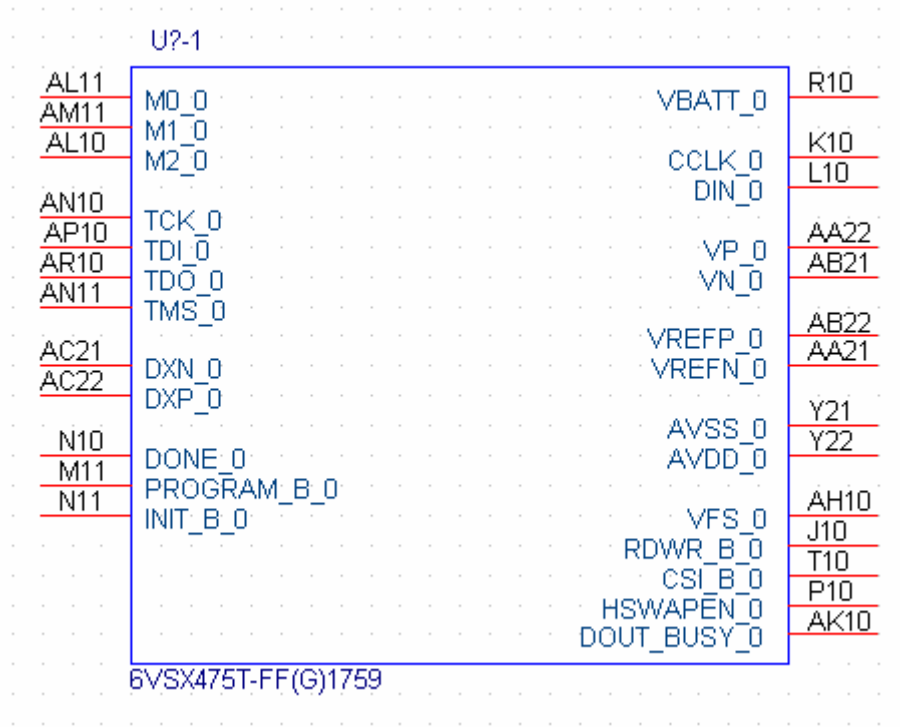


### Schematic Symbol for 6VSX475T-FF(G)1759

The Schematic symbol consists of 43 heterogeneous parts that are listed below:

#### 1. Programming Interface



## 2. I/O Bank 12

U?-2

<u>AR38</u>	IO_L0N_12	IO_L9P_MRCC_12	<u>AN35</u>
<u>AT37</u>	IO_L0P_12	IO_L9N_MRCC_12	<u>AN36</u>
<u>AP35</u>	IO_L10N_MRCC_12	IO_L8P_SRCC_12	<u>AW37</u>
<u>AP36</u>	IO_L10P_MRCC_12	IO_L8N_SRCC_12	<u>AW38</u>
<u>BB37</u>	IO_L11N_SRCC_12	IO_L7P_12	<u>BB39</u>
<u>BA37</u>	IO_L11P_SRCC_12	IO_L7N_12	<u>BB38</u>
<u>AT35</u>	IO_L12N_VRP_12	IO_L6P_12	<u>AU36</u>
<u>AR35</u>	IO_L12P_VRN_12	IO_L6N_12	<u>AT36</u>
<u>BA36</u>	IO_L13N_12	IO_L5P_12	<u>AY38</u>
<u>BB36</u>	IO_L13P_12	IO_L5N_12	<u>AY37</u>
<u>AV36</u>	IO_L14N_VREF_12	IO_L4P_12	<u>AU37</u>
<u>AW36</u>	IO_L14P_12	IO_L4N_VREF_12	<u>AU38</u>
<u>BA34</u>	IO_L15N_12	IO_L3P_12	<u>AY39</u>
<u>BB34</u>	IO_L15P_12	IO_L3N_12	<u>BA39</u>
<u>AT34</u>	IO_L16N_12	IO_L2P_12	<u>AP37</u>
<u>AU34</u>	IO_L16P_12	IO_L2N_12	<u>AR37</u>
<u>AY35</u>	IO_L17N_12	IO_L1P_12	<u>AV39</u>
<u>BA35</u>	IO_L17P_12	IO_L1N_12	<u>AV38</u>
<u>AV35</u>	IO_L18N_12	IO_L19P_12	<u>AY34</u>
<u>AV34</u>	IO_L18P_12	IO_L19N_12	<u>AW35</u>

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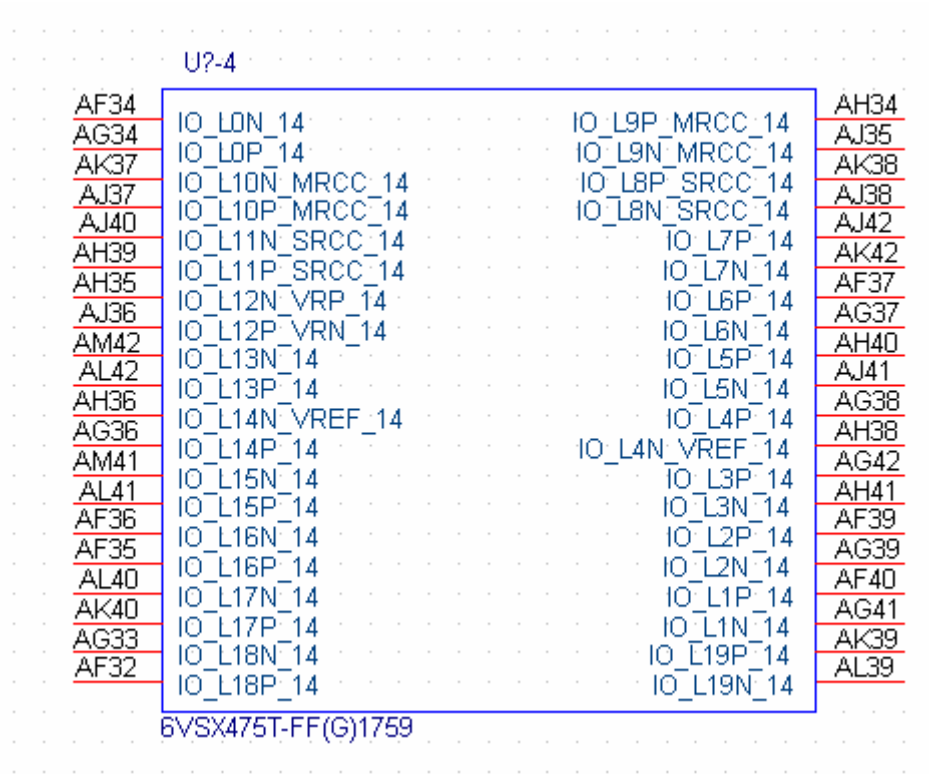
### 3. I/O Bank 13

U?-3

<u>AP40</u>	IO_L0N_13	IO_L9P_MRCC_13	<u>AL34</u>
<u>AN40</u>	IO_L0P_13	IO_L9N_MRCC_13	<u>AK34</u>
<u>AU39</u>	IO_L10N_MRCC_13	IO_L8P_SRCC_13	<u>AR40</u>
<u>AT40</u>	IO_L10P_MRCC_13	IO_L8N_SRCC_13	<u>AT41</u>
<u>AU41</u>	IO_L11N_SRCC_13	IO_L7P_13	<u>AW42</u>
<u>AV41</u>	IO_L11P_SRCC_13	IO_L7N_13	<u>AW41</u>
<u>AP38</u>	IO_L12N_VRP_13	IO_L6P_13	<u>AM34</u>
<u>AN38</u>	IO_L12P_VRN_13	IO_L6N_13	<u>AL35</u>
<u>BA42</u>	IO_L13N_13	IO_L5P_13	<u>AT42</u>
<u>AY42</u>	IO_L13P_13	IO_L5N_13	<u>AU42</u>
<u>AT39</u>	IO_L14N_VREF_13	IO_L4P_13	<u>AL37</u>
<u>AR39</u>	IO_L14P_13	IO_L4N_VREF_13	<u>AM38</u>
<u>BB41</u>	IO_L15N_13	IO_L3P_13	<u>AP42</u>
<u>BA41</u>	IO_L15P_13	IO_L3N_13	<u>AR42</u>
<u>AM36</u>	IO_L16N_13	IO_L2P_13	<u>AN39</u>
<u>AM37</u>	IO_L16P_13	IO_L2N_13	<u>AM39</u>
<u>AY40</u>	IO_L17N_13	IO_L1P_13	<u>AN41</u>
<u>BA40</u>	IO_L17P_13	IO_L1N_13	<u>AP41</u>
<u>AL36</u>	IO_L18N_13	IO_L19P_13	<u>AV40</u>
<u>AK35</u>	IO_L18P_13	IO_L19N_13	<u>AW40</u>

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#### 4. I/O Bank 14



### 5. I/O Bank 15

U?-5			
<u>AE35</u>	IO_L0N_15	IO_L9P_MRCC_15	<u>AD32</u>
<u>AE34</u>	IO_L0P_15	IO_L9N_MRCC_15	<u>AE32</u>
<u>AD37</u>	IO_L10N_MRCC_15	IO_L8P_SRCC_15	<u>AC36</u>
<u>AE37</u>	IO_L10P_MRCC_15	IO_L8N_SRCC_15	<u>AB36</u>
<u>AD41</u>	IO_L11N_SRCC_15	IO_L7P_SM12P_15	<u>AA42</u>
<u>AC41</u>	IO_L11P_SRCC_15	IO_L7N_SM12N_15	<u>AB42</u>
<u>AB33</u>	IO_L12N_SM13N_15	IO_L6P_SM11P_15	<u>AE38</u>
<u>AB32</u>	IO_L12P_SM13P_15	IO_L6N_SM11N_15	<u>AD38</u>
<u>AD40</u>	IO_L13N_SM14N_15	IO_L5P_SM10P_15	<u>AA41</u>
<u>AC40</u>	IO_L13P_SM14P_15	IO_L5N_SM10N_15	<u>AB41</u>
<u>AD35</u>	IO_L14N_VREF_15	IO_L4P_15	<u>AC38</u>
<u>AD36</u>	IO_L14P_15	IO_L4N_VREF_15	<u>AC39</u>
<u>AE42</u>	IO_L15N_SM15N_15	IO_L3P_SM9P_15	<u>AB39</u>
<u>AD42</u>	IO_L15P_SM15P_15	IO_L3N_SM9N_15	<u>AA40</u>
<u>AB34</u>	IO_L16N_VRP_15	IO_L2P_SM8P_15	<u>AE33</u>
<u>AC35</u>	IO_L16P_VRN_15	IO_L2N_SM8N_15	<u>AD33</u>
<u>AF41</u>	IO_L17N_15	IO_L1P_15	<u>AB37</u>
<u>AF42</u>	IO_L17P_15	IO_L1N_15	<u>AB38</u>
<u>AC33</u>	IO_L18N_15	IO_L19P_15	<u>AE40</u>
<u>AC34</u>	IO_L18P_15	IO_L19N_15	<u>AE39</u>

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**6. I/O Bank 16**

U?-6			
Y37	IO_L0N_16	IO_L9P_MRCC_16	W32
W37	IO_L0P_16	IO_L9N_MRCC_16	Y33
U34	IO_L10N_MRCC_16	IO_L8P_SRCC_16	AA35
V34	IO_L10P_MRCC_16	IO_L8N_SRCC_16	Y35
W40	IO_L11N_SRCC_16	IO_L7P_16	V38
V40	IO_L11P_SRCC_16	IO_L7N_16	W38
Y32	IO_L12N_VRP_16	IO_L6P_16	W35
AA32	IO_L12P_VRN_16	IO_L6N_16	V35
W41	IO_L13N_16	IO_L5P_16	U39
V41	IO_L13P_16	IO_L5N_16	V39
Y34	IO_L14N_VREF_16	IO_L4P_16	AA36
AA34	IO_L14P_16	IO_L4N_VREF_16	AA37
Y42	IO_L15N_16	IO_L3P_16	U42
W42	IO_L15P_16	IO_L3N_16	U41
U33	IO_L16N_16	IO_L2P_16	W36
U32	IO_L16P_16	IO_L2N_16	V36
Y39	IO_L17N_16	IO_L1P_16	U37
Y40	IO_L17P_16	IO_L1N_16	U38
W33	IO_L18N_16	IO_L19P_16	Y38
V33	IO_L18P_16	IO_L19N_16	AA39

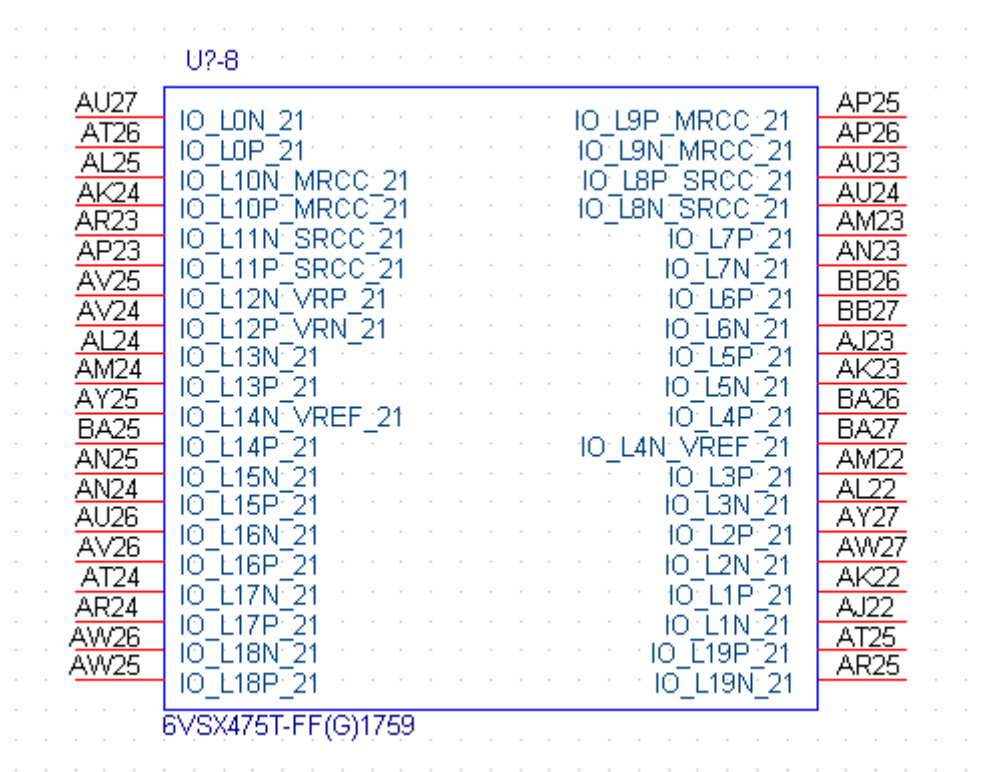
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**7. I/O Bank 17**

U?-7			
M37	IO_L0N_17	IO_L9P_MRCC_17	P36
M36	IO_L0P_17	IO_L9N_MRCC_17	P35
R38	IO_L10N_MRCC_17	IO_L8P_SRCC_17	R39
T39	IO_L10P_MRCC_17	IO_L8N_SRCC_17	P38
N41	IO_L11N_SRCC_17	IO_L7P_17	M41
N40	IO_L11P_SRCC_17	IO_L7N_17	M42
T37	IO_L12N_VRP_17	IO_L6P_17	N36
R37	IO_L12P_VRN_17	IO_L6N_17	P37
P41	IO_L13N_17	IO_L5P_17	N38
P40	IO_L13P_17	IO_L5N_17	N39
R34	IO_L14N_VREF_17	IO_L4P_17	N35
R35	IO_L14P_17	IO_L4N_VREF_17	N34
R42	IO_L15N_17	IO_L3P_17	L41
P42	IO_L15P_17	IO_L3N_17	L42
T36	IO_L16N_17	IO_L2P_17	M38
U36	IO_L16P_17	IO_L2N_17	M39
T40	IO_L17N_17	IO_L1P_17	L39
R40	IO_L17P_17	IO_L1N_17	L40
T35	IO_L18N_17	IO_L19P_17	T41
T34	IO_L18P_17	IO_L19N_17	T42

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### 8. I/O Bank 21



9. I/O Bank 22

U?-9			
AV30	IO_L0N_22	IO_L9P_MRCC_22	AM26
AW30	IO_L0P_22	IO_L9N_MRCC_22	AL26
AM27	IO_L10N_MRCC_22	IO_L8P_SRCC_22	BA30
AN28	IO_L10P_MRCC_22	IO_L8N_SRCC_22	AY30
AT27	IO_L11N_SRCC_22	IO_L7P_22	AT30
AR27	IO_L11P_SRCC_22	IO_L7N_22	AR30
BA29	IO_L12N_VRP_22	IO_L6P_22	BA32
AY29	IO_L12P_VRN_22	IO_L6N_22	AY33
AU31	IO_L13N_22	IO_L5P_22	AT29
AT31	IO_L13P_22	IO_L5N_22	AR29
BB32	IO_L14N_VREF_22	IO_L4P_22	AY32
BB33	IO_L14P_22	IO_L4N_VREF_22	AW32
AV29	IO_L15N_22	IO_L3P_22	AR28
AU29	IO_L15P_22	IO_L3N_22	AP28
BB31	IO_L16N_22	IO_L2P_22	AW31
BA31	IO_L16P_22	IO_L2N_22	AV31
AV28	IO_L17N_22	IO_L1P_22	AN26
AU28	IO_L17P_22	IO_L1N_22	AP27
BB28	IO_L18N_22	IO_L19P_22	AW28
BB29	IO_L18P_22	IO_L19N_22	AY28

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**10. I/O Bank 23**

U?-10			
<u>AN30</u>	IO_L0N_23	IO_L9P_MRCC_23	<u>AJ25</u>
<u>AP30</u>	IO_L0P_23	IO_L9N_MRCC_23	<u>AK25</u>
<u>AH25</u>	IO_L10N_MRCC_23	IO_L8P_SRCC_23	<u>AK28</u>
<u>AH24</u>	IO_L10P_MRCC_23	IO_L8N_SRCC_23	<u>AK29</u>
<u>AP33</u>	IO_L11N_SRCC_23	IO_L7P_23	<u>AP31</u>
<u>AR34</u>	IO_L11P_SRCC_23	IO_L7N_23	<u>AN31</u>
<u>AJ28</u>	IO_L12N_VRP_23	IO_L6P_23	<u>AL27</u>
<u>AH28</u>	IO_L12P_VRN_23	IO_L6N_23	<u>AM28</u>
<u>AR32</u>	IO_L13N_23	IO_L5P_23	<u>AN33</u>
<u>AP32</u>	IO_L13P_23	IO_L5N_23	<u>AN34</u>
<u>AG27</u>	IO_L14N_VREF_23	IO_L4P_23	<u>AN29</u>
<u>AG28</u>	IO_L14P_23	IO_L4N_VREF_23	<u>AM29</u>
<u>AT32</u>	IO_L15N_23	IO_L3P_23	<u>AM33</u>
<u>AR33</u>	IO_L15P_23	IO_L3N_23	<u>AM32</u>
<u>AJ27</u>	IO_L16N_23	IO_L2P_23	<u>AL29</u>
<u>AK27</u>	IO_L16P_23	IO_L2N_23	<u>AL30</u>
<u>AU32</u>	IO_L17N_23	IO_L1P_23	<u>AM31</u>
<u>AU33</u>	IO_L17P_23	IO_L1N_23	<u>AL31</u>
<u>AH26</u>	IO_L18N_23	IO_L19P_23	<u>AV33</u>
<u>AJ26</u>	IO_L18P_23	IO_L19N_23	<u>AW33</u>
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### 11. I/O Bank 24

U?-11			
AF30	IO_L0N_GC_24	IO_L9P_MRCC_24	Y30
AE30	IO_L0P_GC_24	IO_L9N_MRCC_24	AA30
AB31	IO_L10N_MRCC_24	IO_L8P_SRCC_24	AK33
AA31	IO_L10P_MRCC_24	IO_L8N_SRCC_24	AJ32
T32	IO_L11N_SRCC_24	IO_L7P_D5_24	P32
R32	IO_L11P_SRCC_24	IO_L7N_D4_24	R33
AL32	IO_L12N_D2_FS2_24	IO_L6P_D7_24	AJ33
AK32	IO_L12P_D3_24	IO_L6N_D6_24	AH33
U31	IO_L13N_D0_FS0_24	IO_L5P_D9_24	N33
T31	IO_L13P_D1_FS1_24	IO_L5N_D8_24	P33
AJ30	IO_L14N_VREF_FOE_B_MOSI_24	IO_L4P_D11_24	AH31
AH30	IO_L14P_FCS_B_24	IO_L4N_VREF_D10_24	AG31
W31	IO_L15N_RS1_24	IO_L3P_D13_24	T30
V31	IO_L15P_FWE_B_24	IO_L3N_D12_24	R30
AK30	IO_L16N_CSO_B_24	IO_L2P_D15_24	AG32
AJ31	IO_L16P_RS0_24	IO_L2N_D14_24	AF31
AC30	IO_L17N_VRP_24	IO_L1P_GC_24	W30
AC31	IO_L17P_VRN_24	IO_L1N_GC_24	V30
AG29	IO_L18N_24	IO_L19P_24	AD31
AH29	IO_L18P_24	IO_L19N_24	AD30

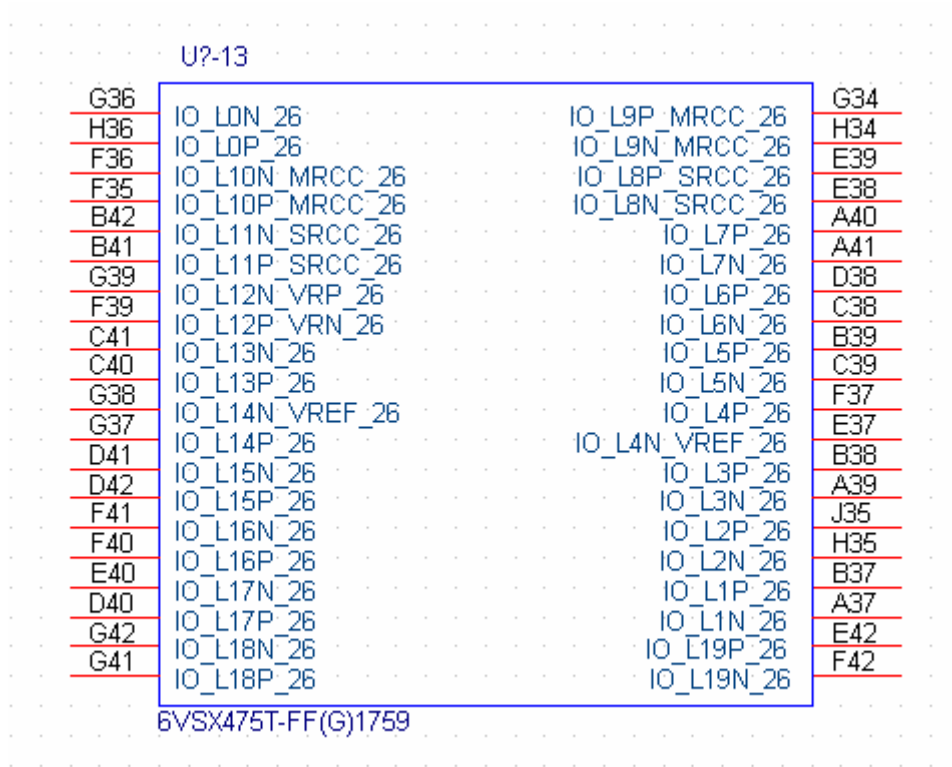
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## 12. I/O Bank 25

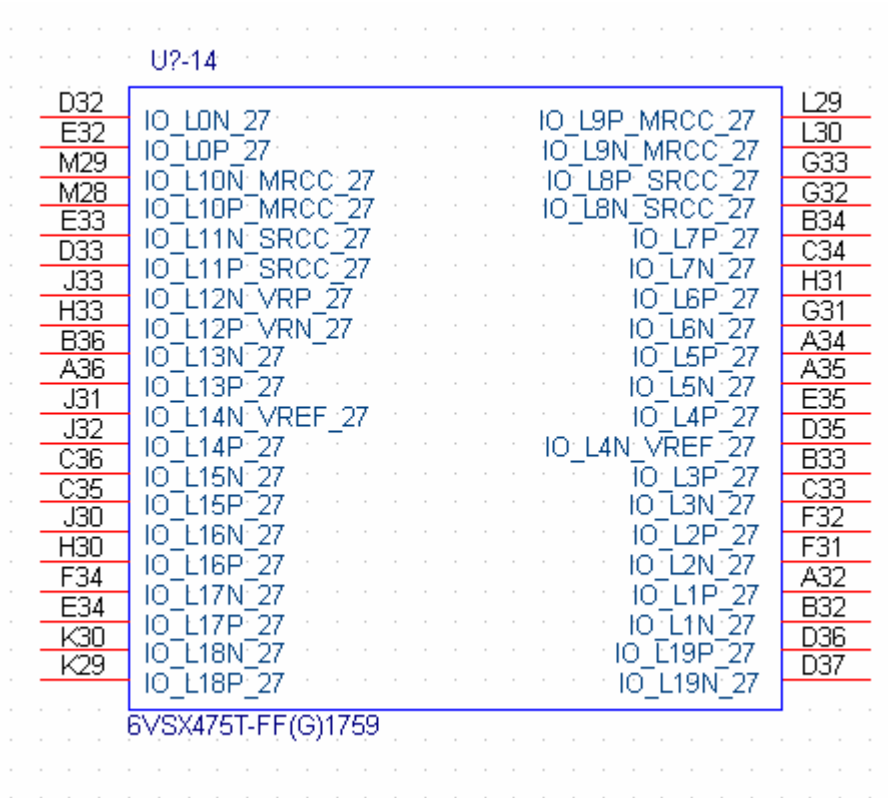
U?-12			
K32	IO_L0N_25	IO_L9P_MRCC_25	P27
K33	IO_L0P_25	IO_L9N_MRCC_25	R27
R29	IO_L10N_MRCC_25	IO_L8P_SRCC_25	K38
R28	IO_L10P_MRCC_25	IO_L8N_SRCC_25	J38
L37	IO_L11N_SRCC_25	IO_L7P_25	L35
K37	IO_L11P_SRCC_25	IO_L7N_25	L36
H41	IO_L12N_25	IO_L6P_25	H39
H40	IO_L12P_25	IO_L6N_25	H38
M34	IO_L13N_25	IO_L5P_25	N29
L34	IO_L13P_25	IO_L5N_25	N30
J41	IO_L14N_VREF_25	IO_L4P_25	J37
J40	IO_L14P_25	IO_L4N_VREF_25	J36
M32	IO_L15N_25	IO_L3P_25	L31
M33	IO_L15P_25	IO_L3N_25	L32
K40	IO_L16N_VRP_25	IO_L2P_25	K35
K39	IO_L16P_VRN_25	IO_L2N_25	K34
N31	IO_L17N_25	IO_L1P_25	N28
M31	IO_L17P_25	IO_L1N_25	P28
K42	IO_L18N_GC_25	IO_L19P_GC_25	P30
J42	IO_L18P_GC_25	IO_L19N_GC_25	P31

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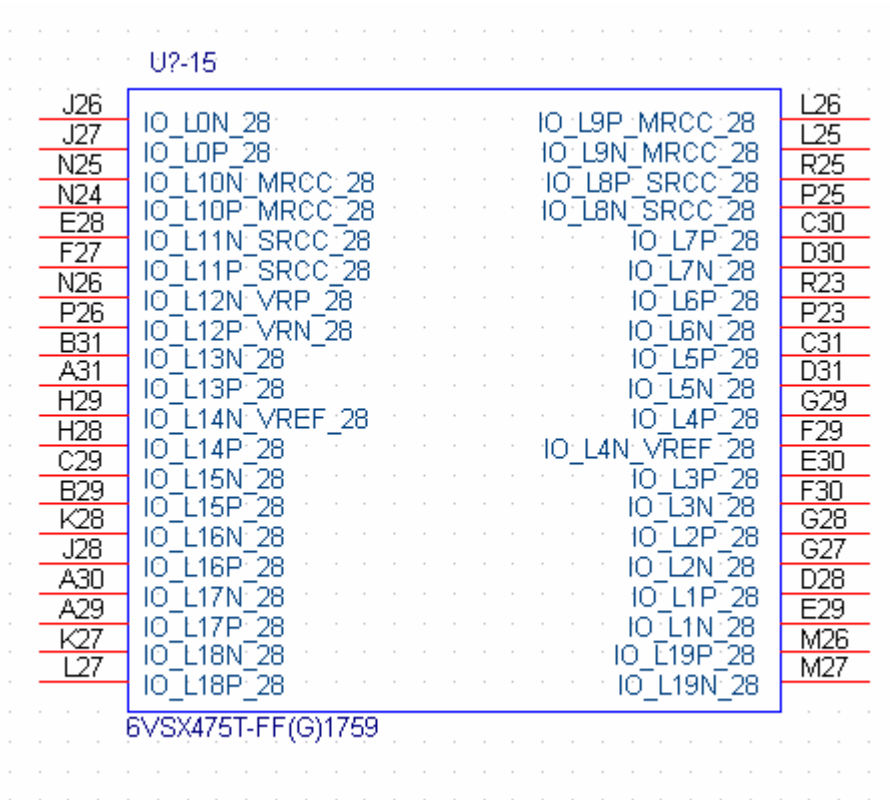
**13. I/O Bank 26**



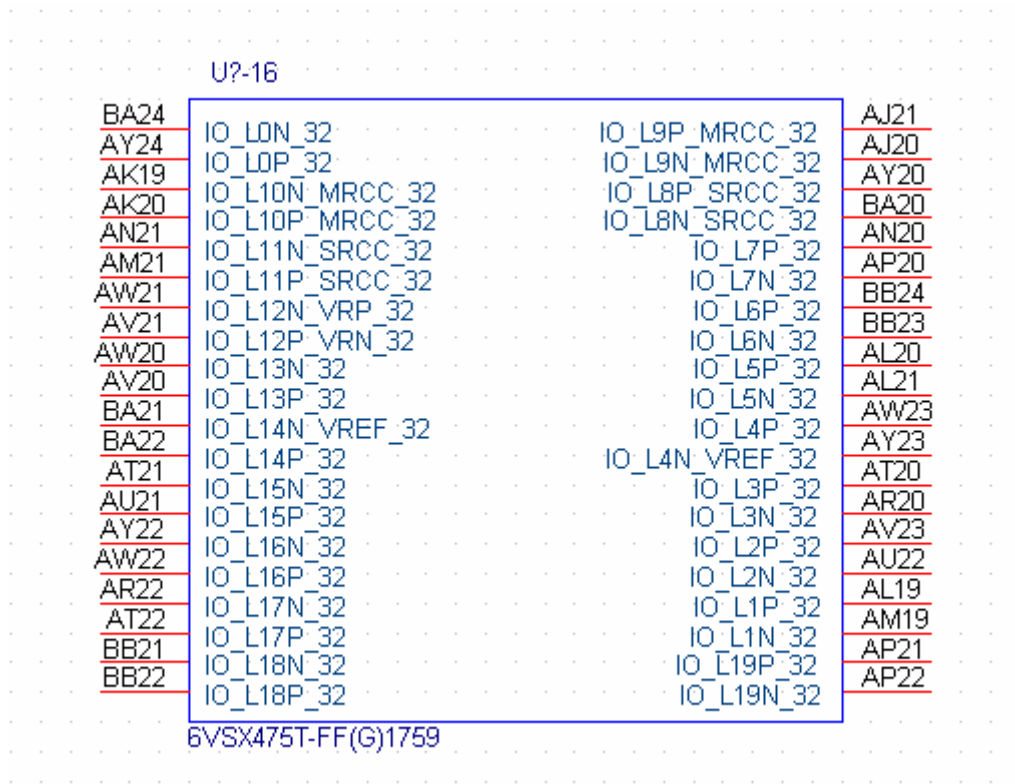
**14. I/O Bank 27**



15. I/O Bank 28



16. I/O Bank 32



**17. I/O Bank 33**

U?-17

<u>AL14</u>	IO_L0N_33	IO_L9P_MRCC_33	<u>AK15</u>
<u>AL15</u>	IO_L0P_33	IO_L9N_MRCC_33	<u>AK14</u>
<u>AJ15</u>	IO_L10N_MRCC_33	IO_L8P_SRCC_33	<u>AN16</u>
<u>AJ16</u>	IO_L10P_MRCC_33	IO_L8N_SRCC_33	<u>AM16</u>
<u>AR19</u>	IO_L11N_SRCC_33	IO_L7P_33	<u>AY18</u>
<u>AP18</u>	IO_L11P_SRCC_33	IO_L7N_33	<u>AW18</u>
<u>AP17</u>	IO_L12N_VRP_33	IO_L6P_33	<u>AJ17</u>
<u>AP16</u>	IO_L12P_VRN_33	IO_L6N_33	<u>AK17</u>
<u>AV19</u>	IO_L13N_33	IO_L5P_33	<u>AT17</u>
<u>AV18</u>	IO_L13P_33	IO_L5N_33	<u>AU18</u>
<u>AM18</u>	IO_L14N_VREF_33	IO_L4P_33	<u>AL17</u>
<u>AM17</u>	IO_L14P_33	IO_L4N_VREF_33	<u>AL16</u>
<u>BB19</u>	IO_L15N_33	IO_L3P_33	<u>AT16</u>
<u>BB18</u>	IO_L15P_33	IO_L3N_33	<u>AU17</u>
<u>AN19</u>	IO_L16N_33	IO_L2P_33	<u>AN15</u>
<u>AN18</u>	IO_L16P_33	IO_L2N_33	<u>AM14</u>
<u>AY19</u>	IO_L17N_33	IO_L1P_33	<u>AR17</u>
<u>BA19</u>	IO_L17P_33	IO_L1N_33	<u>AR18</u>
<u>AJ18</u>	IO_L18N_33	IO_L19P_33	<u>AU19</u>
<u>AK18</u>	IO_L18P_33	IO_L19N_33	<u>AT19</u>

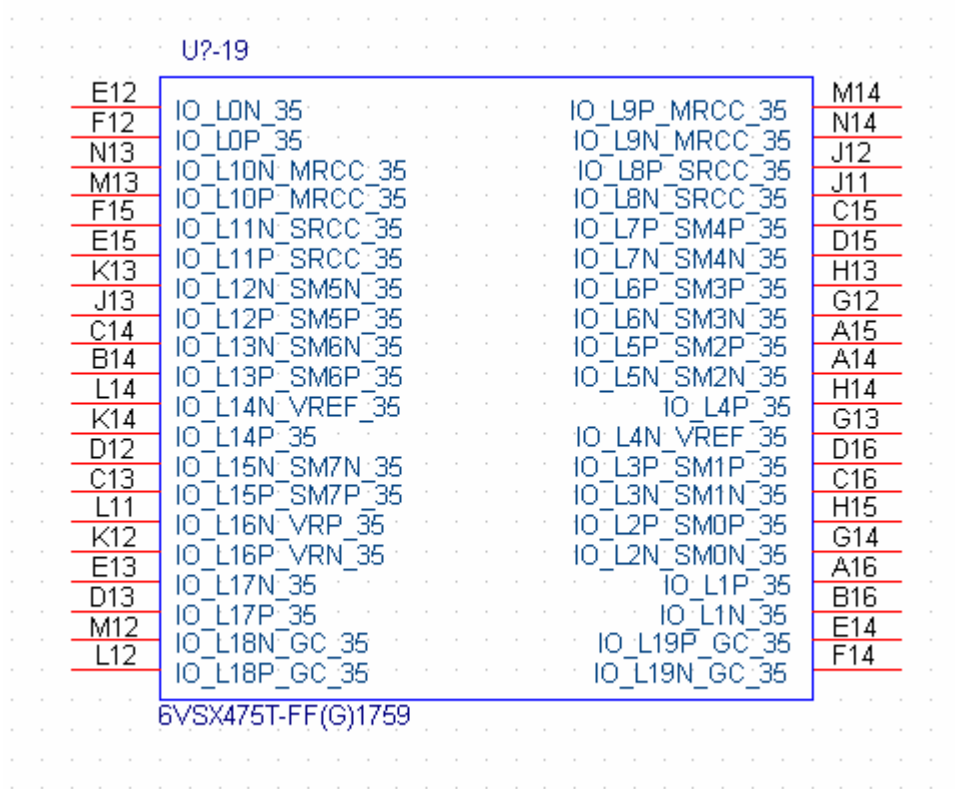
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**18. I/O Bank 34**

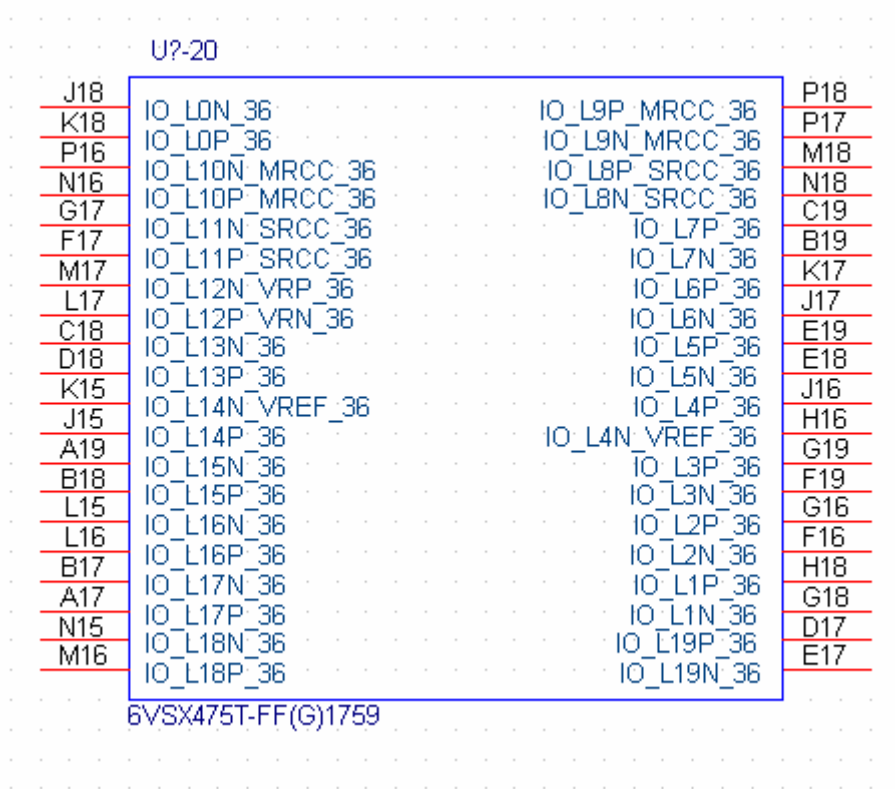
U?-18			
AY13	IO_L0N_GC_34	IO_L9P_MRCC_34	AM13
AY14	IO_L0P_GC_34	IO_L9N_MRCC_34	AM12
AN13	IO_L10N_MRCC_34	IO_L8P_SRCC_34	AV16
AN14	IO_L10P_MRCC_34	IO_L8N_SRCC_34	AW16
AV14	IO_L11N_SRCC_34	IO_L7P_A05_D21_34	AU12
AV13	IO_L11P_SRCC_34	IO_L7N_A04_D20_34	AU13
BB14	IO_L12N_A02_D18_34	IO_L6P_A07_D23_34	AY15
BB13	IO_L12P_A03_D19_34	IO_L6N_A06_D22_34	AW15
AW13	IO_L13N_A00_D16_34	IO_L5P_A09_D25_34	AP13
AW12	IO_L13P_A01_D17_34	IO_L5N_A08_D24_34	AR13
BA17	IO_L14N_VREF_A24_34	IO_L4P_A11_D27_34	AV15
BA16	IO_L14P_A25_34	IO_L4N_VREF_A10_D26_34	AU14
AT14	IO_L15N_A22_34	IO_L3P_A13_D29_34	AR12
AR14	IO_L15P_A23_34	IO_L3N_A12_D28_34	AT12
BB17	IO_L16N_A20_34	IO_L2P_A15_D31_34	BA15
BB16	IO_L16P_A21_34	IO_L2N_A14_D30_34	BA14
AR15	IO_L17N_A18_34	IO_L1P_GC_34	AP11
AP15	IO_L17P_A19_34	IO_L1N_GC_34	AP12
AW17	IO_L18N_A16_34	IO_L19P_VRN_34	AT15
AY17	IO_L18P_A17_34	IO_L19N_VRP_34	AU16

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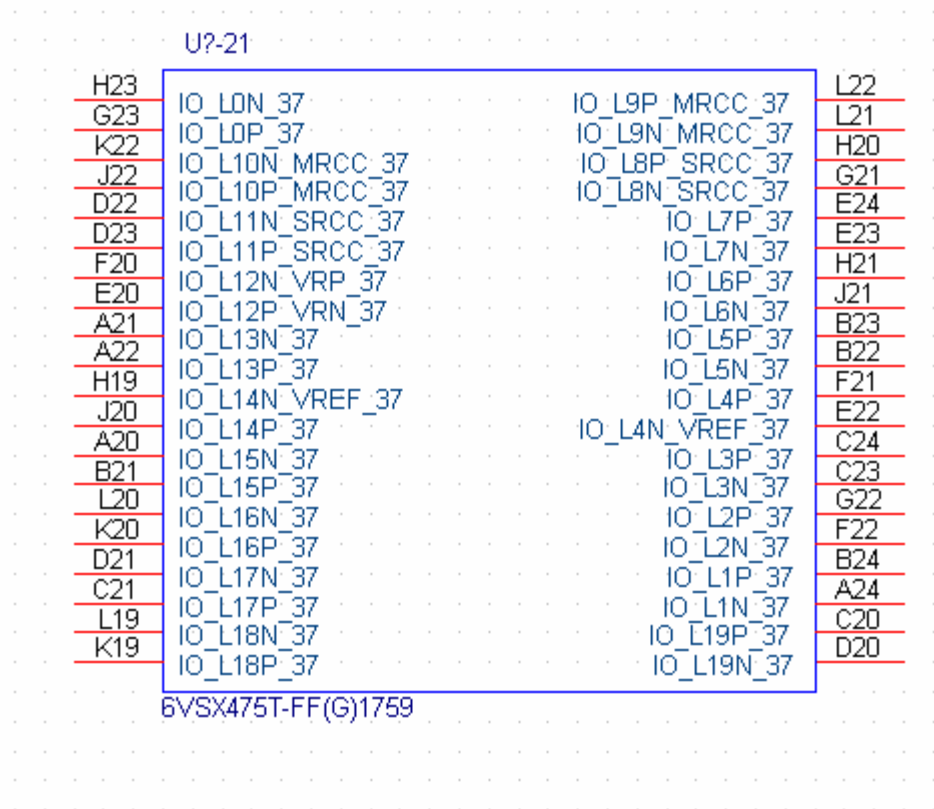
**19. I/O Bank 35**



**20. I/O Bank 36**



**21. I/O Bank 37**



## 22. I/O Bank 38

U?-22			
G24	IO_L0N_38	IO_L9P_MRCC_38	M19
H24	IO_L0P_38	IO_L9N_MRCC_38	N19
M21	IO_L10N_MRCC_38	IO_L8P_SRCC_38	J23
N21	IO_L10P_MRCC_38	IO_L8N_SRCC_38	K23
A25	IO_L11N_SRCC_38	IO_L7P_38	B27
A26	IO_L11P_SRCC_38	IO_L7N_38	A27
K24	IO_L12N_VRP_38	IO_L6P_38	K25
L24	IO_L12P_VRN_38	IO_L6N_38	J25
D26	IO_L13N_38	IO_L5P_38	G26
C26	IO_L13P_38	IO_L5N_38	F26
M23	IO_L14N_VREF_38	IO_L4P_38	H26
M22	IO_L14P_38	IO_L4N_VREF_38	H25
C25	IO_L15N_38	IO_L3P_38	C28
B26	IO_L15P_38	IO_L3N_38	B28
M24	IO_L16N_38	IO_L2P_38	F25
N23	IO_L16P_38	IO_L2N_38	F24
E25	IO_L17N_38	IO_L1P_38	E27
D25	IO_L17P_38	IO_L1N_38	D27
P22	IO_L18N_38	IO_L19P_38	P20
P21	IO_L18P_38	IO_L19N_38	N20

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### 23. MGT 110

U?-23

BA9	MGTREFCLKDN_110	MGTXP3_110	AW1
BA10	MGTREFCLKDP_110	MGTXP2_110	AY3
AW9	MGTREFCLK1N_110	MGTXP1_110	BA1
AW10	MGTREFCLK1P_110	MGTXP0_110	BB3
BB8	MGTRXND_110	MGTXN3_110	AW2
BA6	MGTRXN1_110	MGTXN2_110	AY4
AY8	MGTRXN2_110	MGTXN1_110	BA2
AW6	MGTRXN3_110	MGTXND_110	BB4
BB7	MGTRXP0_110	MGTRXP3_110	AW5
BA5	MGTRXP1_110	MGTRXP2_110	AY7

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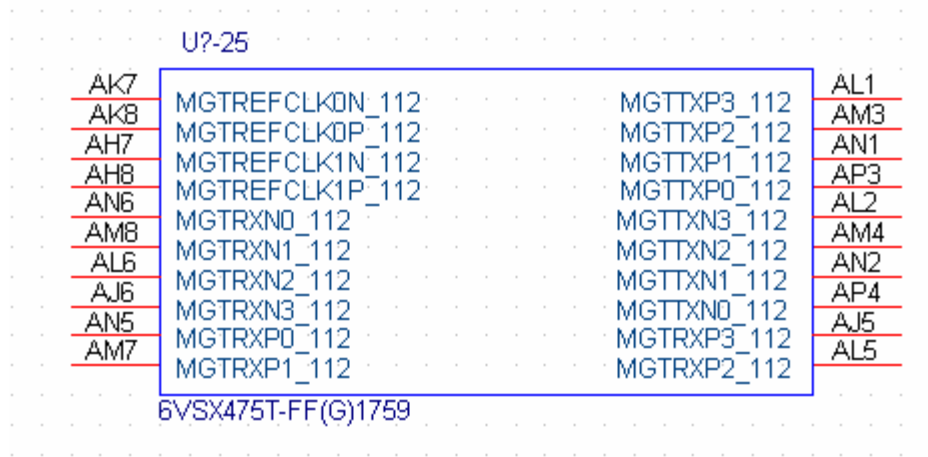
### 24. MGT 111

U?-24

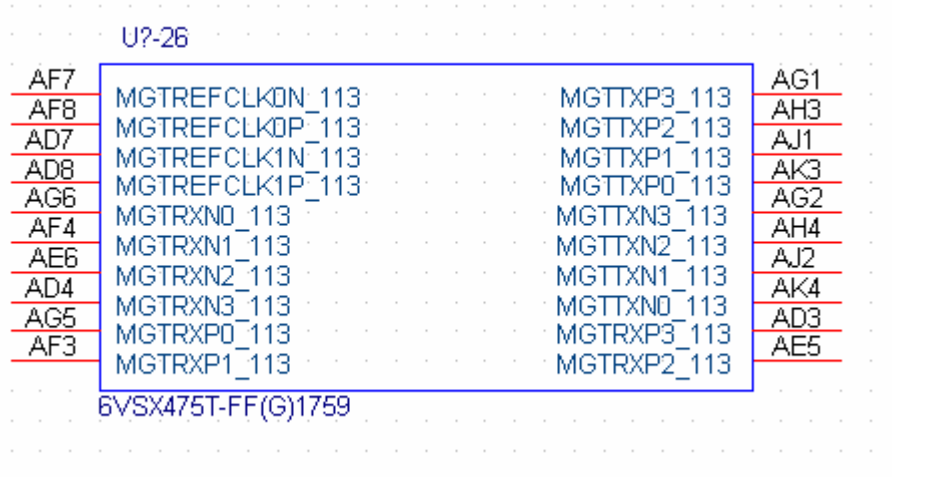
AU9	MGTREFCLKDN_111	MGTXP3_111	AR1
AU10	MGTREFCLKDP_111	MGTXP2_111	AT3
AT7	MGTREFCLK1N_111	MGTXP1_111	AU1
AT8	MGTREFCLK1P_111	MGTXP0_111	AV3
AV8	MGTRXND_111	MGTXN3_111	AR2
AU6	MGTRXN1_111	MGTXN2_111	AT4
AR6	MGTRXN2_111	MGTXN1_111	AU2
AP8	MGTRXN3_111	MGTXND_111	AV4
AV7	MGTRXP0_111	MGTRXP3_111	AP7
AU5	MGTRXP1_111	MGTRXP2_111	AR5

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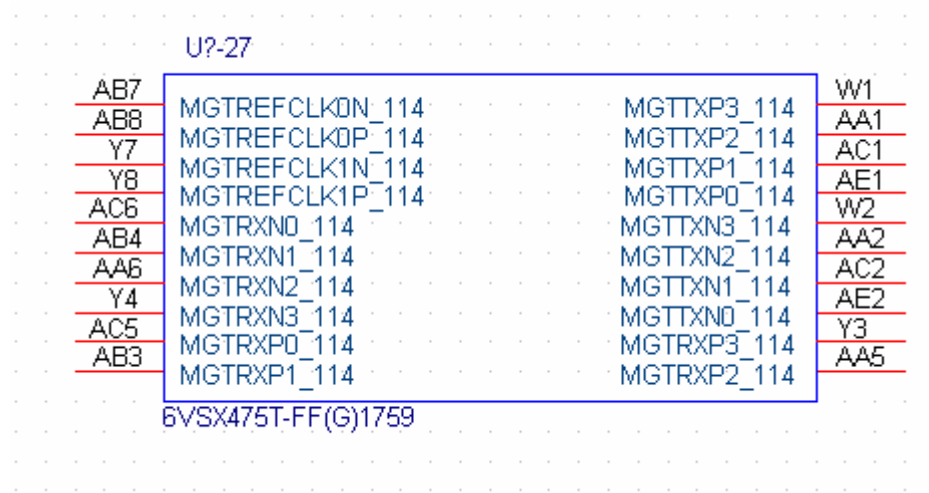
## 25. MGT 112



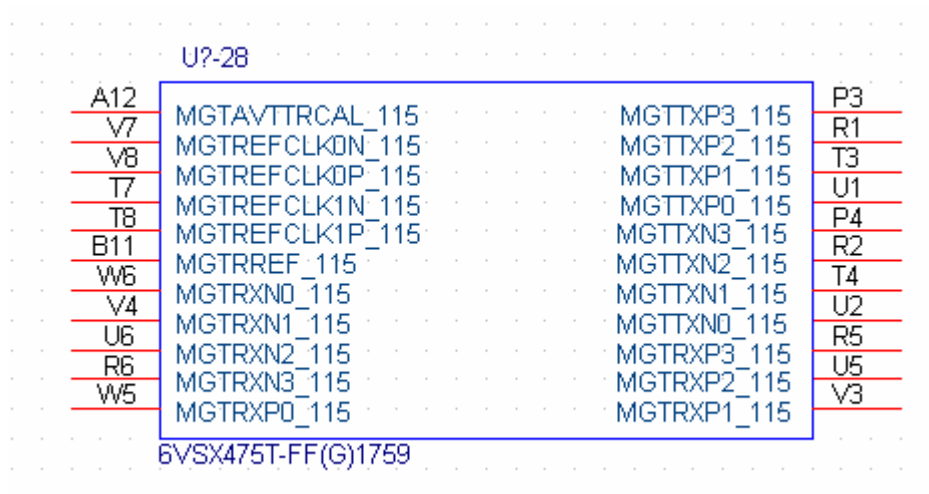
## 26. MGT 113



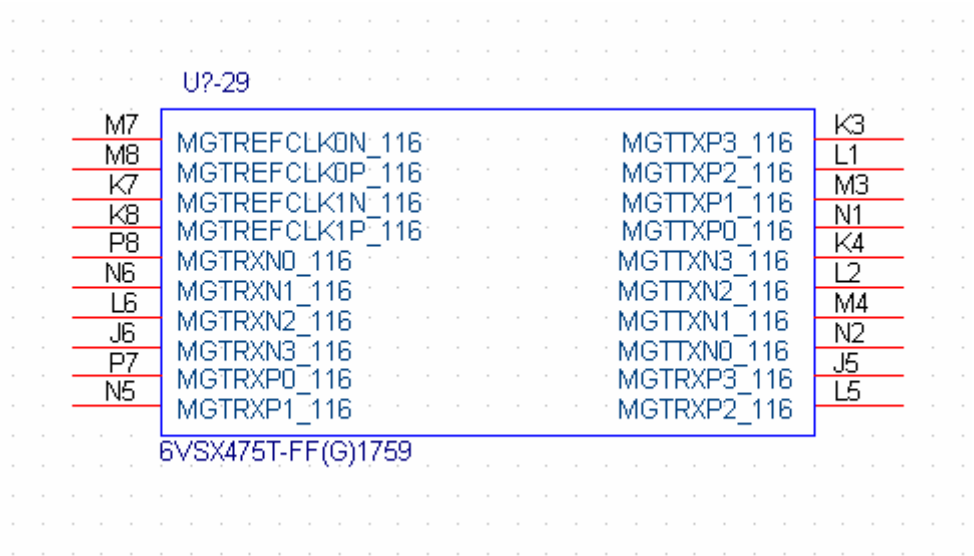
**27. MGT 114**



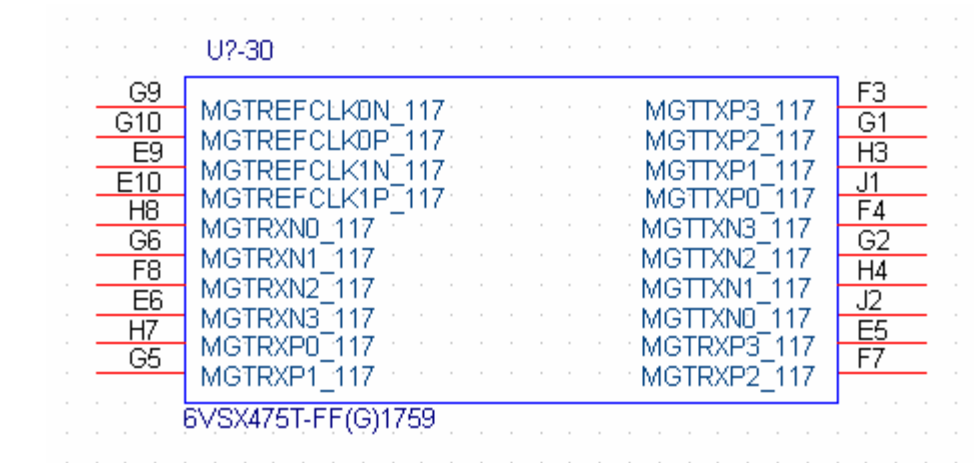
**28. MGT 115**



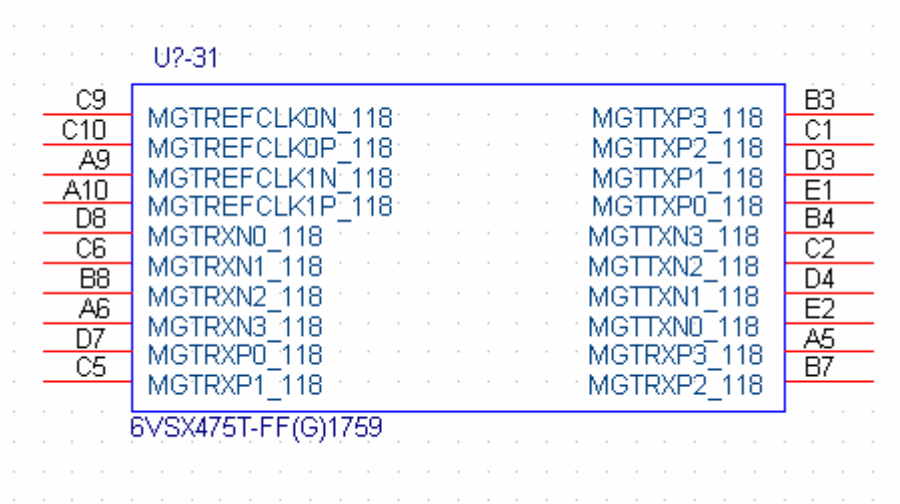
### 29. MGT 116



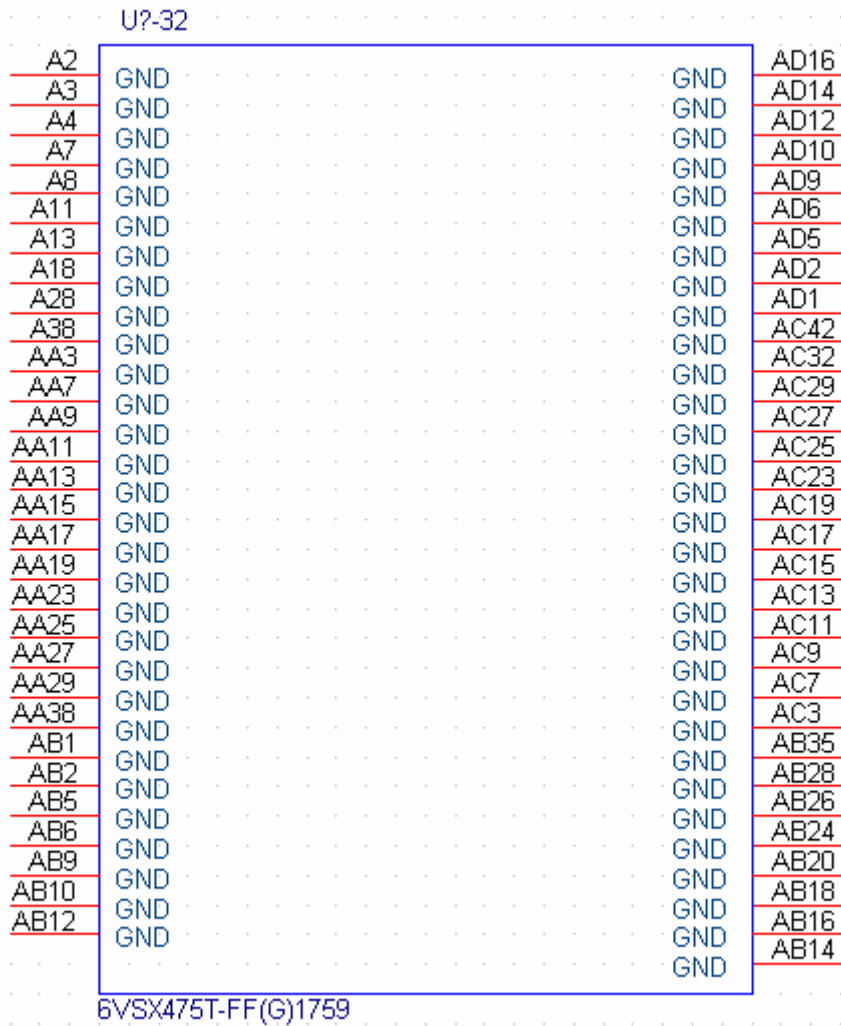
### 30. MGT 117



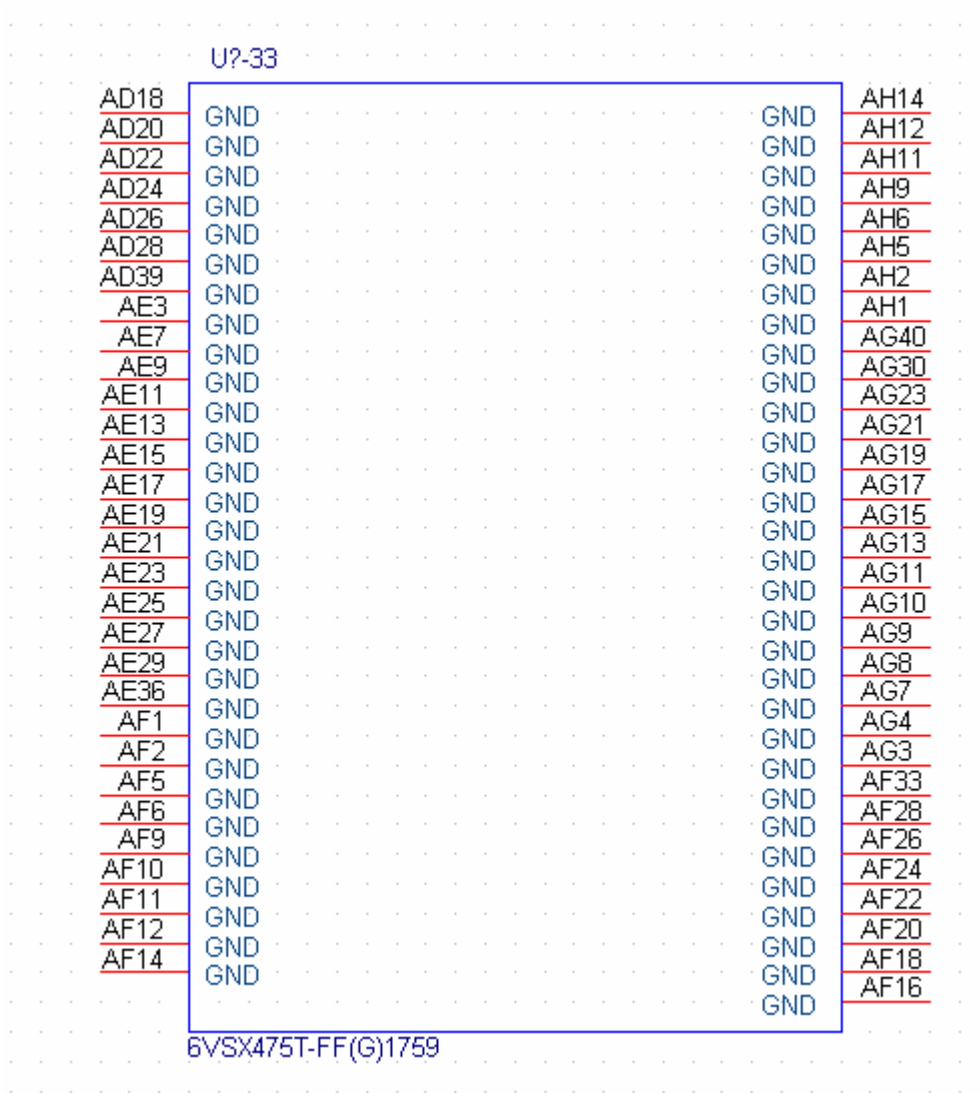
### 31. MGT 118



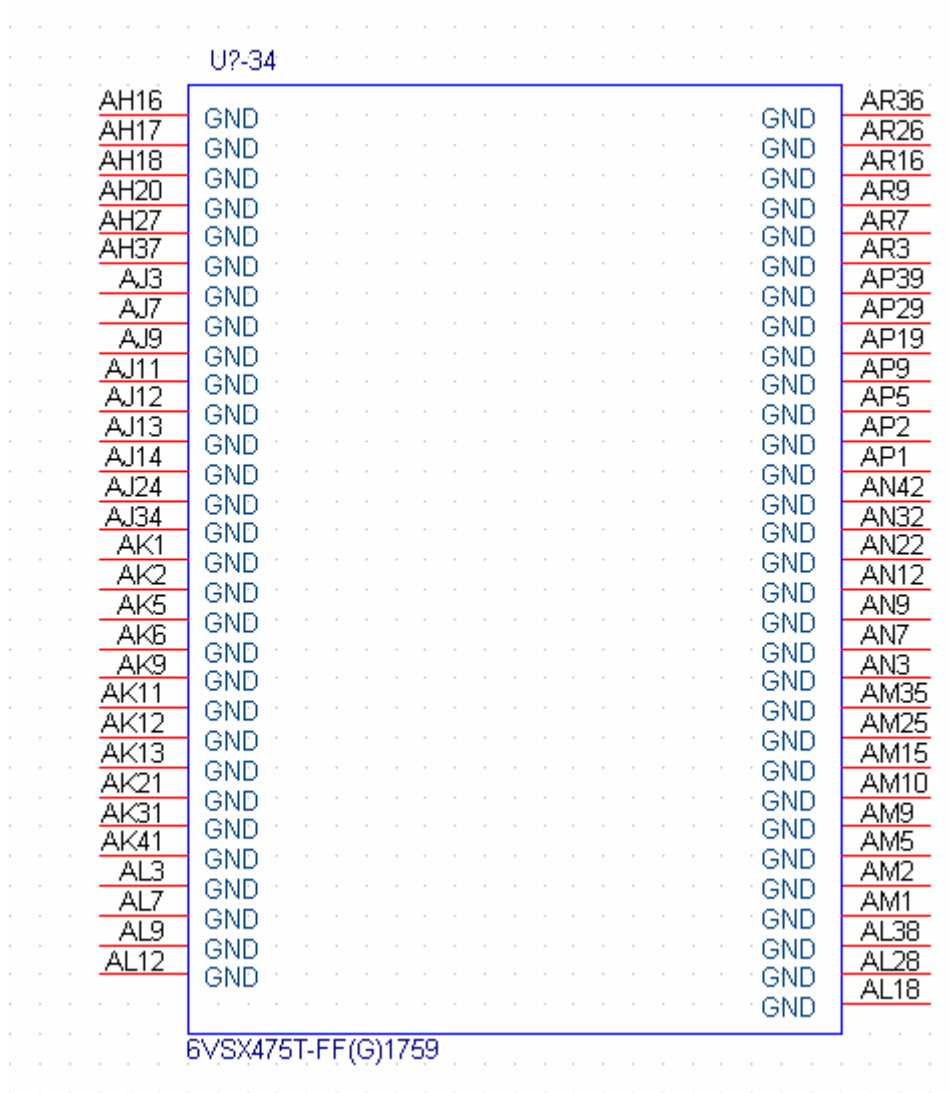
### 32. GND1



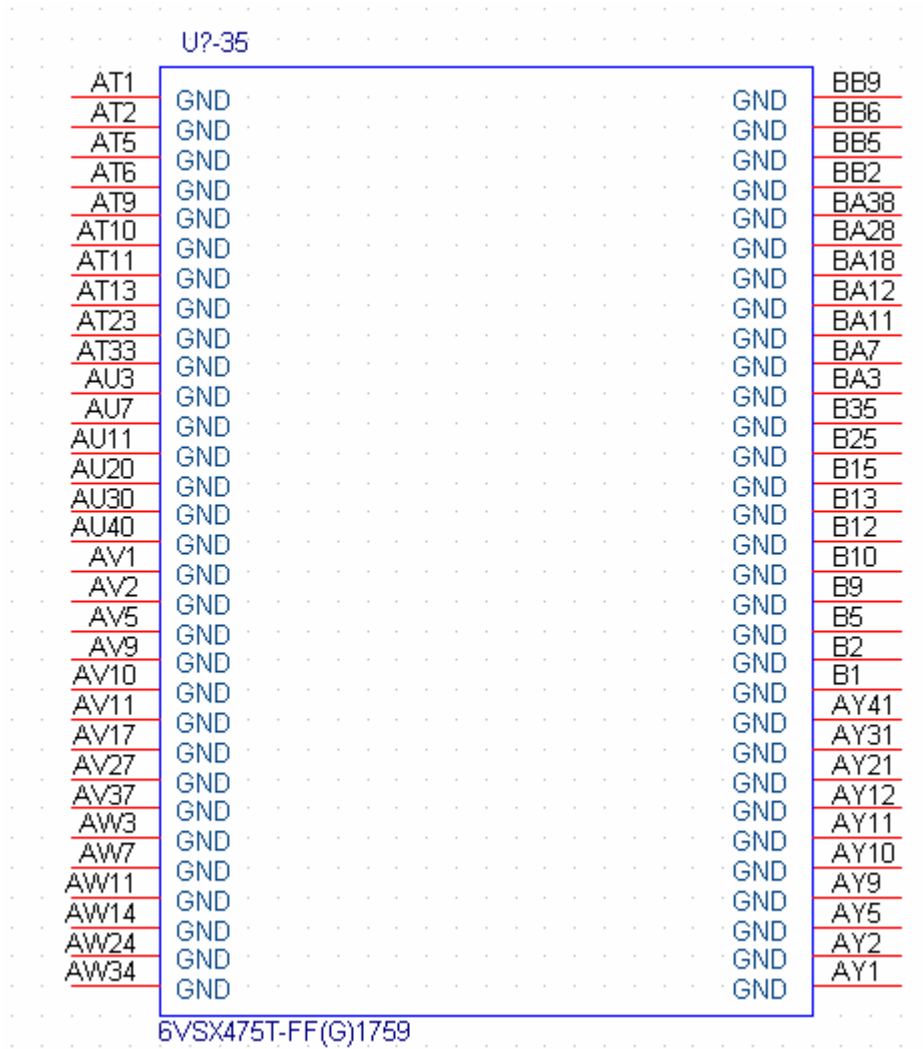
### 33. GND2



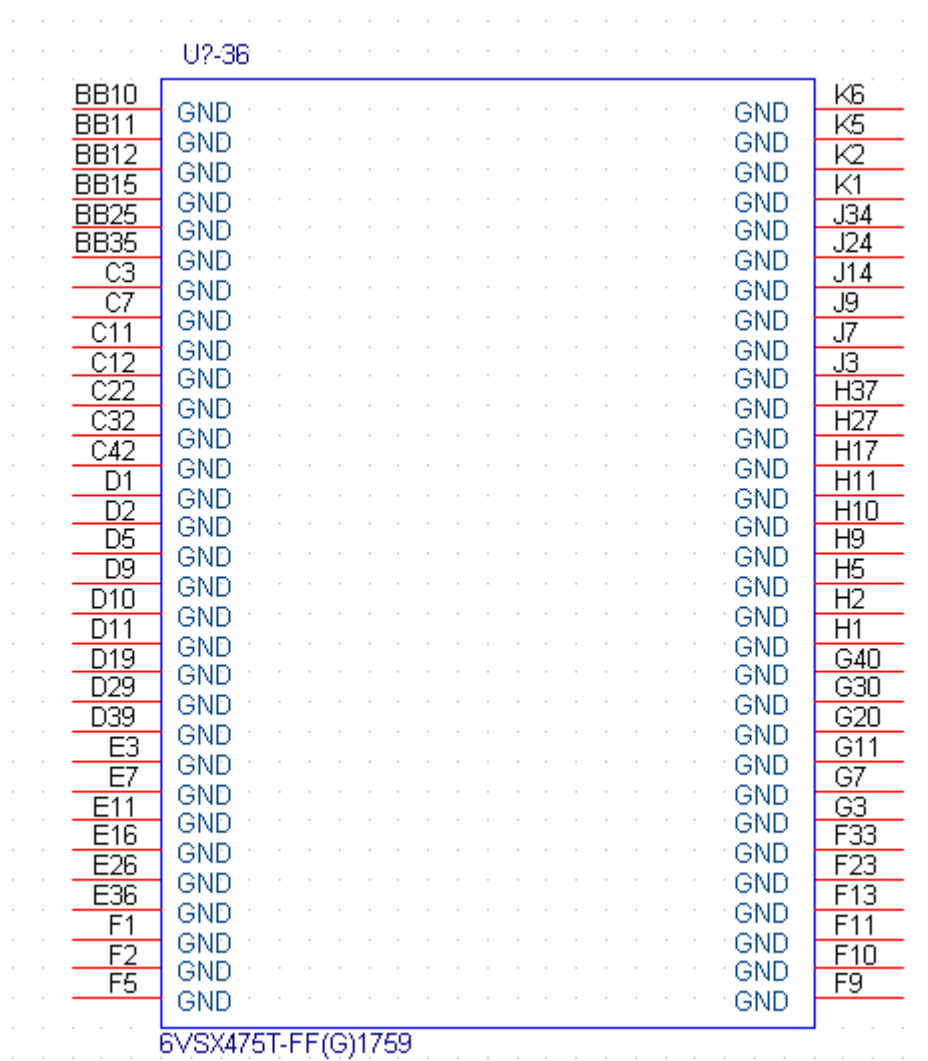
### 34. GND3



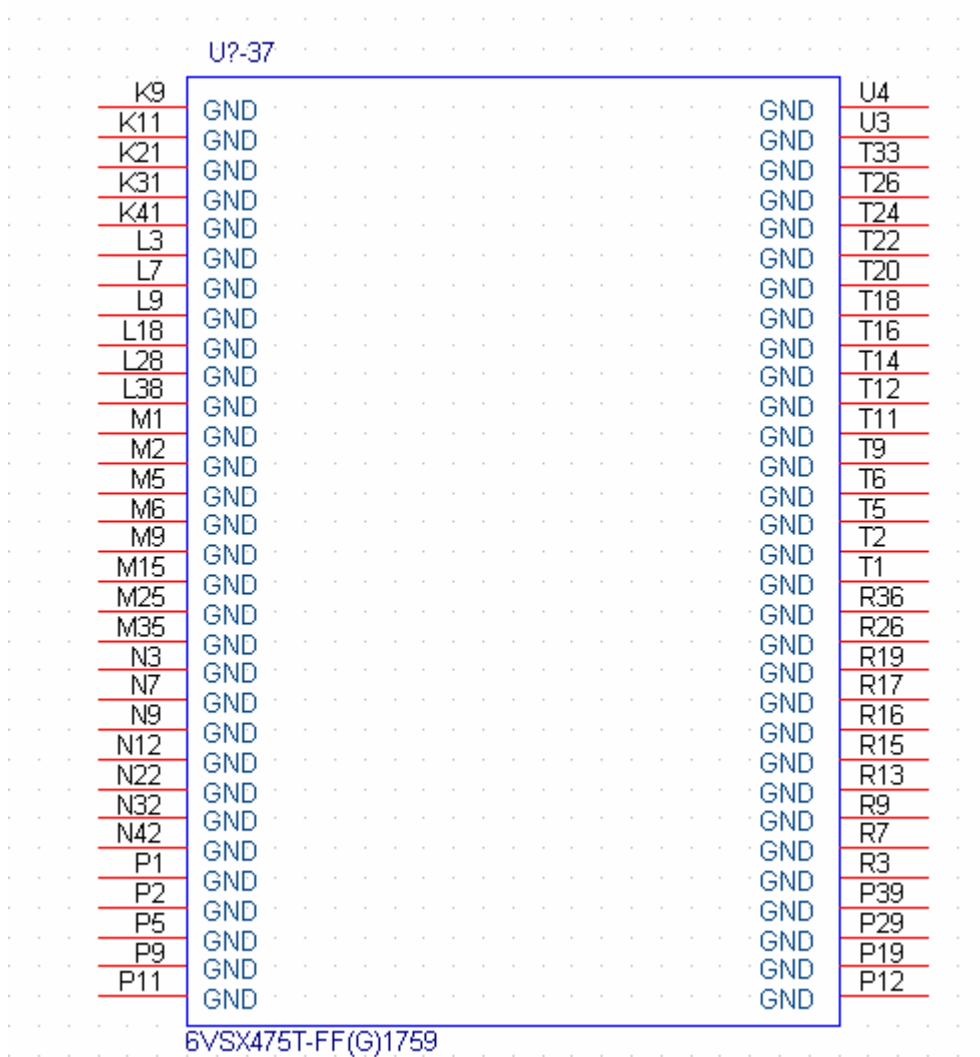
### 35. GND 4



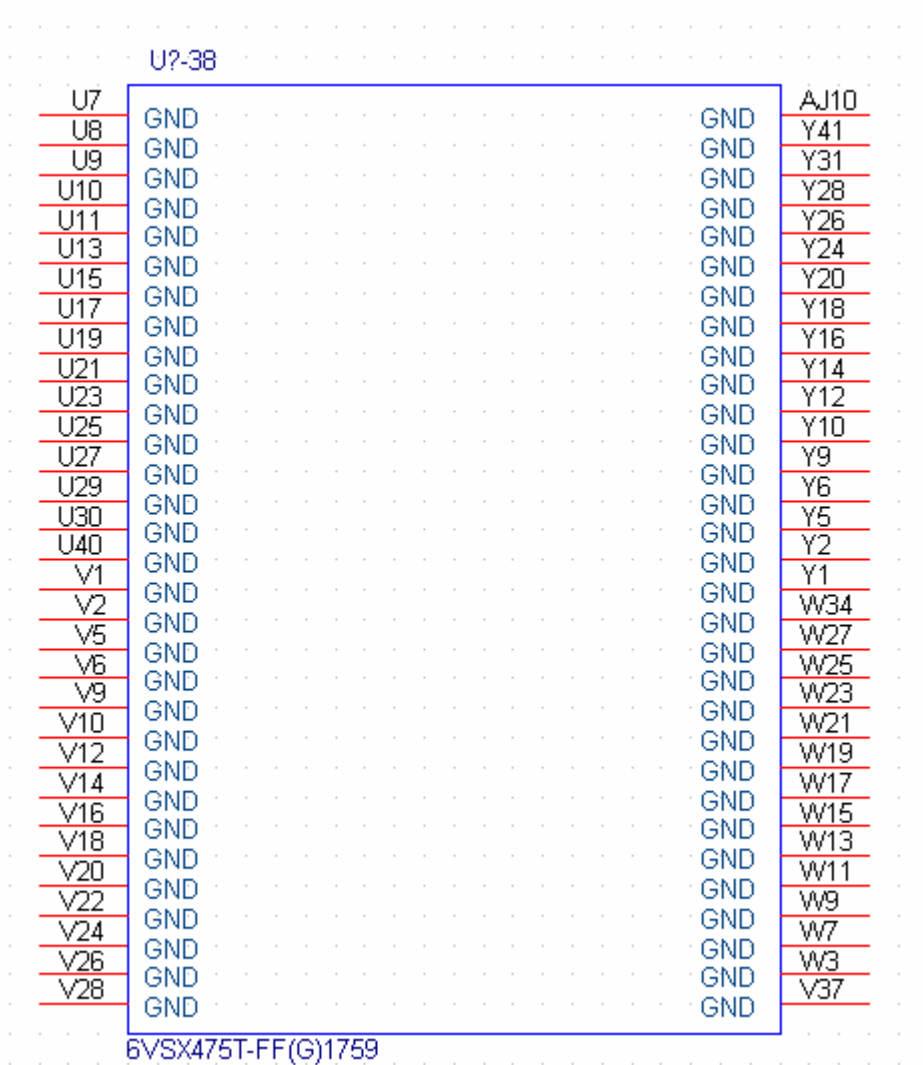
### 36. GND 5



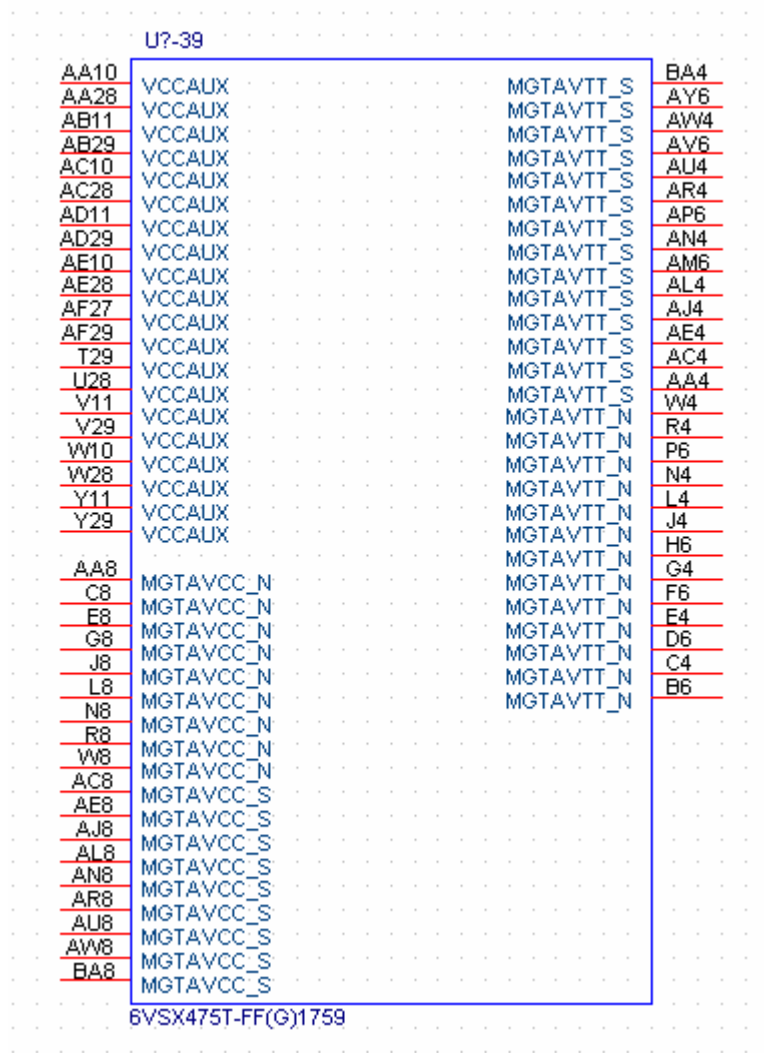
### 37. GND 6



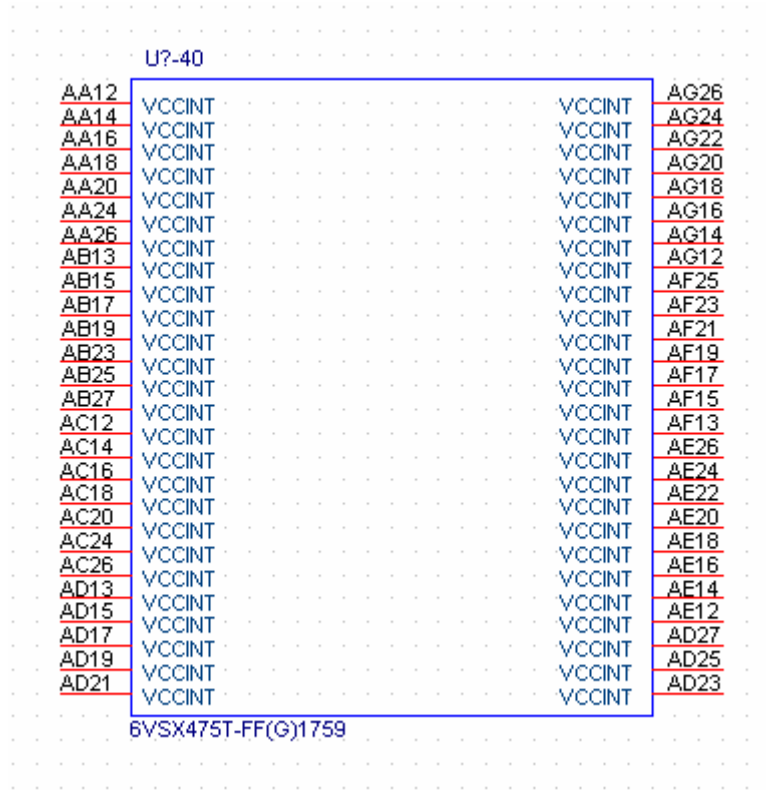
### 38. GND 7



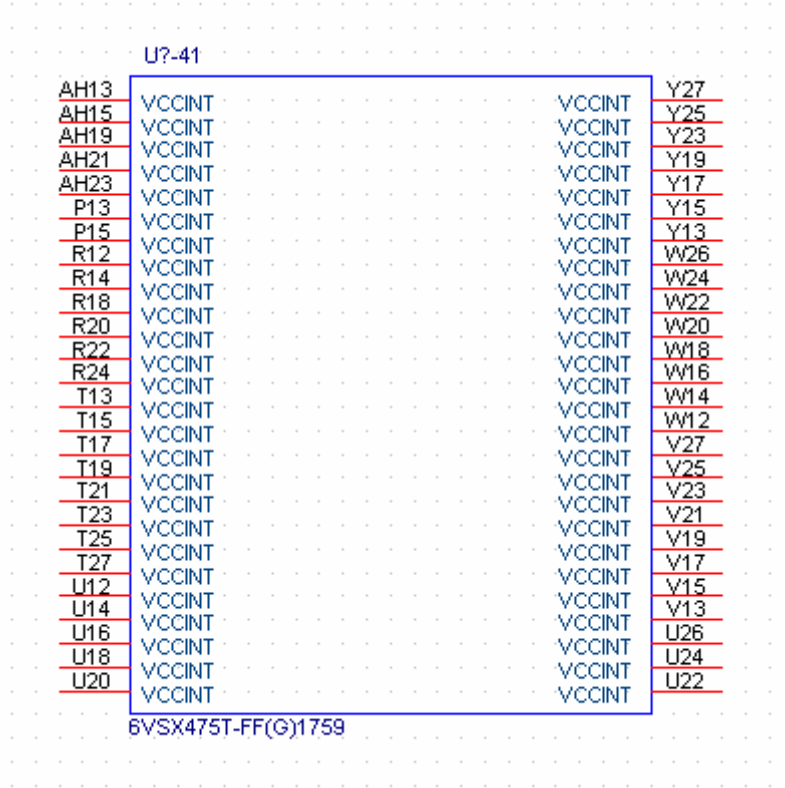
### 39. Power 1



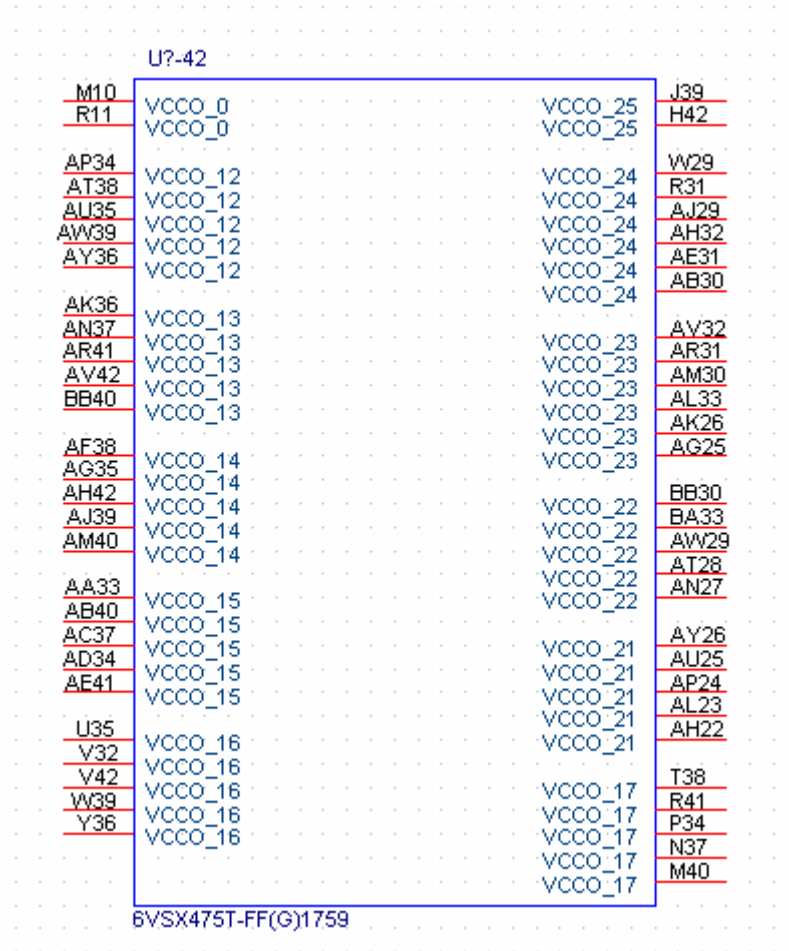
## 40. Power 2



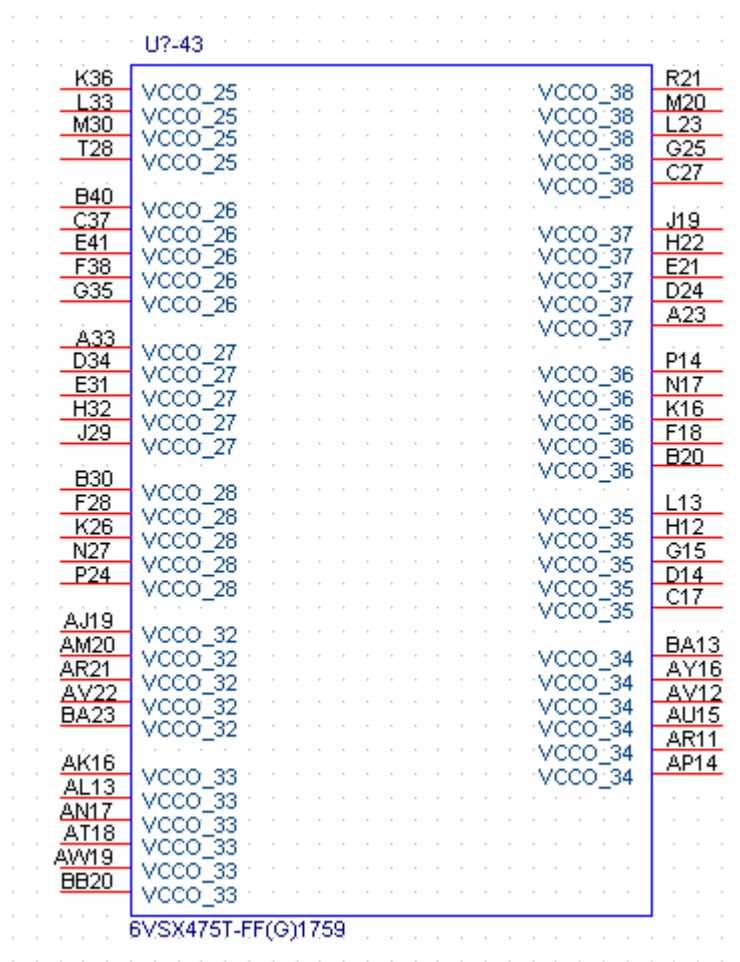
### 41. Power 3



### 42. Power 4



### 43. Power 5



#### 44. Revision History

	Revision	Date	By	Comments
1	1	July 17, 2009	AC	Initial Release