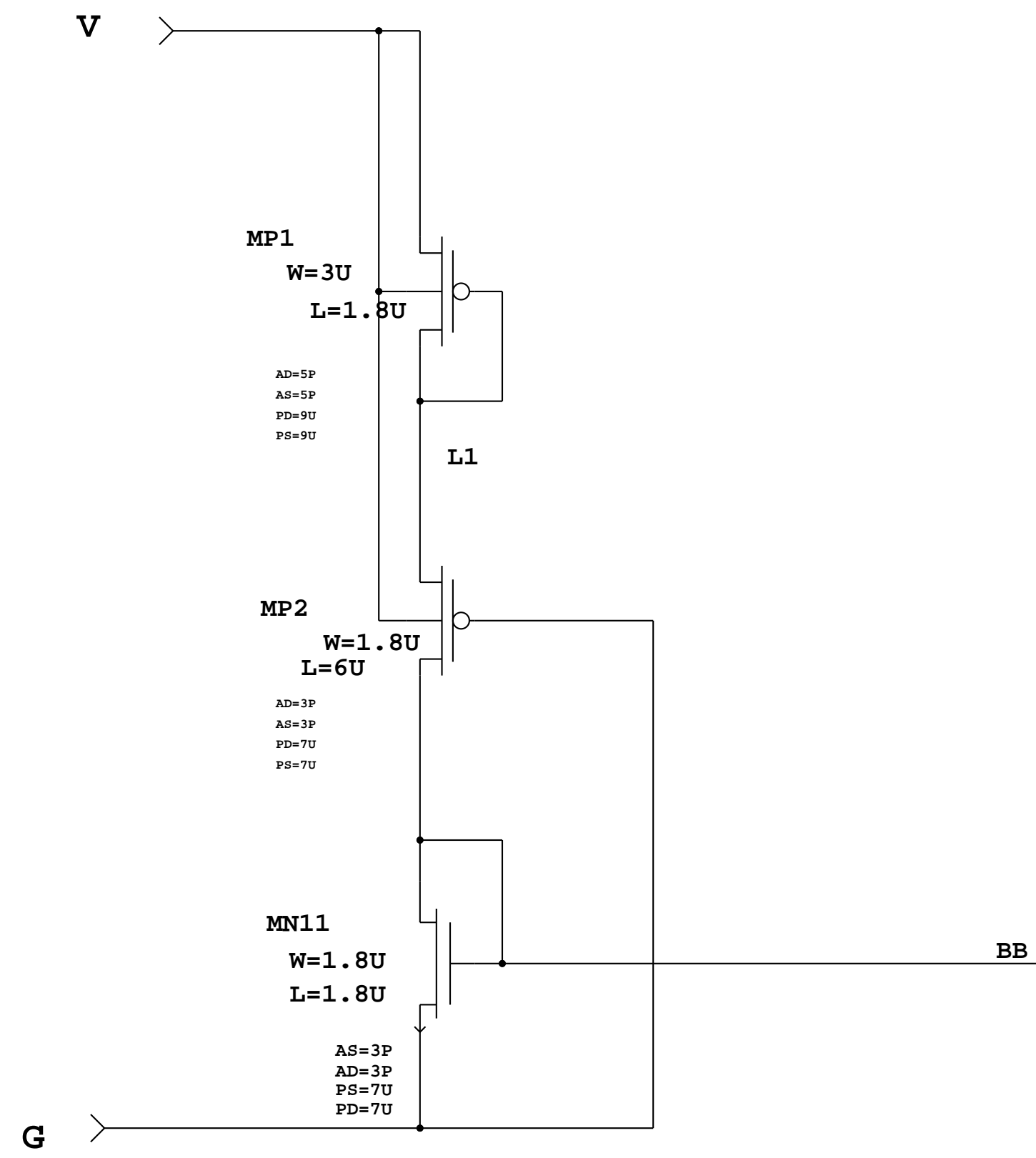
DRAWN BY: SATPAL SINGH



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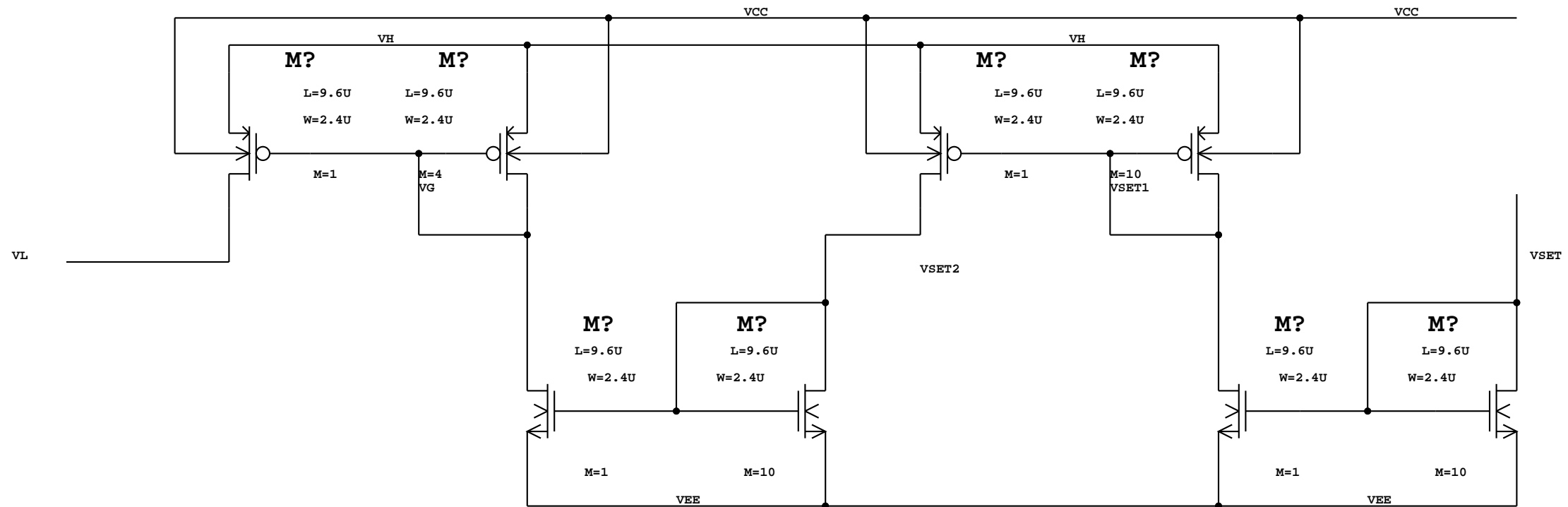
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|--|----------------------|--|
| <b>STANFORD LINEAR ACCELERATOR CENTER</b><br><b>U.S. DEPARTMENT OF ENERGY</b>  |                      |  |
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| D                               |



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| <b>STANFORD LINEAR ACCELERATOR CENTER</b><br><b>U.S. DEPARTMENT OF ENERGY</b>  |                      |  |
| STANFORD UNIVERSITY  | STANFORD, CALIFORNIA |  |
| <small>PROPRIETARY DATA OF STANFORD UNIVERSITY AND/OR U.S. DEPARTMENT OF ENERGY. RECIPIENT SHALL NOT PUBLISH THE INFORMATION WITHIN UNLESS GRANTED SPECIFIC PERMISSION OF STANFORD UNIVERSITY.</small> |                      |  |
| DATE   | APPROVALS            |  |
|  |                      |  |
|  |                      |  |
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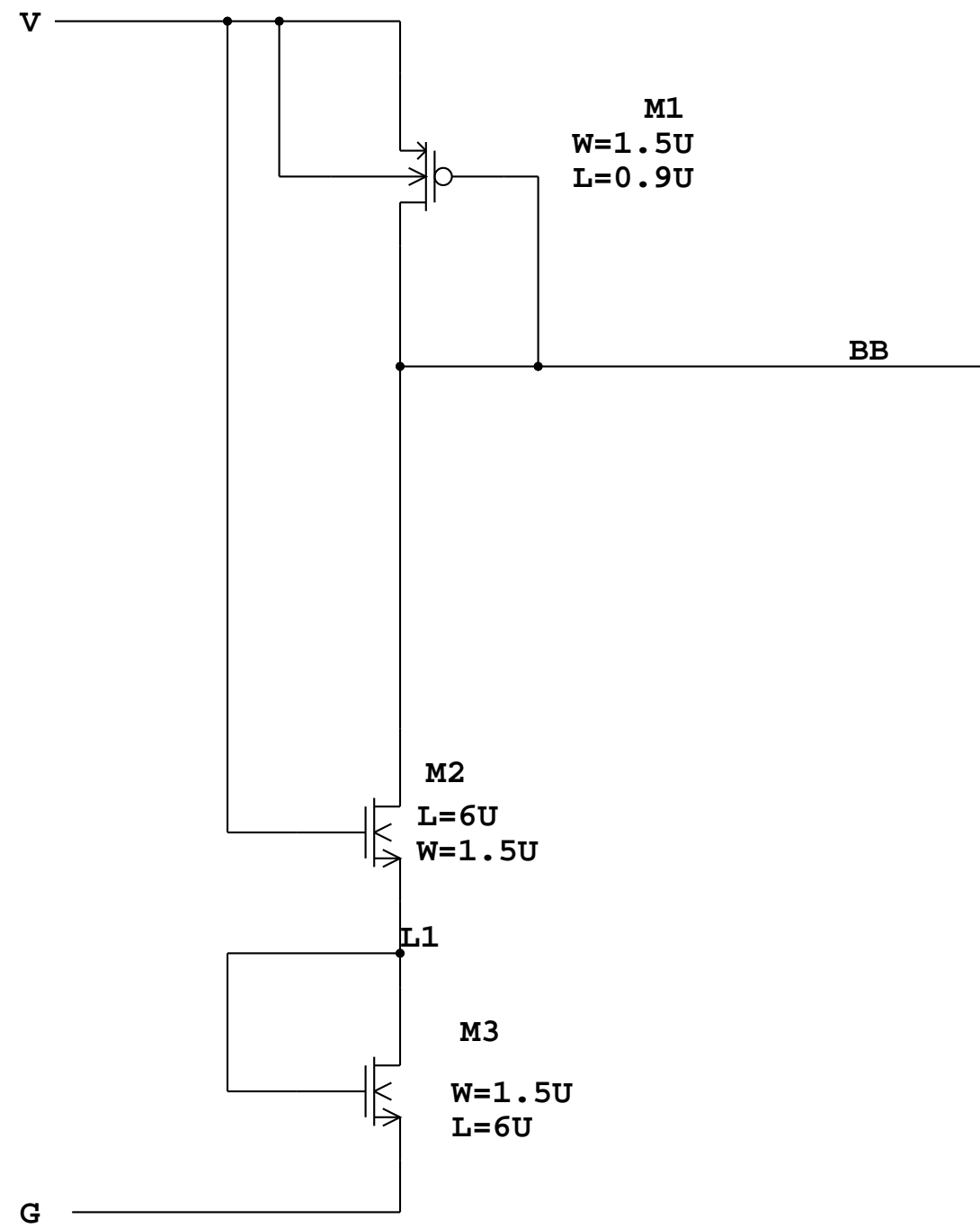


Stanford Linear Accelerator Center

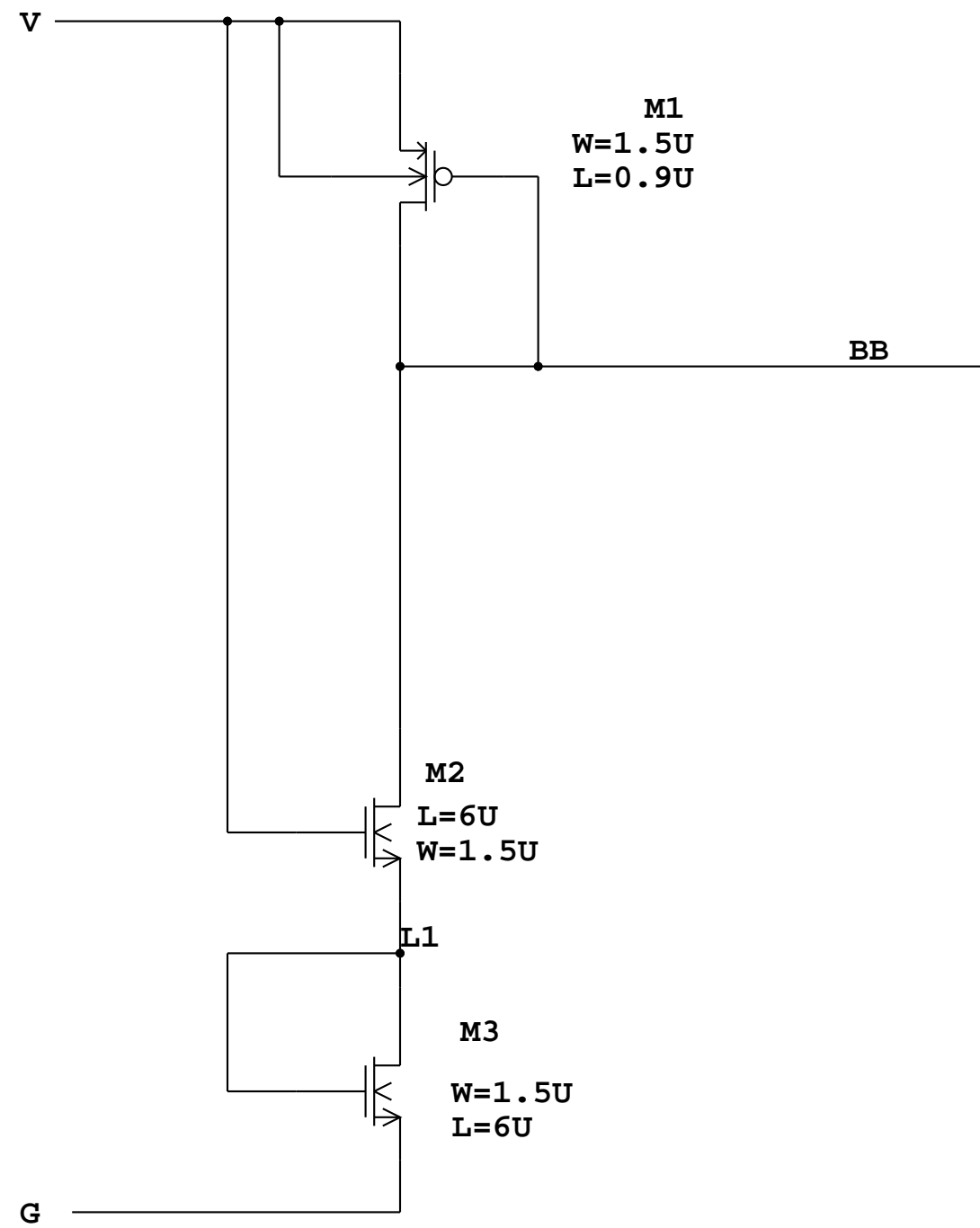
PRES  
adjustable mosfet resistor

OM 22OCT08

DRAWN BY: Oren Milgrome



|                 |                        |
|-----------------|------------------------|
|                 |                        |
| <b>dbias</b>    |                        |
| 6-16-2003_15:56 |                        |
| GLAST ACD       | 2.1.02                 |
| Ver: GAFE1_1    | DRAWN BY: SATPAL SINGH |



**dbias**

6-16-2003\_15:56

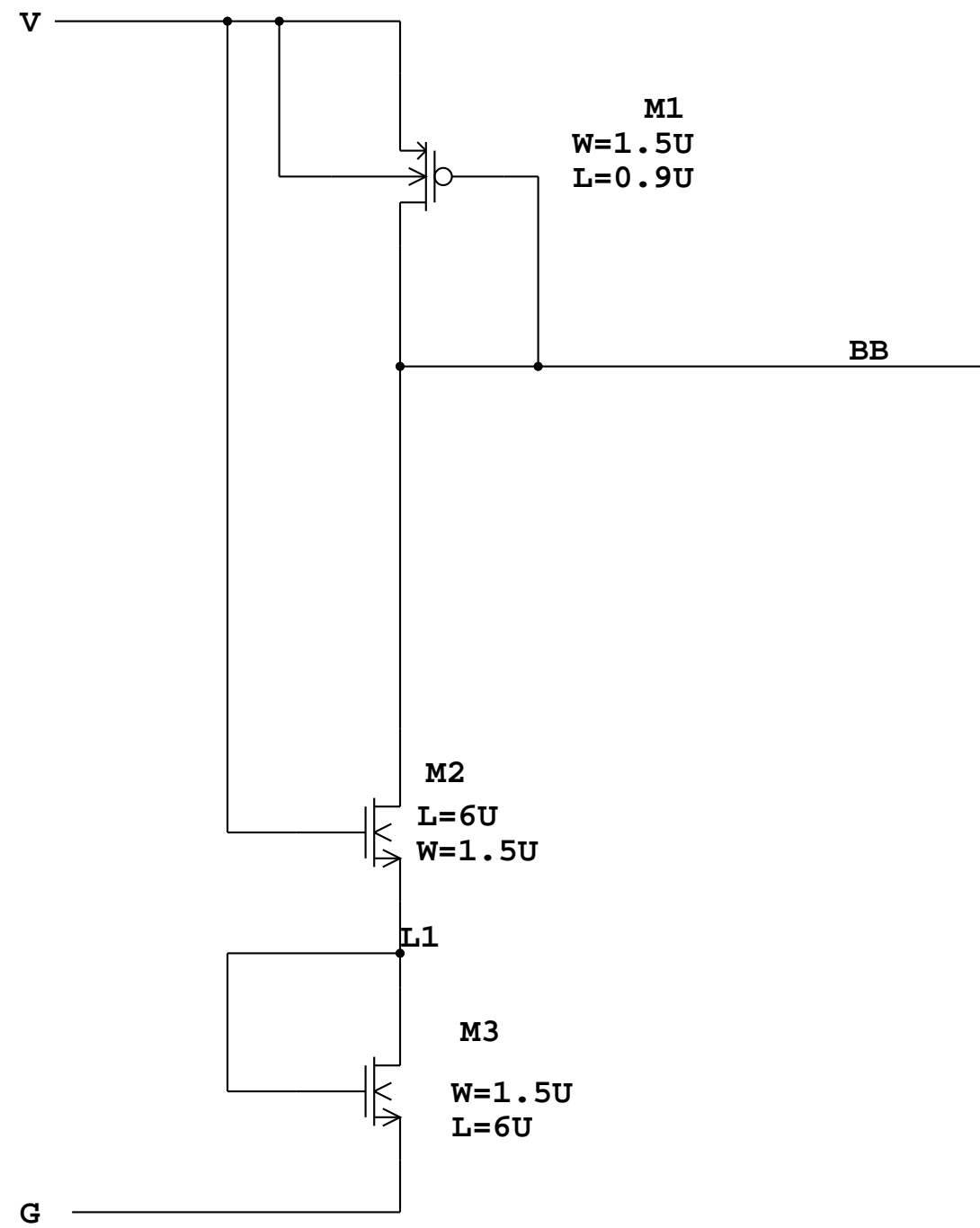
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2.1.02

Ver: GAFE1\_1

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SATPAL SINGH



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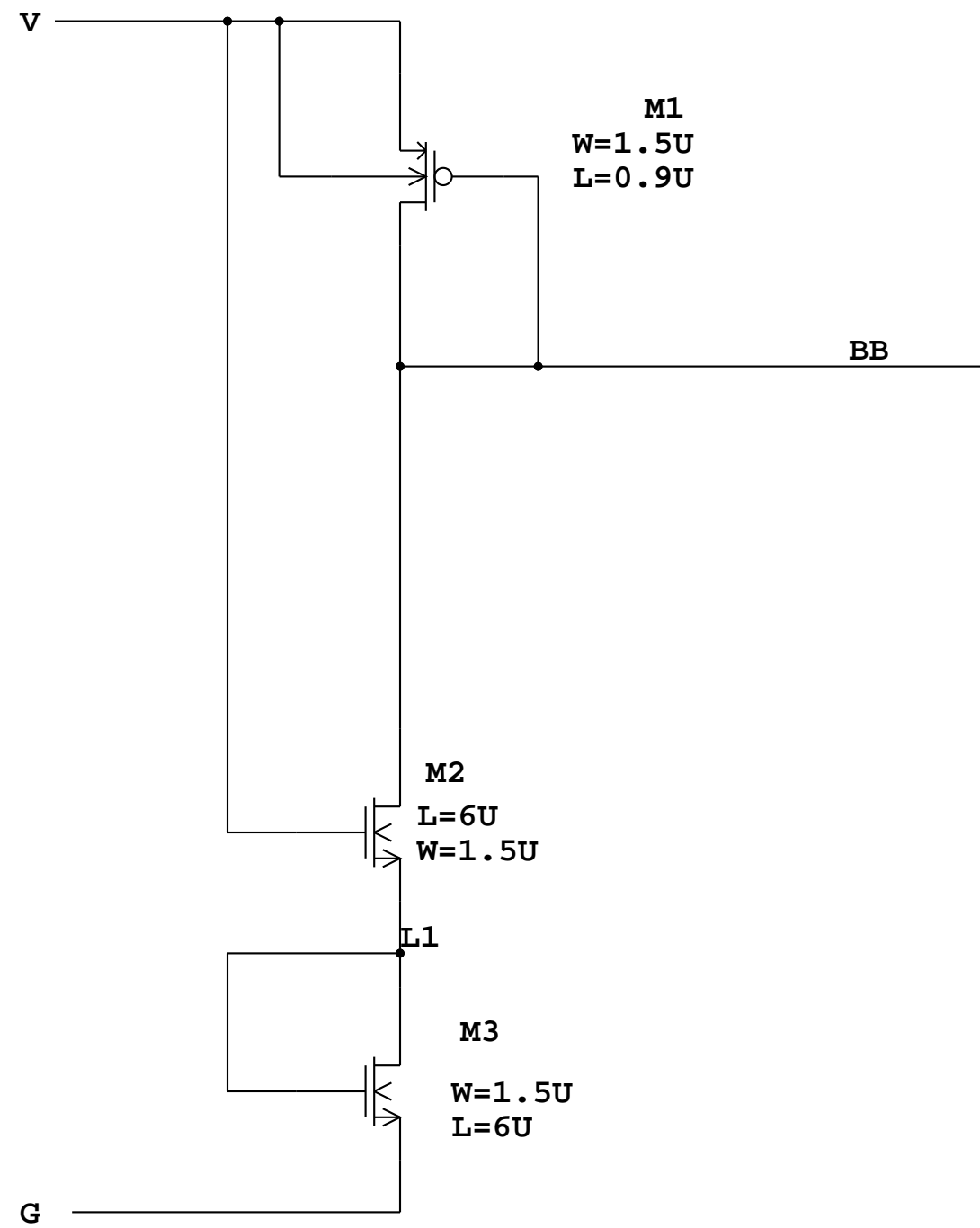
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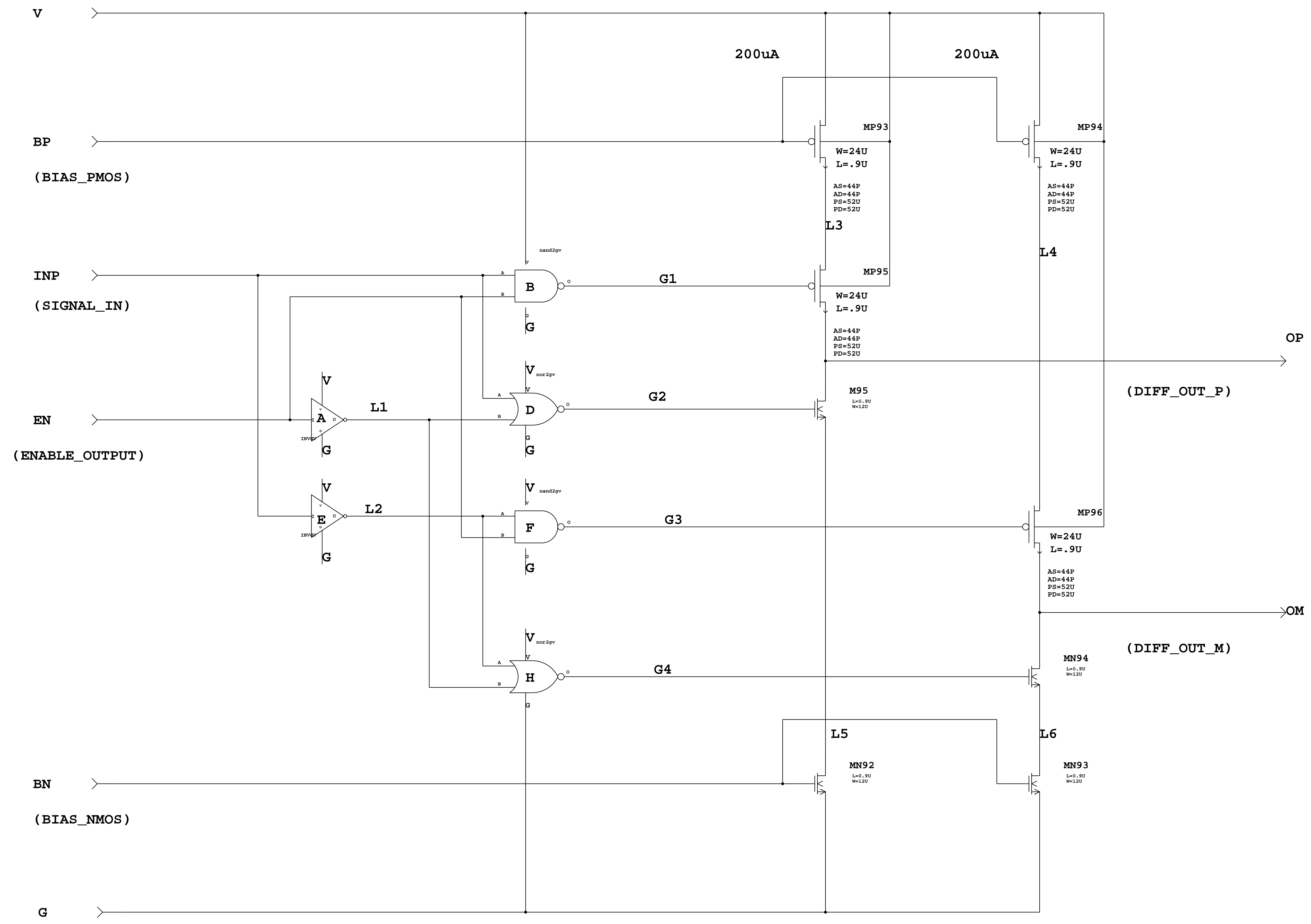
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SATPAL SINGH

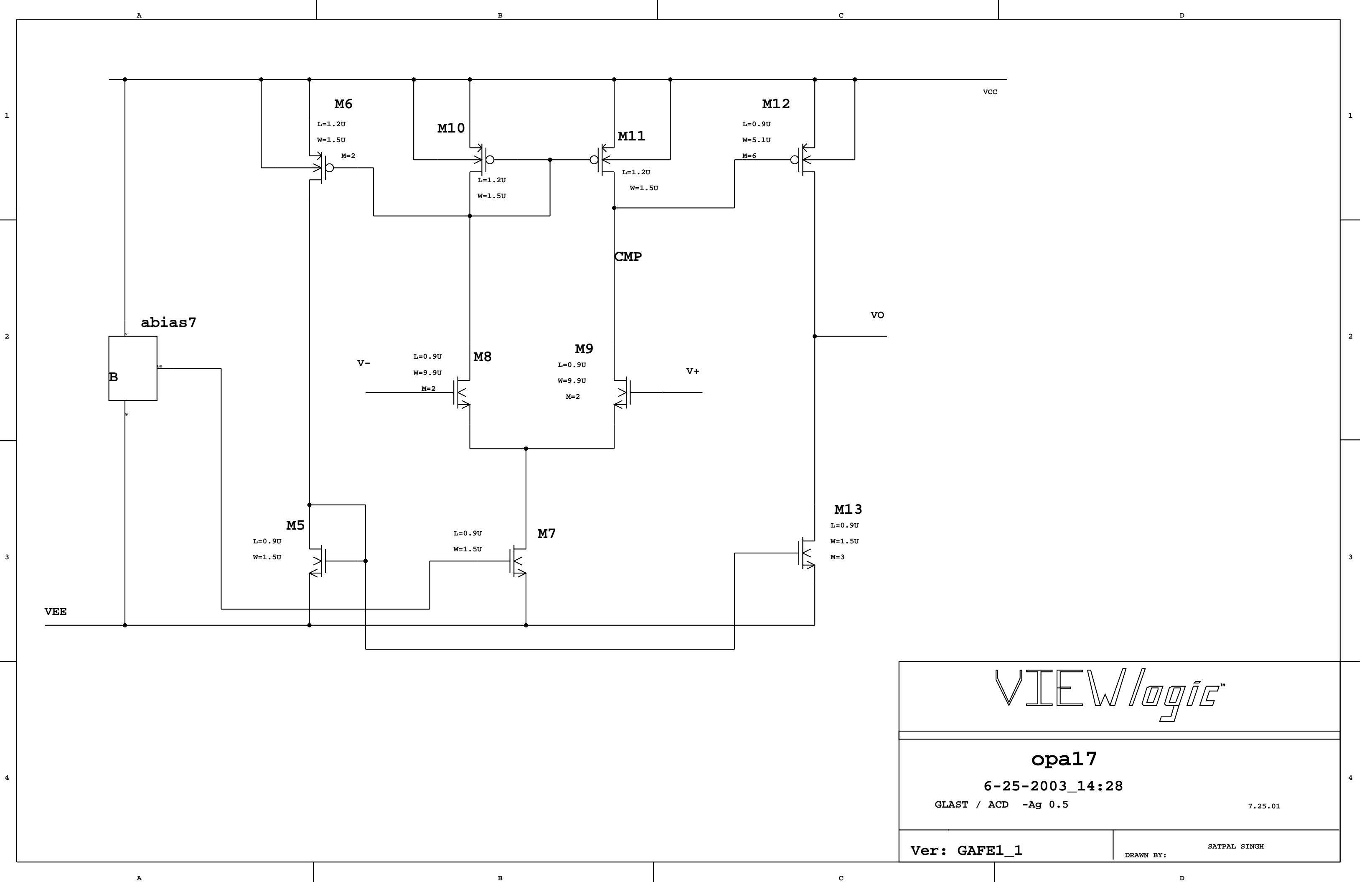


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| GLAST ACD       | 2.1.02                 |
| Ver: GAFE1_1    | DRAWN BY: SATPAL SINGH |



lvds\_exp  
5-9-2002\_15:29

|   |      |           |
|---|------|-----------|
| STANFORD LINEAR ACCELERATOR CENTER<br>U.S. DEPARTMENT OF ENERGY   |      |           |
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| DATE  | DATE | APPROVALS |
|   |      |           |
|   |      |           |
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VIEWlogic™

opa17

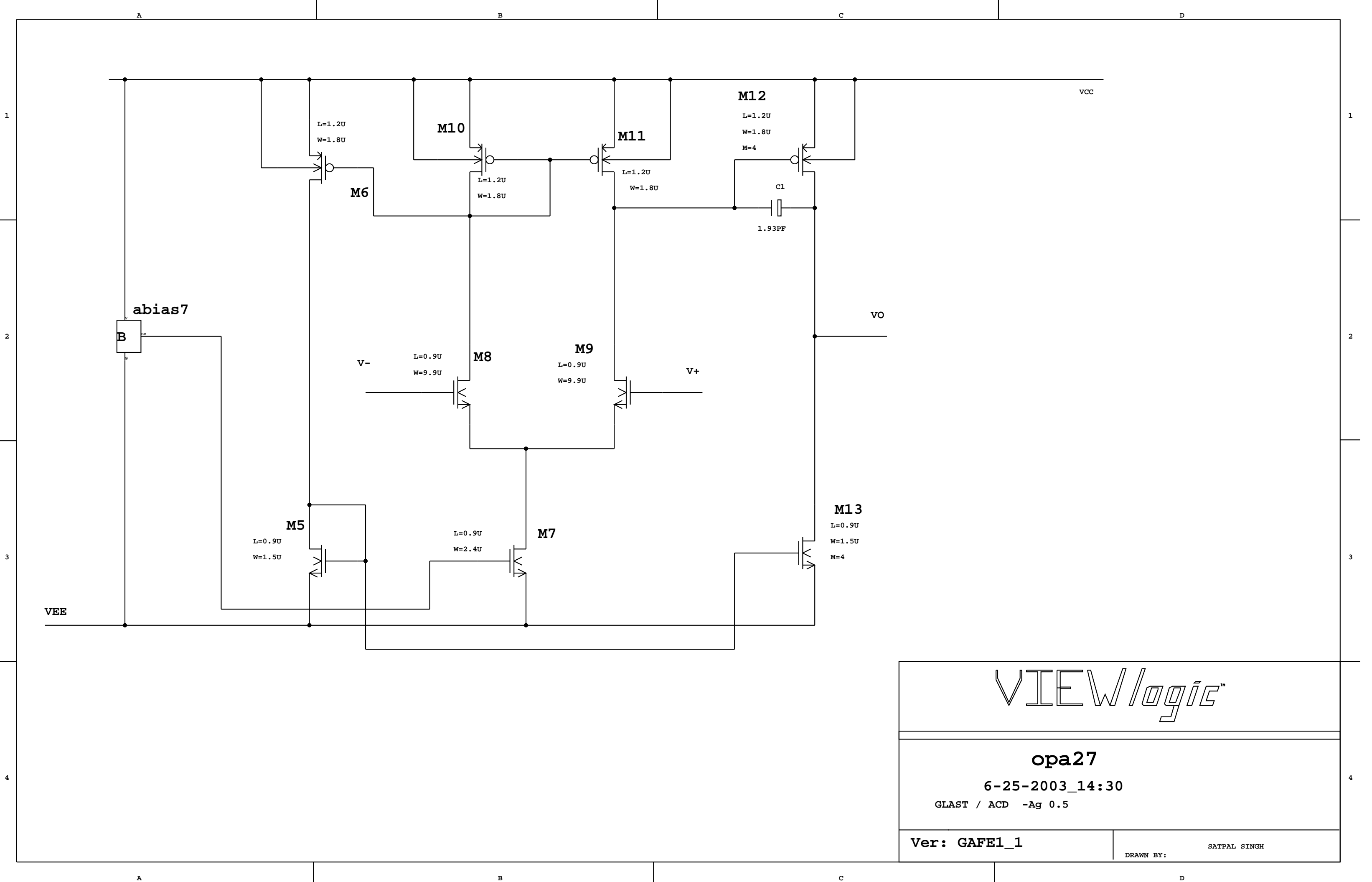
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GLAST / ACD -Ag 0.5

7.25.01

Ver: GAFE1\_1

DRAWN BY: SATPAL SINGH



VIEWlogic™

opa27

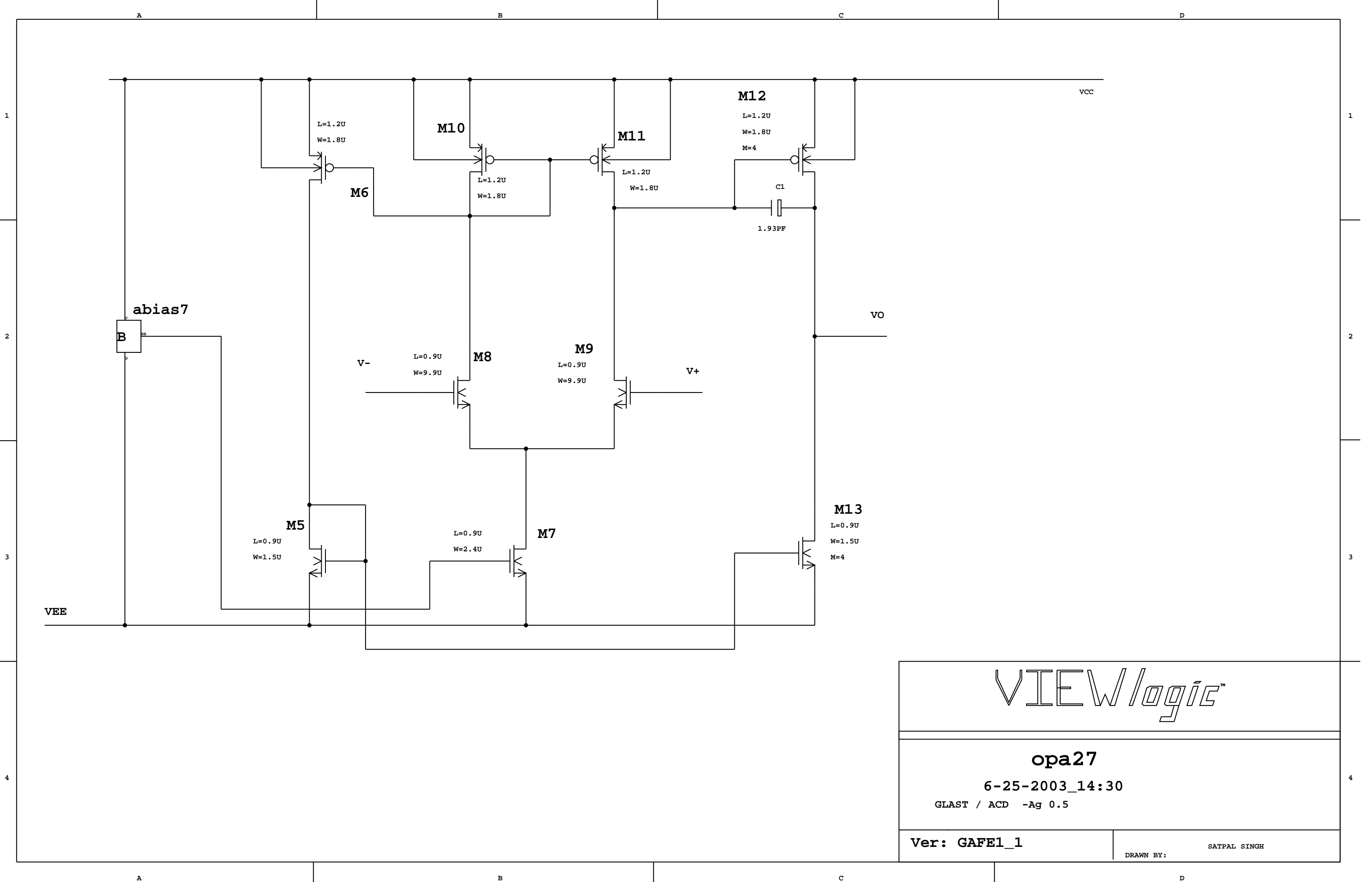
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DRAWN BY:

SATPAL SINGH



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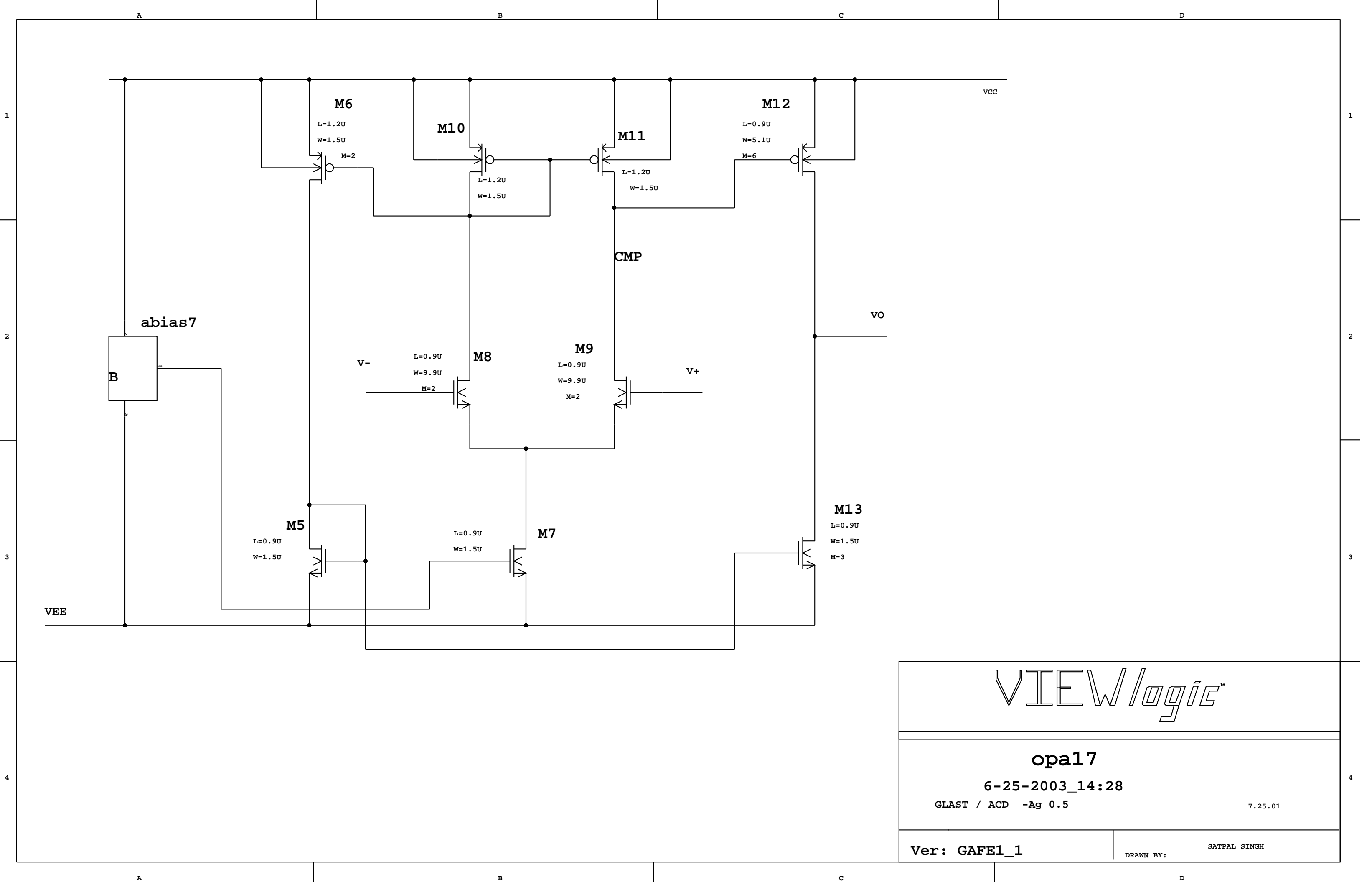
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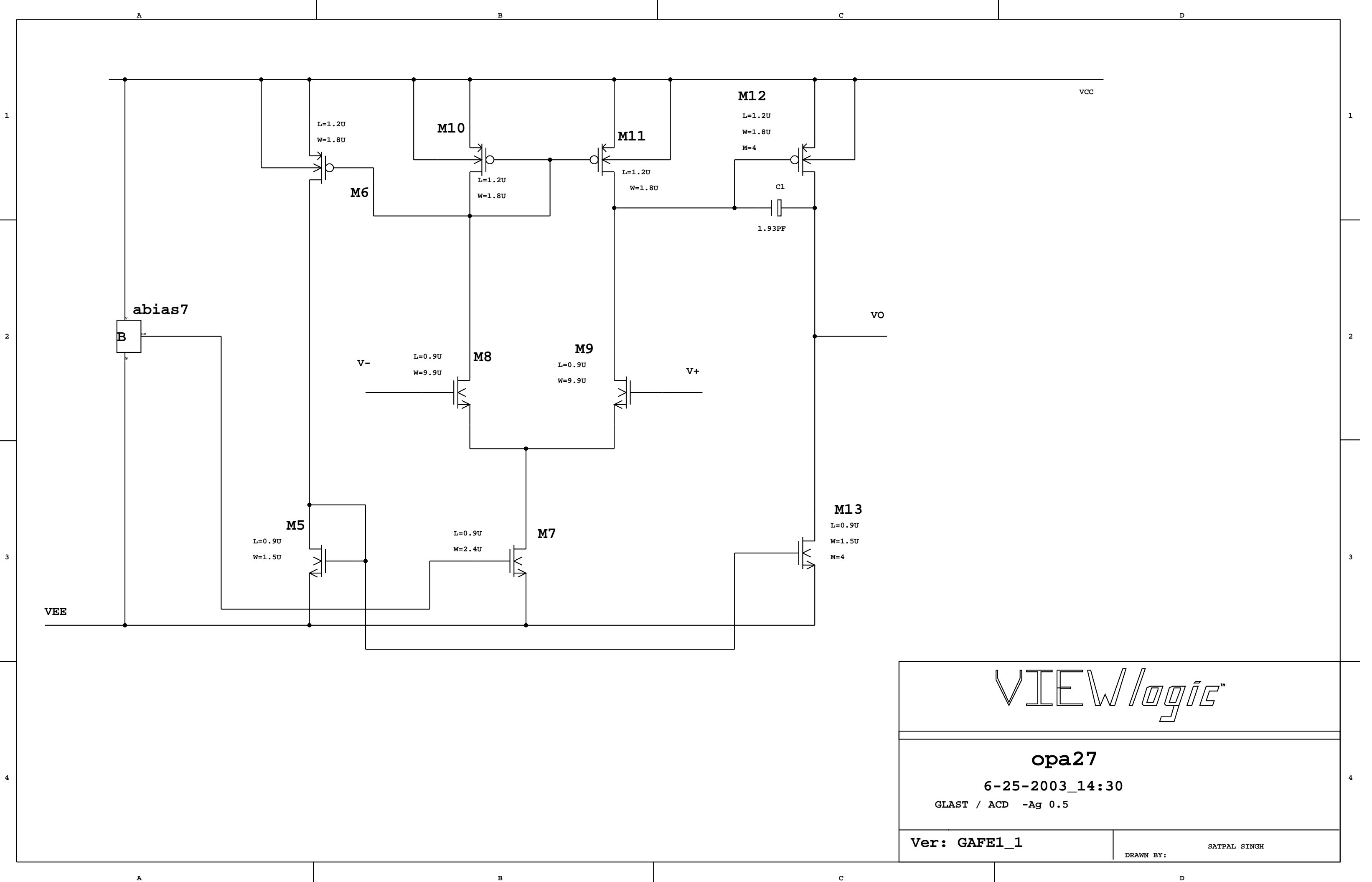
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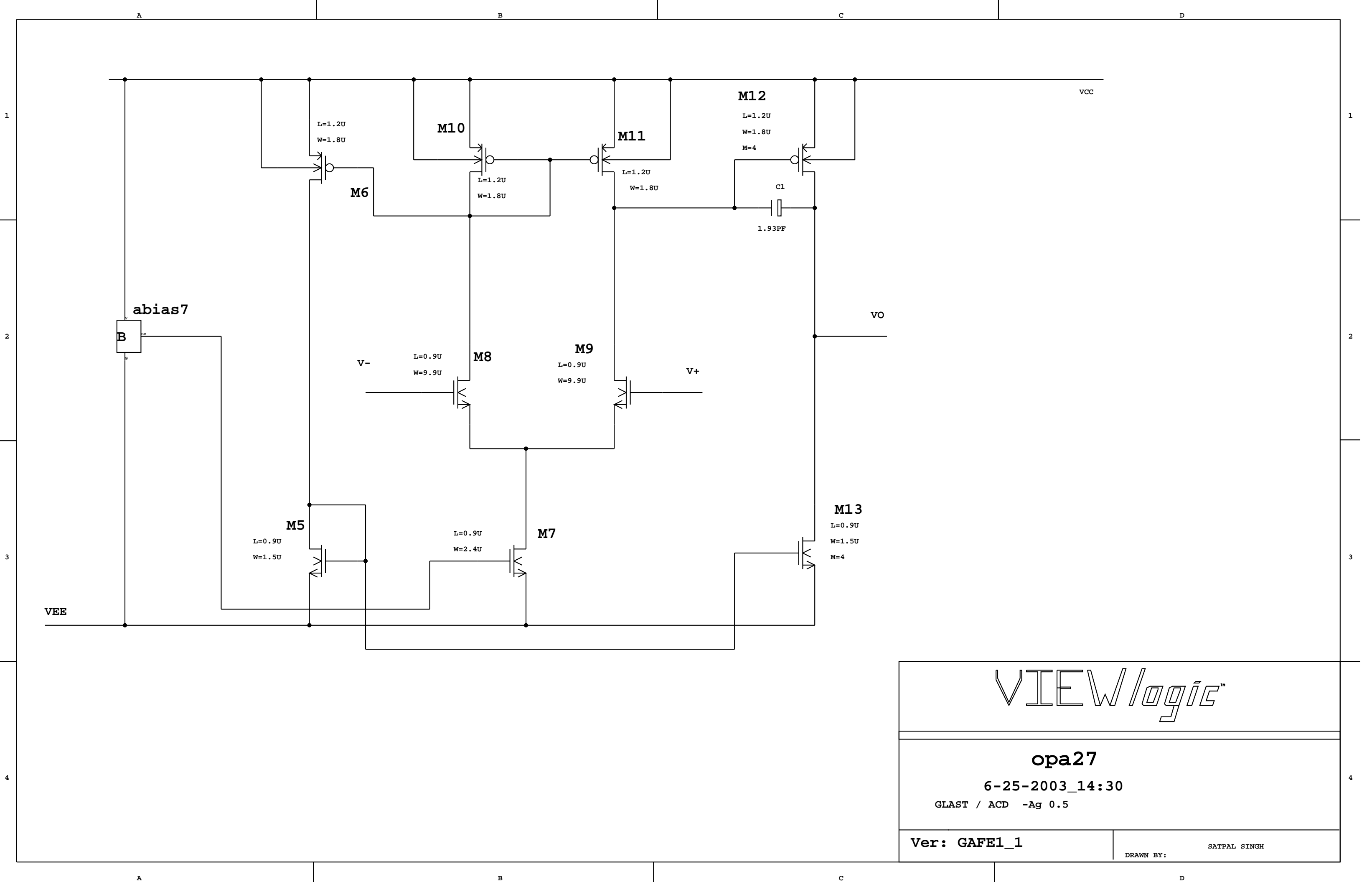
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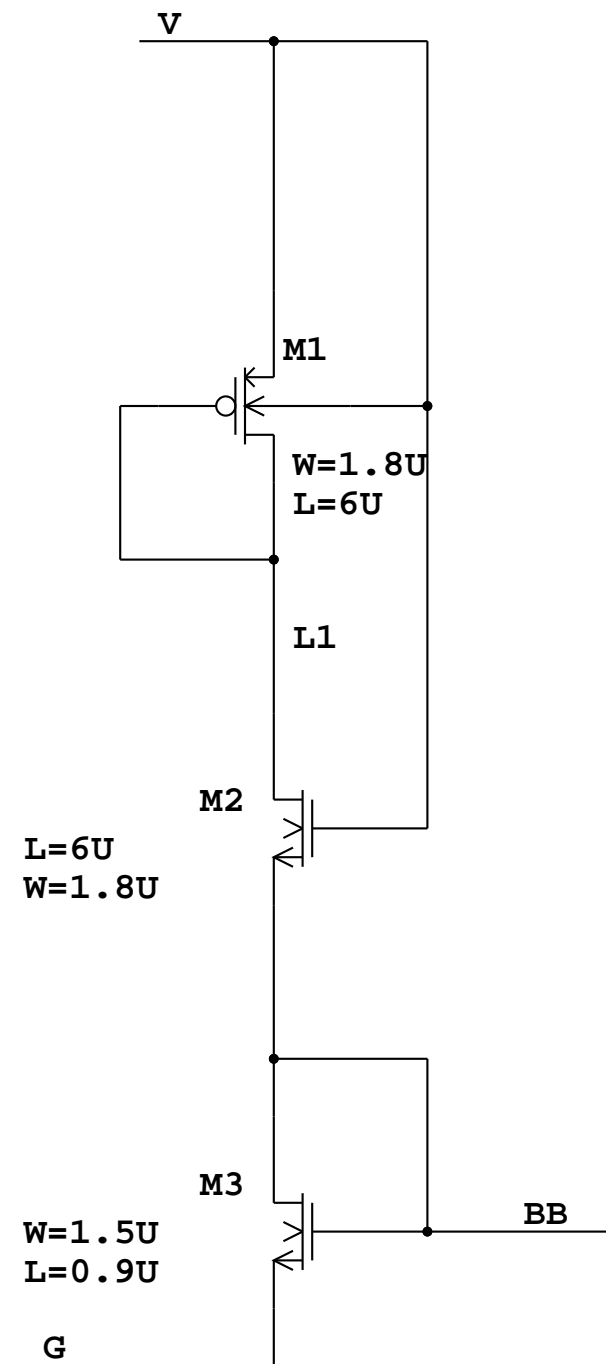
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**abias7**

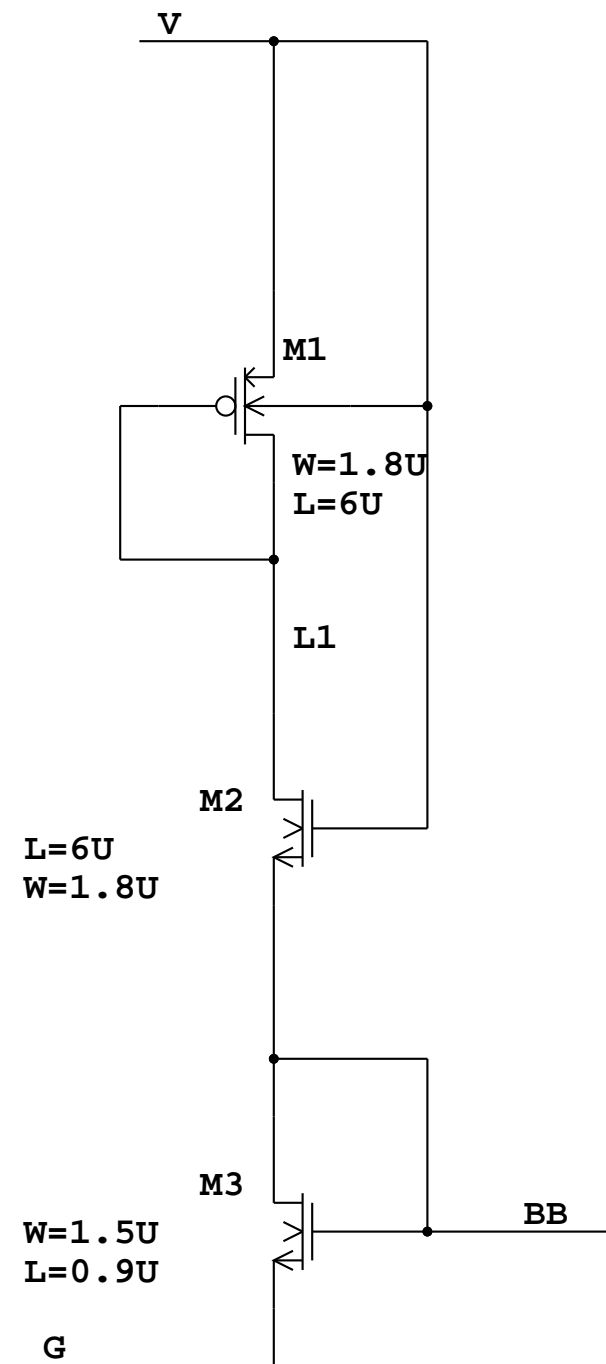
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**abias7**

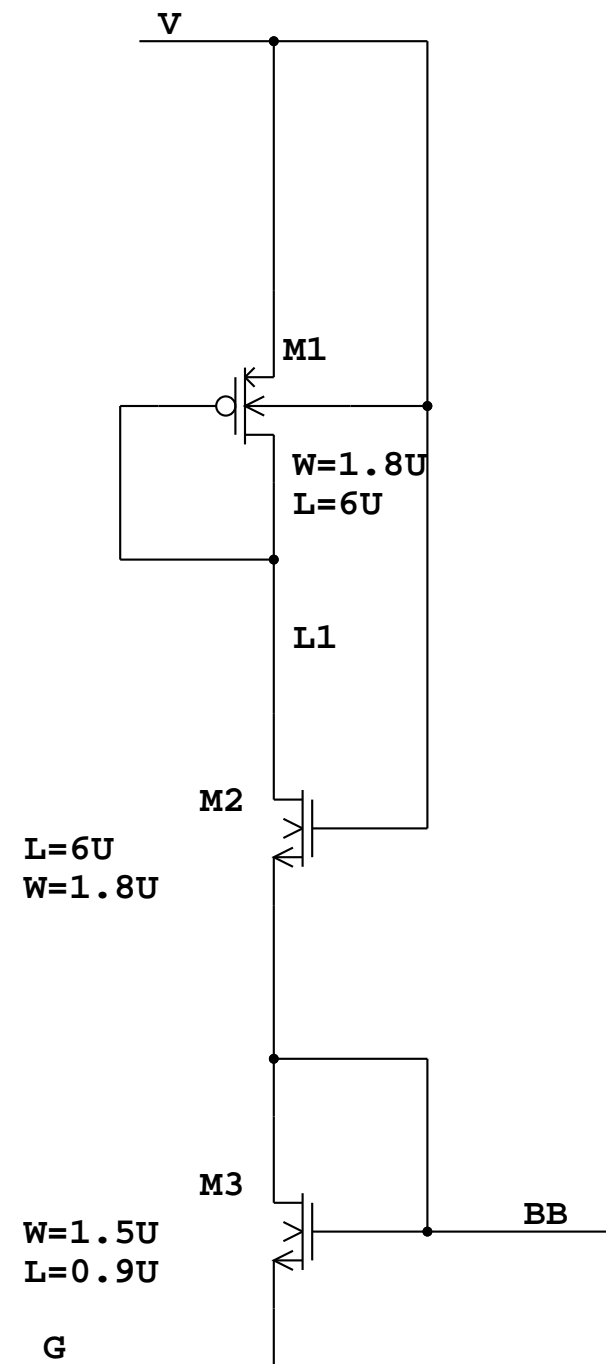
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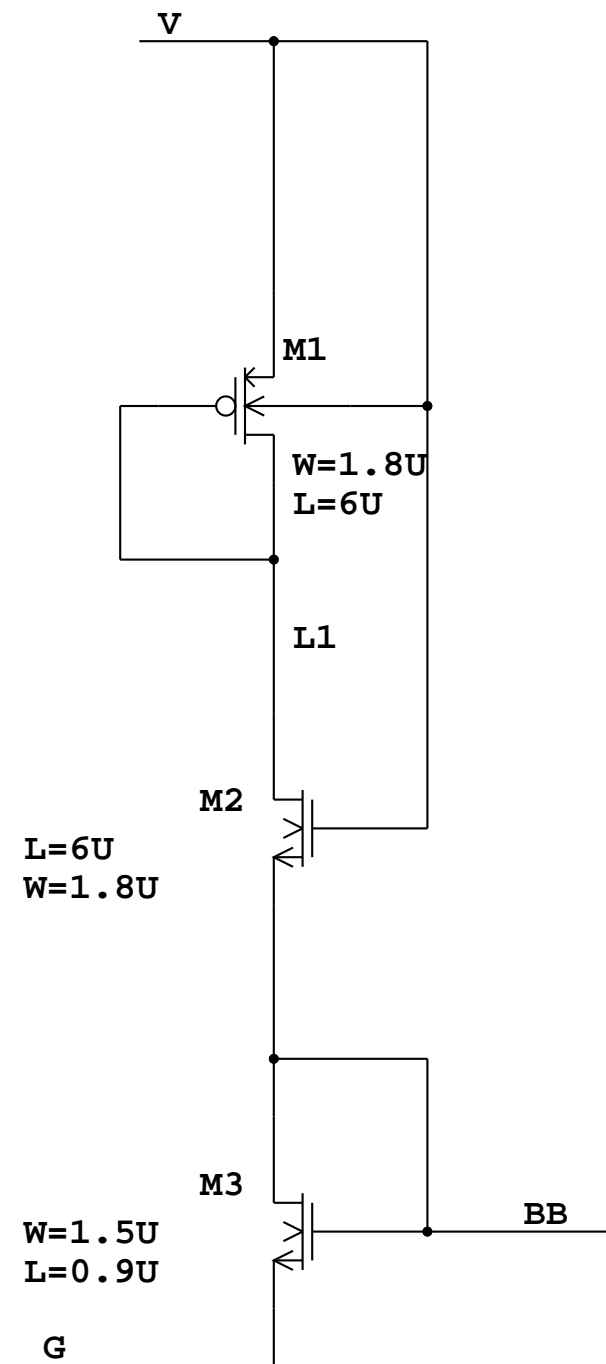
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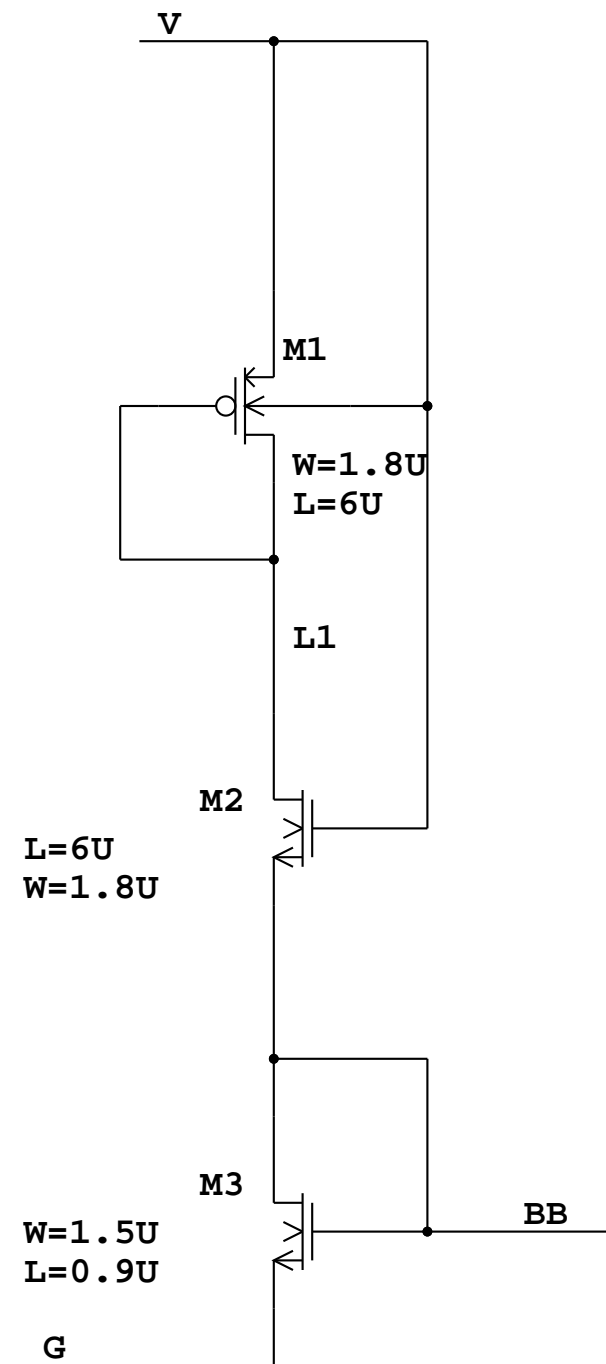
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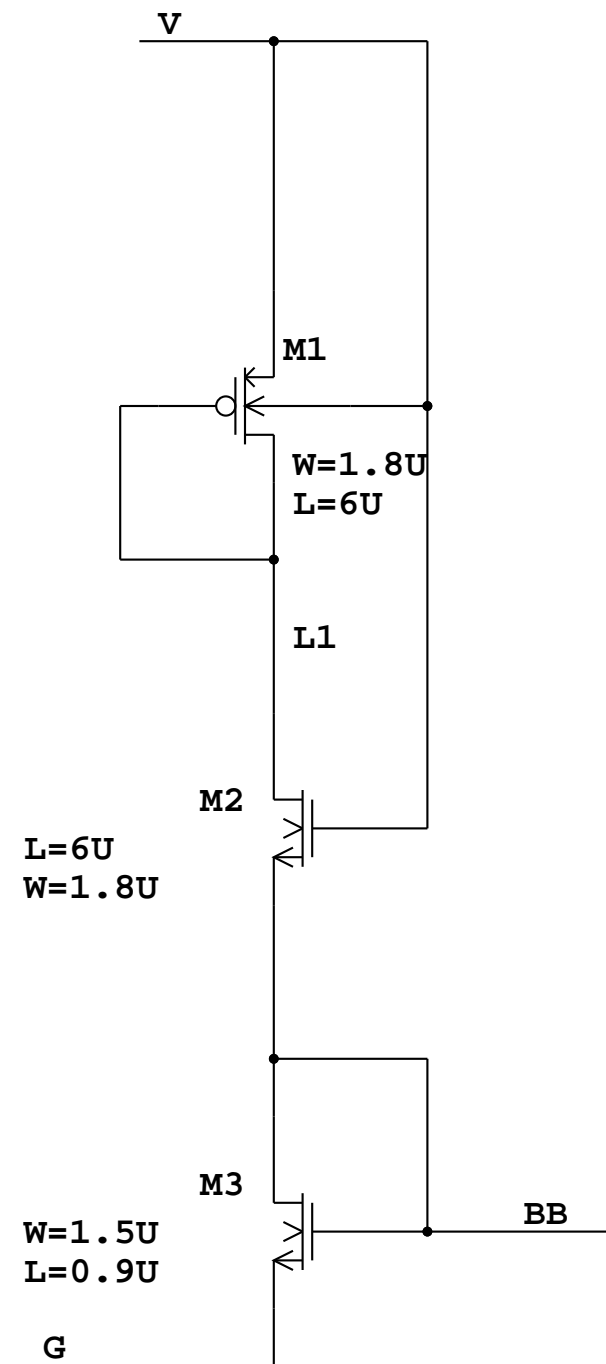
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