

# **AM8275**

## **4K UHD MULTIMEDIA SOC**

### **DATASHEET**

! "#\$%&' %  
( ' ( ' ) & ) ( ' %  
%  
%

\* + , ( - . %  
/ 01023""1

; 0NI"%G0% 4 GH1"H12%

&\$ 9 "H"L0I% / "2PLFQ1FGH%  
(\$ R"01JL"2%  
S\$ TIGPU% / F0VL0K% ' &  
W\$ =FP"H2"2%&  
. \$ 6FH%\*22FVHK"H12% (

X\$ 6FH% / "2PLFQ1FGH2%&S  
-\$ <M21"K%9IGN0I%! "2GJLP"2%(-

, \$ / / !%4GH1LGII"L%@HF1%S(

Y\$ RI023%4GH1LGII"L%SX

&' \$ " + + 4%4GH1LGII"L%S,

&&\$ 9 "H"L0I%<68%8H1"L00P"%SY



\* + , ( - . %  
/ 01023""1



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&\$ 9 "H"L0I% / "2PLFQ1FGH%

---

(\$ R"01JL"2%

\* + , ( - . %  
/ 01023""1

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S\$ TIGPU%



.\$ 6FH%\*22FVHK"H12%

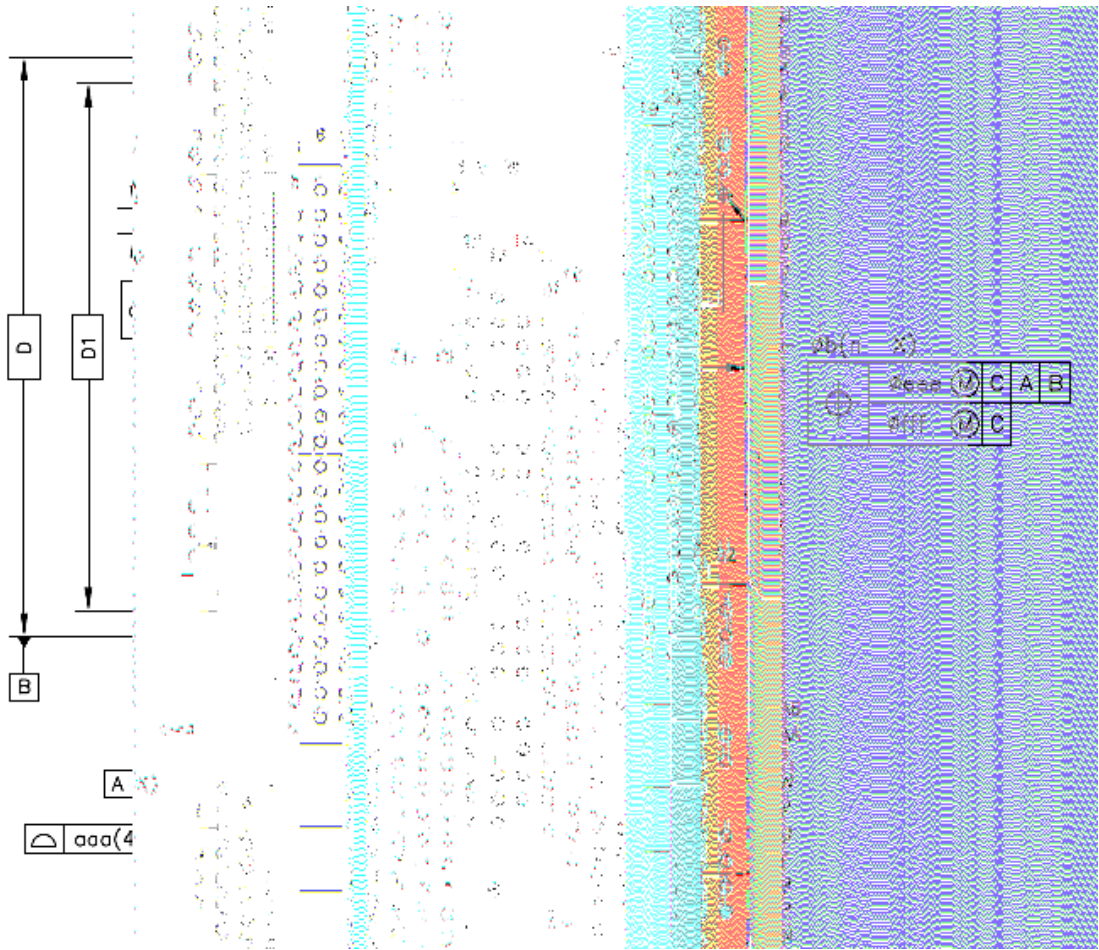


Figure 2. Pin Assignments (Bottom View)

\* + , ( - . %  
/ 01023""1

\* + , ( - . %  
/ 0 1 2 3 " " ' 1

|                  |                  |              |                       |                      |
|------------------|------------------|--------------|-----------------------|----------------------|
| <b>6FH%AG\$%</b> | <b>6FH%A0K""</b> | <b>8)5 %</b> | <b>/ "00JH%E0IJ""</b> | <b>/ "2PLFQ1FGH%</b> |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |
|                  |                  |              |                       |                      |



\* + , ( - . %  
/ 01023""1

| 6FH%AG% | 6FH%A0K"% | 8)5% | / "00JH%E0IJ"% | / "2PLFQ1FGH% |
|---------|-----------|------|----------------|---------------|
|         |           |      |                |               |
|         |           |      |                |               |

| 6FH%AG% | 6FH%A0K"% | 8)5% | / "00JH%E0IJ"% | / "2PLFQ1FGH% |
|---------|-----------|------|----------------|---------------|
|         |           |      |                |               |
|         |           |      |                |               |
|         |           |      |                |               |
|         |           |      |                |               |

\* + , ( - . %  
/ 0 1 2 3 " " ' 1

[illegible]

\* + , ( - . %  
/ 01023""1

\* + , ( - . %  
/ 01023""1

\* + , ( - . %  
/ 01023""1

\* + , ( - . %  
/ 0 1 2 3 " " ' 1

| 6FH%AG\$% | 6FH%A0K""% | 8)5 % | / "00Jl1%E0lJ""% | / "2PLFQ1FGH% |
|-----------|------------|-------|------------------|---------------|
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |
|           |            |       |                  |               |

---

6FH%AG\$%

| 6FH%AG\$ | 6FH%A0K"% | 8)5% | / "00JH%E0IJ"% | / "2PLFQ1FGH% |
|----------|-----------|------|----------------|---------------|
|          |           |      |                |               |
|          |           |      |                |               |
|          |           |      |                |               |
|          |           |      |                |               |
|          |           |      |                |               |
|          |           |      |                |               |

\* + , ( - . %  
/ 01023""1

---

|          |            |       |                |               |
|----------|------------|-------|----------------|---------------|
| 6FH%AG\$ | 6FH%A0K "" | 8)5 % | / "00JH%E0IJ"" | / "2PLFQ1FGH% |
|----------|------------|-------|----------------|---------------|

-\$ <M21"K%9IGN0I%! "2GJLP"2%

Table 2. Power Supply Specification

|  |
|--|
|  |
|--|

Table 4. DC Characteristics

| <MKNGI% |  | + FHS% | ;MQ\$% | + 0\ \$% | @HF1% | / "2PLFQ1FGH% |
|---------|--|--------|--------|----------|-------|---------------|
|         |  |        |        |          |       |               |
|         |  |        |        |          |       |               |

Table 6. Crystal Requirements for the AM8275

|         |                         |           |          |           |
|---------|-------------------------|-----------|----------|-----------|
| <MKNGI% | / "2PLFQ1FGH)4GH[F1FGH% | + FHFKJK% | ;MQFP0I% | + 091358I |
|---------|-------------------------|-----------|----------|-----------|

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Figure

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Table 10. Power-On Reset Trigger Level

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, \$ / / ! % 4 GH1LGII"L%@HF1%

!

[illegible]

### Table 12. DCU Block External Pin Mux Table

[illegible]

[illegible]

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| T0ΠAJKN"L | / / ! S | / / ! W |
|-----------|---------|---------|
|           |         |         |
|           |         |         |
|           |         |         |
|           |         |         |

---

\* + , ( - .

Table 15. Boot Device Selection

| ! 5 + %<"I"PfGH% | TGG1%4G[ "% | T 5 5 ; `<>=% | 9 685 `W,% | 9 685 `WY% |
|------------------|-------------|---------------|------------|------------|
|                  |             |               |            |            |
|                  |             |               |            |            |
|                  |             |               |            |            |
|                  |             |               |            |            |
|                  |             |               |            |            |

&' \$ " + + 4%4GH1LGII"L%

---

---

&&\$

&(\$ : FV3Z<Q"" [%@\* ! ; %

---

&S\$ 6 "LFQ3"L0I2%  
%

&S\$(\$&\$ R"01JL"2

&S\$(\$(\$ @\* ! ; %TIGPU%>\1"LH0I%6FH% / "2PLFQ1FGH%

Table 20. UART Block External Pin Description

| 6FH%A0K "" | ;MQ"" | / "2PLFQ1FGH% |
|------------|-------|---------------|
|            |       |               |
|            |       |               |

&S\$S\$&\$ R"01JL"2%

&S\$W\$(\$ 8 ! % ! a%TIGPU%>\1"LH0I%6FH% / "2PLFQ1FGH%

Table 22. IR RX Block External Pin Description

|            |        |               |
|------------|--------|---------------|
| 6FH%A0K""% | ;MQ""% | / "2PLFQ1FGH% |
|------------|--------|---------------|

&S\$, \$\$ R"01JL"2%

&S\$, \$( \$ <K0L1%4 0L [ %4 GH1LGII"L%> \1"LH0I%6FH% / "2PLFQ1FGH%

Table 24. Smart Card Controller External Pin Description

| 6FH%A0K""% | ;MQ""% | / "2PLFQ1FGH% |
|------------|--------|---------------|
|            |        |               |
|            |        |               |
|            |        |               |
|            |        |               |





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&.\$ : / + 8%;L0H2KF11"L%

Table 27. HDMI Block External Pin Description

| 6FH%A0K"% | 8)5% | / "2PLFQ1FGH% |
|-----------|------|---------------|
|           |      |               |
|           |      |               |
|           |      |               |

---

&X\$ \* J [FGZ8H%8H1"L00P"%

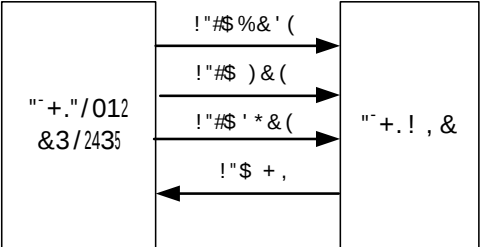


Figure 6. I2S Audio-In Master Mode Interface Configuration

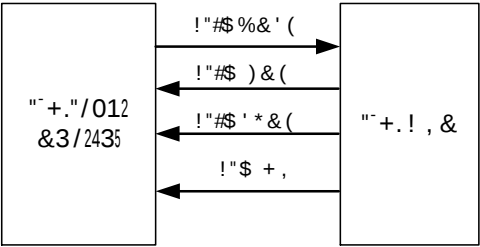


Figure 7. I2S Audio-In Slave Mode Interface Configuration

Table 28. Audio-In Block External Pin Description

| 6FH%A0K""% | ;MQ""% | / "2PLFQ1FGH% |
|------------|--------|---------------|
|            |        |               |
|            |        |               |
|            |        |               |
|            |        |               |

&-\$ \* J [FGZ 5 J1%8H1"L00P"%

---



&,\$ 648%>\QL"22%(\$' %

Table 30. PCI Express 2.0 Block External Pin Description

|           |               |        |               |
|-----------|---------------|--------|---------------|
| 6FH%A0K"% | 85%<10H[0L[ % | ;MQ""% | / "2PLFQ1FGH% |
|-----------|---------------|--------|---------------|



&Y\$ >13"LH"1%4GH1LGII"L%

Table 31. Ethernet 10/100/1000M Block External Pin Description

|           |       |  |
|-----------|-------|--|
| 6FH%A0K"" | ;MQ"" |  |
|-----------|-------|--|

**Figure 11. Relationship of PCIe and Ethernet Block**

**Figure 12. Typical Gigabit Ethernet Application**

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\* + , ( - . %

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(&\$ ;L0H2QGL1% + G[ JI"%

(( \$ 40L [% ! " 0 [ " L % 4 GH1LGII " L %

Table 34. Card Reader Block External Pin Description

| 6FH%A0K"" | ;MQ"" | / "2PLFQ1FGH |
|-----------|-------|--------------|
|           |       |              |
|           |       |              |
|           |       |              |
|           |       |              |
|           |       |              |

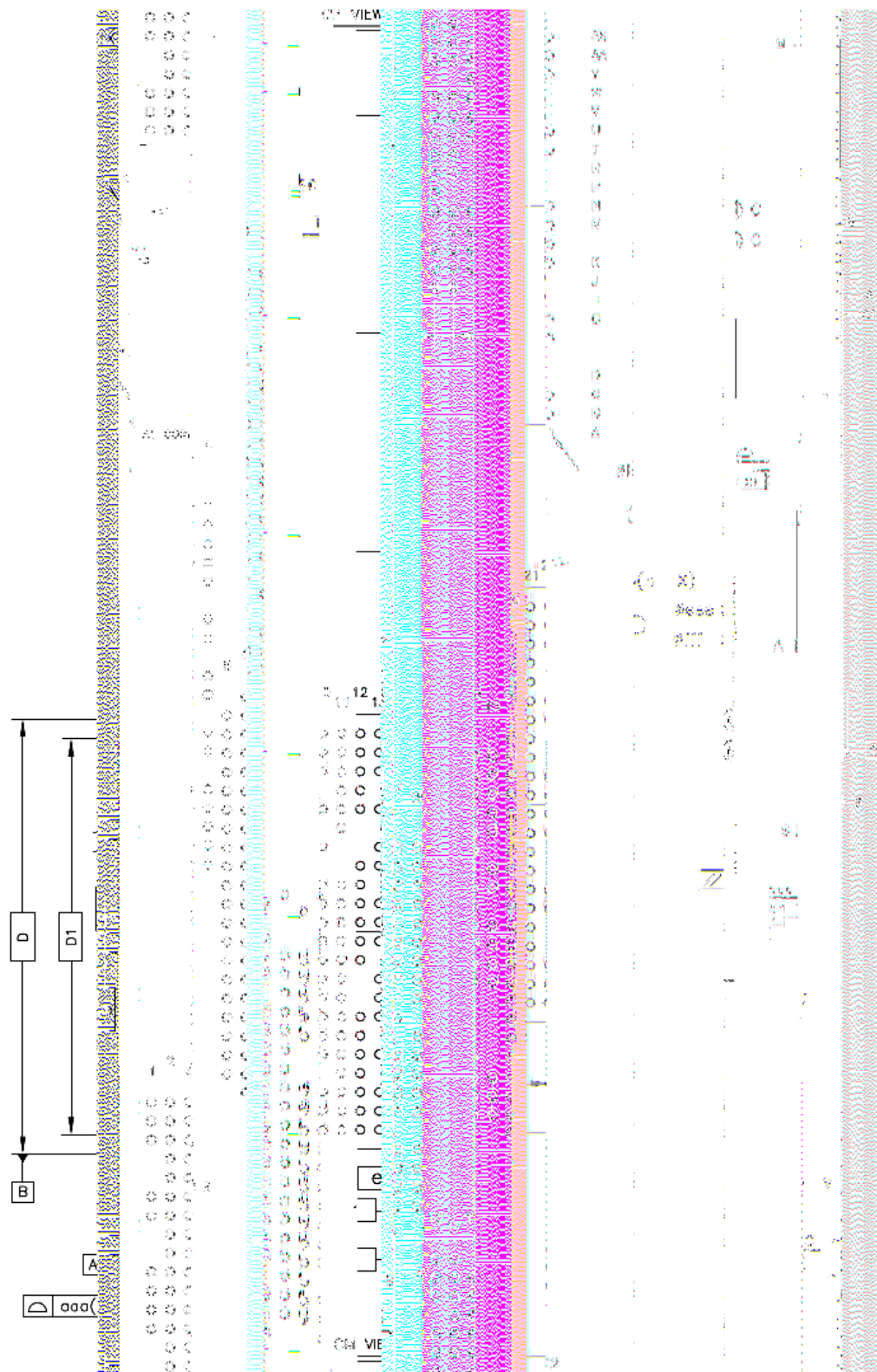
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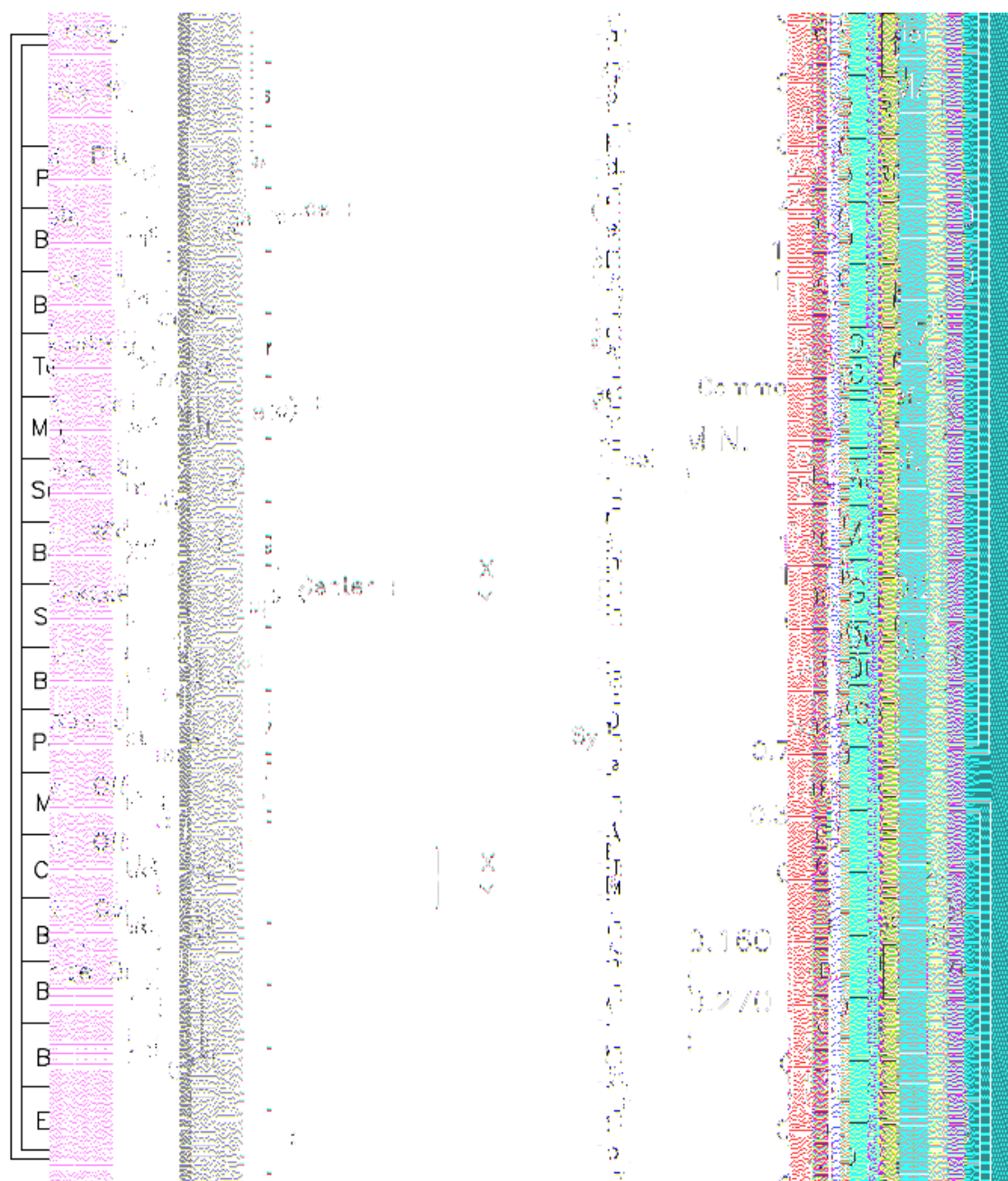
(S\$ < / 85 %

(W\$ <GI[ "LFHV% ! "0IG ] %6LG0FI"%

Table 36. Classification Reflow Profile

| 6LG0FI""R"01JL"" | 6NZRL""*22"KNIM% |
|------------------|------------------|
|                  |                  |
|                  |                  |
|                  |                  |
|                  |                  |





(X\$ 5 L [ "LFHV%8H0GLK01FGH%

Table 37. Ordering Information