###### **MTX-HSMC-160**

###### **High Speed Mezzanine**

###### **Connector**

###### **Adapter Board**

###### Rev 0

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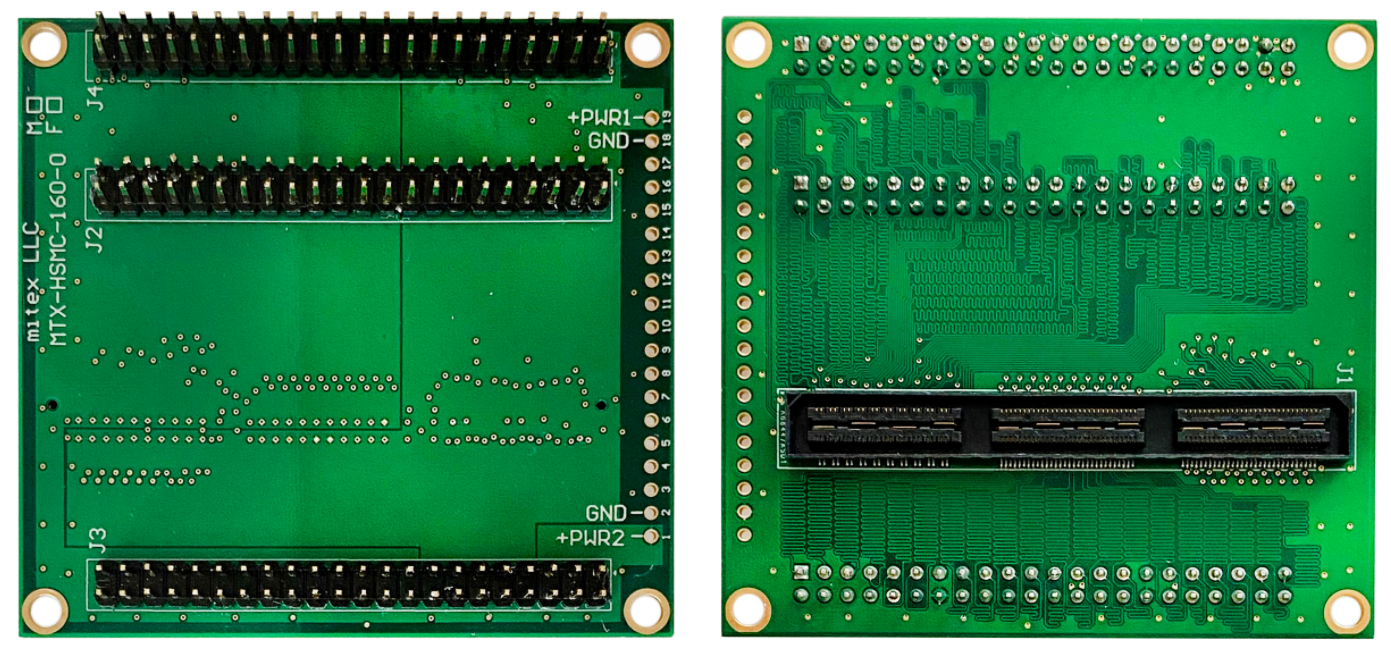
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# Overview

The MTX-HSMC-160-0 is designed to convert its High-Speed Mezzanine connector I/O from 160 pins to three 44 pins, which results in 2 rows measured 0.1” (2.54mm).



**Figure 1. MTX-HSMC-160-0** **board top and back side view. Female version.**

# Key specifications

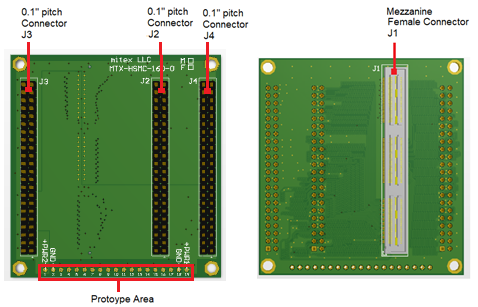
* Uses three standard, two-row, 44-pin headers
* Each header is dedicated to one of the three banks of the HSMC
* Headers have a pitch of 2.54 mm (0.1 in)
* Equally sized data traces ensure optimal signal integrity
* Prototyping area with plated holes for creating small circuits when debugging hardware
* Dimensions: 7.3 x 6.8 x 1.3 cm

# Targeted application

Any application that requires a bridging between an HSMC interface to the standard 0.1” pitch connector.

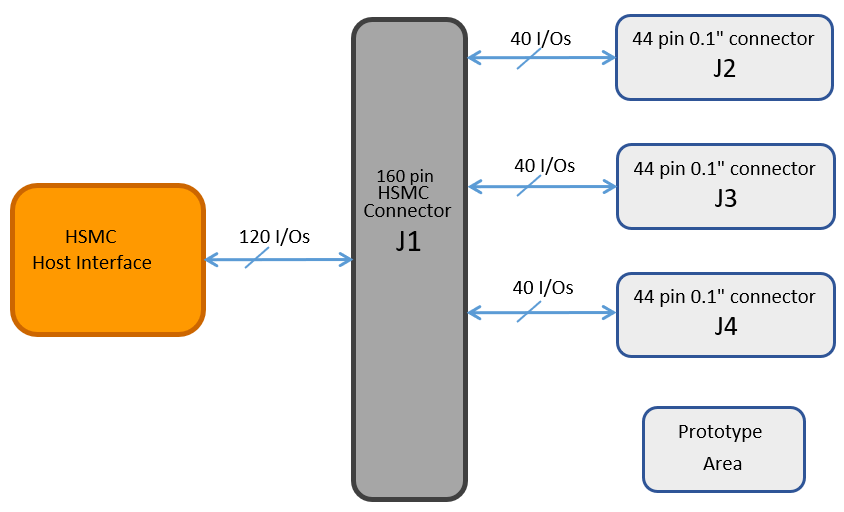
# Architecture

Figure 2 depicts the layout of the board and indicates the locations of the connectors.



**Figure 2. MTX-HSMC-160-0** **top and back side of female version**

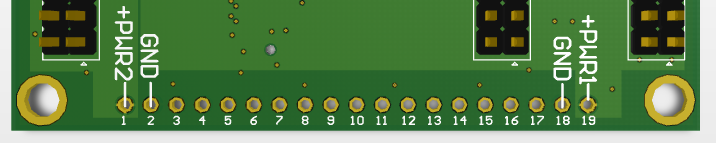
Figure 3 shows the block diagram of the MTX-HSMC-160-0 board.



**Figure 3. MTX-HSMC-160-0** **block diagram**

# Protype area

Figure 4 shows the prototype area’s detailed view of the MTX-HSMC-160-0 board. Its holes are plated with a diameter measured 1mm.



**Figure 4. MTX-HSMC-160-0** **protype area**

Each area’s holes have connections as follows:

Hole 1: +PWR2

Hole 2: GND

Holes 3-17: no connections

Hole 18: GND

Hole 19: +PWR1

# Connection Tables

Table 1 contains the Bank 1 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the MTX-HSMC-160-0 board.

**Table 1. Bank 1 connections**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J2** | **HSMC connector**  **J1** | **Connector**  **J2** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J2** |
| 1 | 1 | 21 | 23 | +PWR1 |  | 13 |
| 2 | 2 | 22 | 24 | +PWR2 |  | 31 |
| 3 | 3 | 23 | 25 | Gnd | 161 | 14 |
| 4 | 4 | 24 | 26 | Gnd | 162 | 32 |
| 5 | 5 | 25 | 27 | Gnd | 163 |  |
| 6 | 6 | 26 | 28 | Gnd | 164 |  |
| 7 | 7 | 27 | 29 |  |  |  |
| 8 | 8 | 28 | 30 |  |  |  |
| 9 | 9 | 29 | 33 |  |  |  |
| 10 | 10 | 30 | 34 |  |  |  |
| 11 | 11 | 31 | 35 |  |  |  |
| 12 | 12 | 32 | 36 |  |  |  |
| 13 | 15 | 33 | 37 |  |  |  |
| 14 | 16 | 34 | 38 |  |  |  |
| 15 | 17 | 35 | 39 |  |  |  |
| 16 | 18 | 36 | 40 |  |  |  |
| 17 | 19 | 37 | 41 |  |  |  |
| 18 | 20 | 38 | 42 |  |  |  |
| 19 | 21 | 39 | 43 |  |  |  |
| 20 | 22 | 40 | 44 |  |  |  |

Table 2 contains the Bank 2 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the MTX-HSMC-160-0 board.

**Table 2. Bank 2 connections**

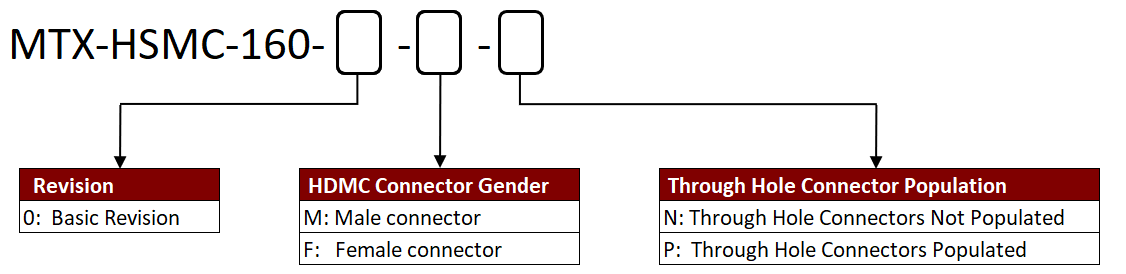
|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J3** | **HSMC connector**  **J1** | **Connector**  **J3** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J3** |
| 41 | 1 | 77 | 27 | +PWR1 | 45 | 13 |
| 42 | 2 | 78 | 28 | +PWR1 | 51 |  |
| 43 | 3 | 79 | 29 | +PWR1 | 57 |  |
| 44 | 4 | 80 | 30 | +PWR1 | 63 |  |
| 47 | 5 | 83 | 33 | +PWR1 | 69 |  |
| 48 | 6 | 84 | 34 | +PWR1 | 75 |  |
| 49 | 7 | 85 | 35 | +PWR1 | 81 |  |
| 50 | 8 | 86 | 36 | +PWR1 | 87 |  |
| 53 | 9 | 89 | 37 | +PWR1 | 93 |  |
| 54 | 10 | 90 | 38 | +PWR1 | 99 |  |
| 55 | 11 | 91 | 39 | +PWR2 | 46 | 31 |
| 56 | 12 | 92 | 40 | +PWR2 | 52 |  |
| 59 | 15 | 95 | 41 | +PWR2 | 58 |  |
| 60 | 16 | 96 | 42 | +PWR2 | 64 |  |
| 61 | 17 | 97 | 43 | +PWR2 | 70 |  |
| 62 | 18 | 98 | 44 | +PWR2 | 76 |  |
| 65 | 19 |  |  | +PWR2 | 82 |  |
| 66 | 20 |  |  | +PWR2 | 88 |  |
| 67 | 21 |  |  | +PWR2 | 94 |  |
| 68 | 22 |  |  | +PWR2 | 100 |  |
| 71 | 23 |  |  | Gnd | 165 | 14 |
| 72 | 24 |  |  | Gnd | 166 | 32 |
| 73 | 25 |  |  | Gnd | 167 |  |
| 74 | 26 |  |  | Gnd | 168 |  |

Table 3 contains the Bank 3 connection information of the signals and power/ground mechanisms found in the HSMC and 0.1” pitch connectors of the MTX-HSMC-160-0 board.

**Table 3. Bank 3 connections**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **HSMC connector**  **J1** | **Connector**  **J4** | **HSMC connector**  **J1** | **Connector**  **J4** | **Power/Gnd** | **HSMC connector**  **J1** | **Connector**  **J4** |
| 101 | 1 | 137 | 27 | +PWR1 | 105 | 13 |
| 102 | 2 | 138 | 28 | +PWR1 | 111 |  |
| 103 | 3 | 139 | 29 | +PWR1 | 117 |  |
| 104 | 4 | 140 | 30 | +PWR1 | 123 |  |
| 107 | 5 | 143 | 33 | +PWR1 | 129 |  |
| 108 | 6 | 144 | 34 | +PWR1 | 135 |  |
| 109 | 7 | 145 | 35 | +PWR1 | 141 |  |
| 110 | 8 | 146 | 36 | +PWR1 | 147 |  |
| 113 | 9 | 149 | 37 | +PWR1 | 153 |  |
| 114 | 10 | 150 | 38 | +PWR1 | 159 |  |
| 115 | 11 | 151 | 39 | +PWR2 | 106 | 31 |
| 116 | 12 | 152 | 40 | +PWR2 | 112 |  |
| 119 | 15 | 155 | 41 | +PWR2 | 118 |  |
| 120 | 16 | 156 | 42 | +PWR2 | 124 |  |
| 121 | 17 | 157 | 43 | +PWR2 | 130 |  |
| 122 | 18 | 158 | 44 | +PWR2 | 136 |  |
| 125 | 19 |  |  | +PWR2 | 142 |  |
| 126 | 20 |  |  | +PWR2 | 148 |  |
| 127 | 21 |  |  | +PWR2 | 154 |  |
| 128 | 22 |  |  | +PWR2 | 160 |  |
| 131 | 23 |  |  | Gnd | 169 | 14 |
| 132 | 24 |  |  | Gnd | 170 | 32 |
| 133 | 25 |  |  | Gnd | 171 |  |
| 134 | 26 |  |  | Gnd | 172 |  |

# Ordering information



# Revision history

|  |  |  |
| --- | --- | --- |
| **Date** | **Version** | **Revision** |
| 7/22/2020 | 0 | Original revision |
|  |  |  |
|  |  |  |

# Disclaimer

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