

# OKI Semiconductor

## MSM9810 EVA BOARD

### MSM9810 Evaluation Board

#### GENERAL DESCRIPTION

The MSM9810 Evaluation Board enables you to readily evaluate your sound data quality and debug your control software. The board can accommodate up to 16 Mbit (4 Mbit × 4) user-programmed ROMs and be controlled by an external MCU board (optional) via on-board 20-pin connector.

Further, the on-board 50-pin connector allows you to add an Expansion ROM Board for evaluation of data larger than 16 Mbit.

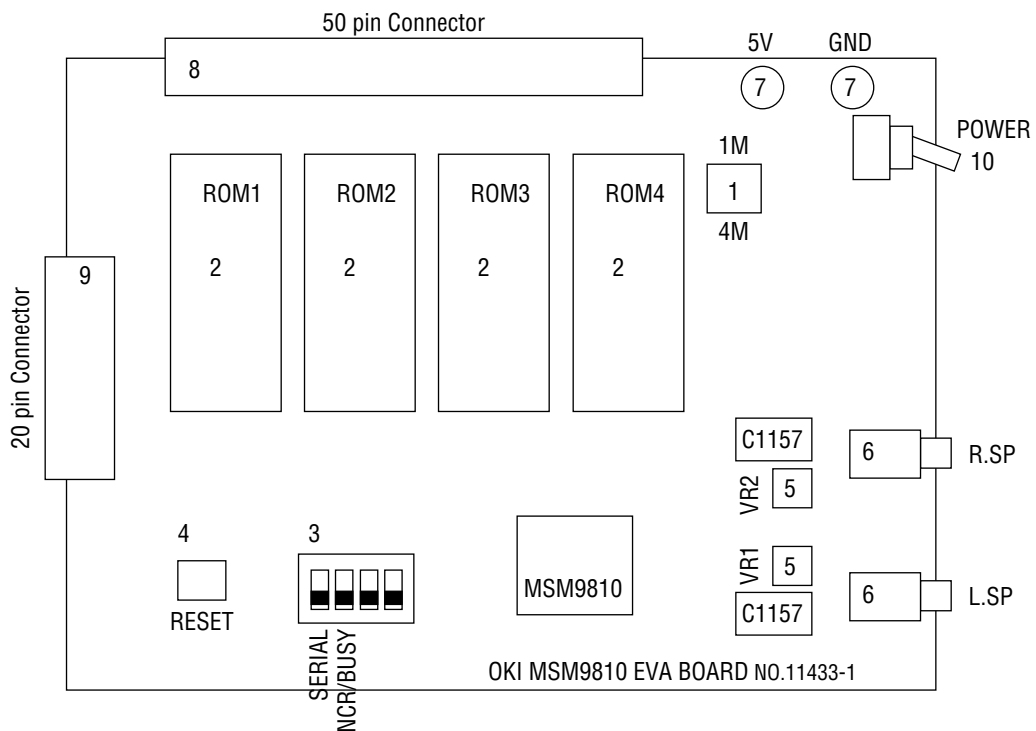
#### NOTICE TO USERS

This document is prepared to describe the specification of the MSM9810 Evaluation Board. For the specification of MSM9810 commercial product, see OKI Data Book on Speech LSI.

The MCU board that can be connected to the on-board connector with 20-wire flat cable is also available for controlling the MSM9810 Evaluation Board. Please contact your local distributor if you plan to use one.

#### BOARD LAYOUT (TOP VIEW)

For further information on parts 1 to 10 mounted on the board, see "FUNCTIONAL DESCRIPTION" on the following page.



## FUNCTIONAL DESCRIPTION

- (1) ROM Size Jumpers  
1 Mbit or 4 Mbit CMOS EPROM can be used for evaluation. Select the upper pair of these 3 jumpers for 1 Mbit EPROM, or the lower pair for 4 Mbit EPROM.
- (2) EPROM Sockets  
EPROMs programmed by using OKI Speech Analyzer & Editor tool can be inserted to these sockets, from ROM1 (left) to ROM4 (right) in sequential order. After mounting EPROMs, set Textool's rock levers to rock position.
- (3) Dip Switch (4-unit)
  1. SERIAL  
You can select a type of input/output interface for the external MCU.  
Set this switch to ON if you want to use a serial input interface, or set to OFF if you want to use a parallel input interface.
  2. NCR/BUSY  
You can select the output signal for channel status data.  
With this switch at On position NCR signal is output, while at OFF position BUSY signal is output.
  3. Not in use.
  4. Not in use.
- (4) RESET Switch  
This switch is connected to the RESET pin of the MSM9810. You must initialize the board by pushing the button after powering up.
- (5) VR1 and VR2 (Amplifier Sound Level Control)  
Turn left for higher sound level, or turn right for lower sound level.
- (6) R.SP and L.SP (Speaker Jacks)  
Connect the right channel speaker to R.SP and the left channel speaker to L.SP.
- (7) Power Supply Pins (5V, GND.)  
Power supply pins. Use the board within the recommended operating voltage range.

## (8) 50-pin Connector

The connector for the Expansion ROM Board. The following list shows connector pin No. and the corresponding signal symbol.

| Connector pin No. | Signal Symbol   | Connector pin No. | Signal Symbol |
|-------------------|-----------------|-------------------|---------------|
| 1                 | V <sub>DD</sub> | 26                | A11           |
| 2                 | V <sub>DD</sub> | 27                | A12           |
| 3                 | V <sub>DD</sub> | 28                | A13           |
| 4                 | NC              | 29                | A14           |
| 5                 | D0              | 30                | A15           |
| 6                 | D1              | 31                | A16           |
| 7                 | D2              | 32                | A17           |
| 8                 | D3              | 33                | A18           |
| 9                 | D4              | 34                | A19           |
| 10                | D5              | 35                | A20           |
| 11                | D6              | 36                | A21           |
| 12                | D7              | 37                | A22           |
| 13                | NC              | 38                | A23           |
| 14                | NC              | 39                | NC            |
| 15                | A0              | 40                | NC            |
| 16                | A1              | 41                | NC            |
| 17                | A2              | 42                | NC            |
| 18                | A3              | 43                | NC            |
| 19                | A4              | 44                | NC            |
| 20                | A5              | 45                | NC            |
| 21                | A6              | 46                | NC            |
| 22                | A7              | 47                | NC            |
| 23                | A8              | 48                | GND           |
| 24                | A9              | 49                | GND           |
| 25                | A10             | 50                | GND           |

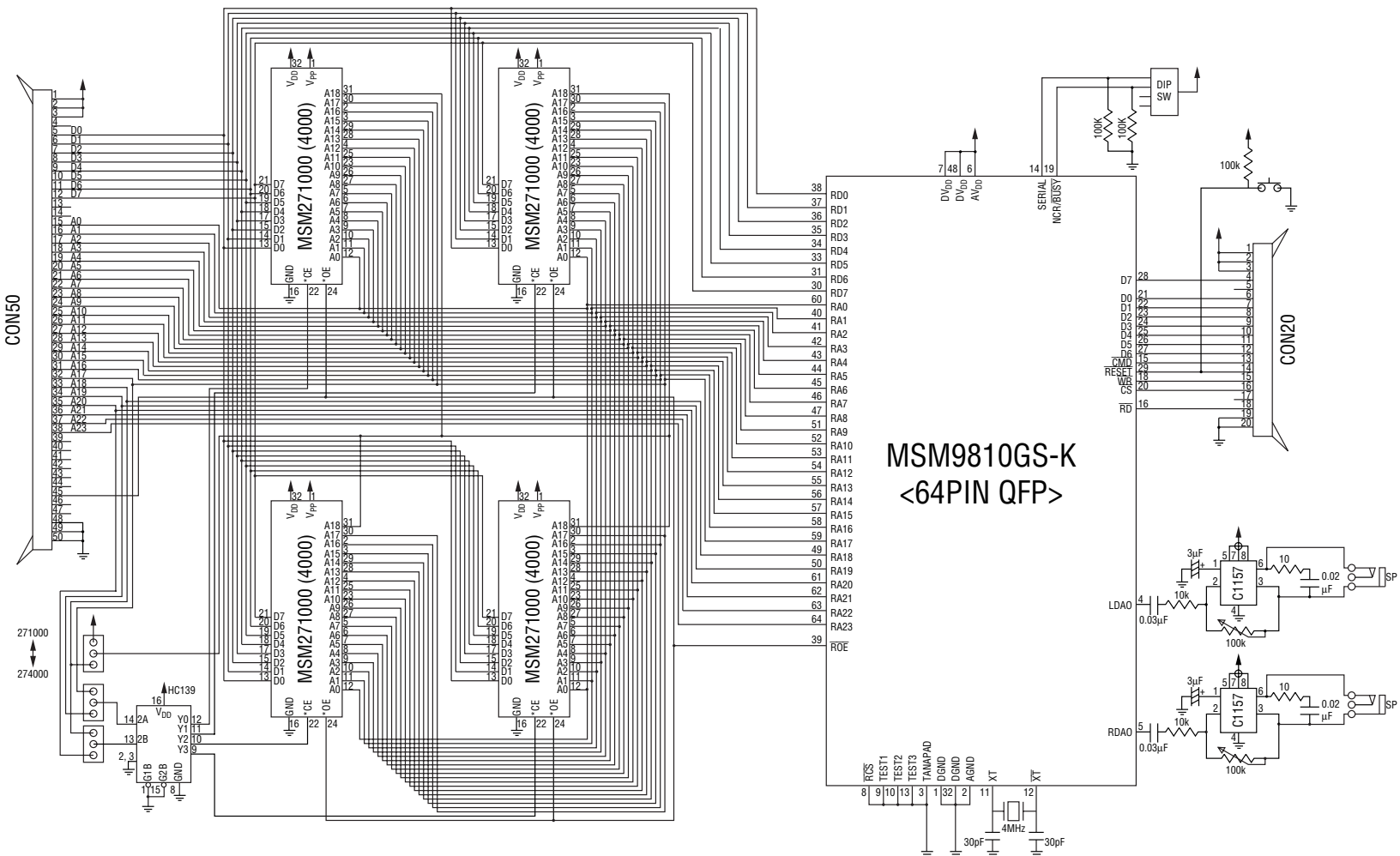
## (9) 20-pin Connector

The connector for the External MCU Board. The following list shows connector pin No. and the corresponding signal symbol.

| Connector pin No. | Signal Symbol   | Connector pin No. | Signal Symbol             |
|-------------------|-----------------|-------------------|---------------------------|
| 1                 | V <sub>DD</sub> | 11                | D5                        |
| 2                 | V <sub>DD</sub> | 12                | D6                        |
| 3                 | V <sub>DD</sub> | 13                | $\overline{\text{CMD}}$   |
| 4                 | D7              | 14                | $\overline{\text{RESET}}$ |
| 5                 | NC              | 15                | $\overline{\text{WR}}$    |
| 6                 | D0              | 16                | $\overline{\text{CS}}$    |
| 7                 | D1              | 17                | NC                        |
| 8                 | D2              | 18                | $\overline{\text{RD}}$    |
| 9                 | D3              | 19                | GND                       |
| 10                | D4              | 20                | GND                       |

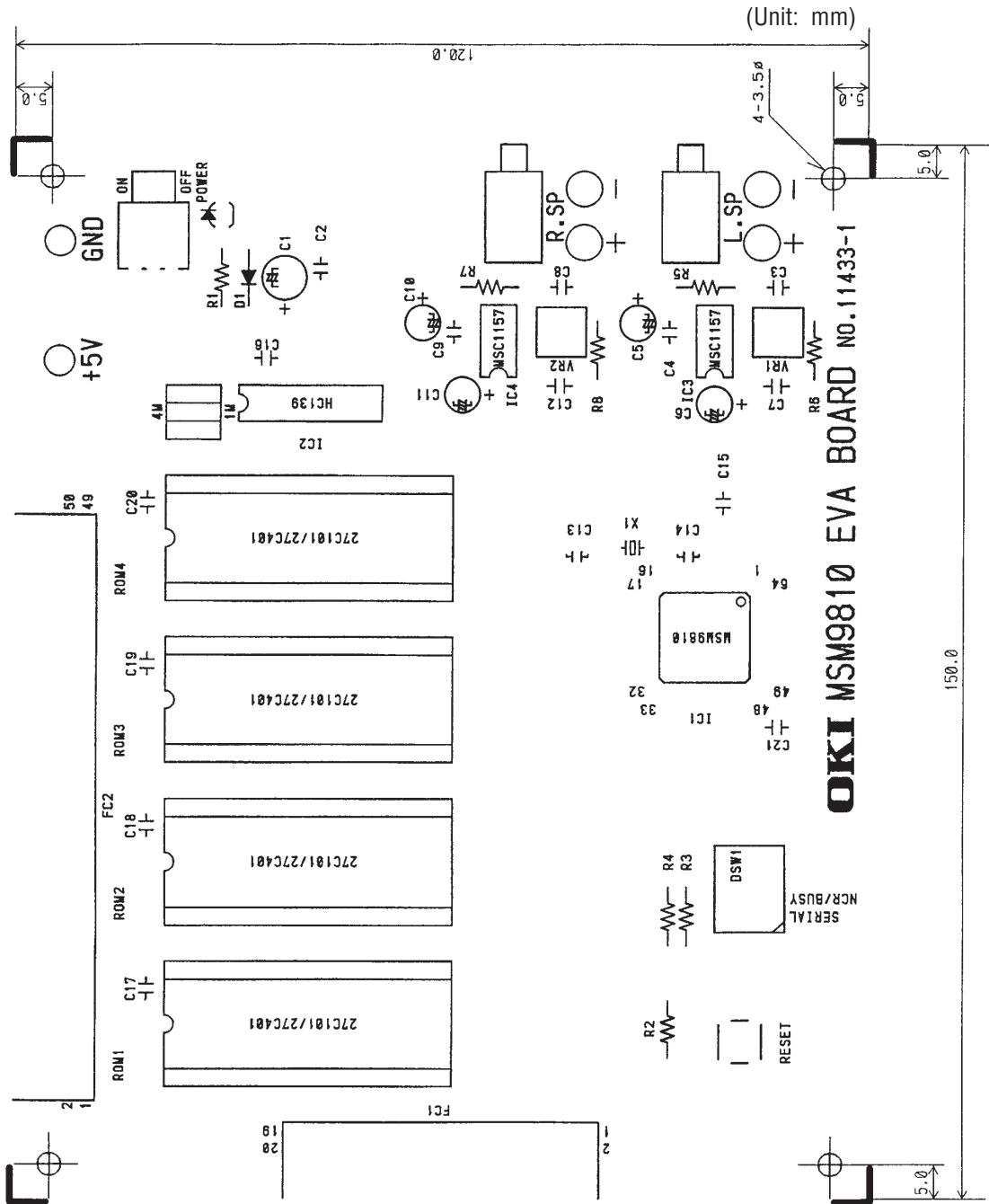
## (10) POWER Switch

CIRCUIT DIAGRAM

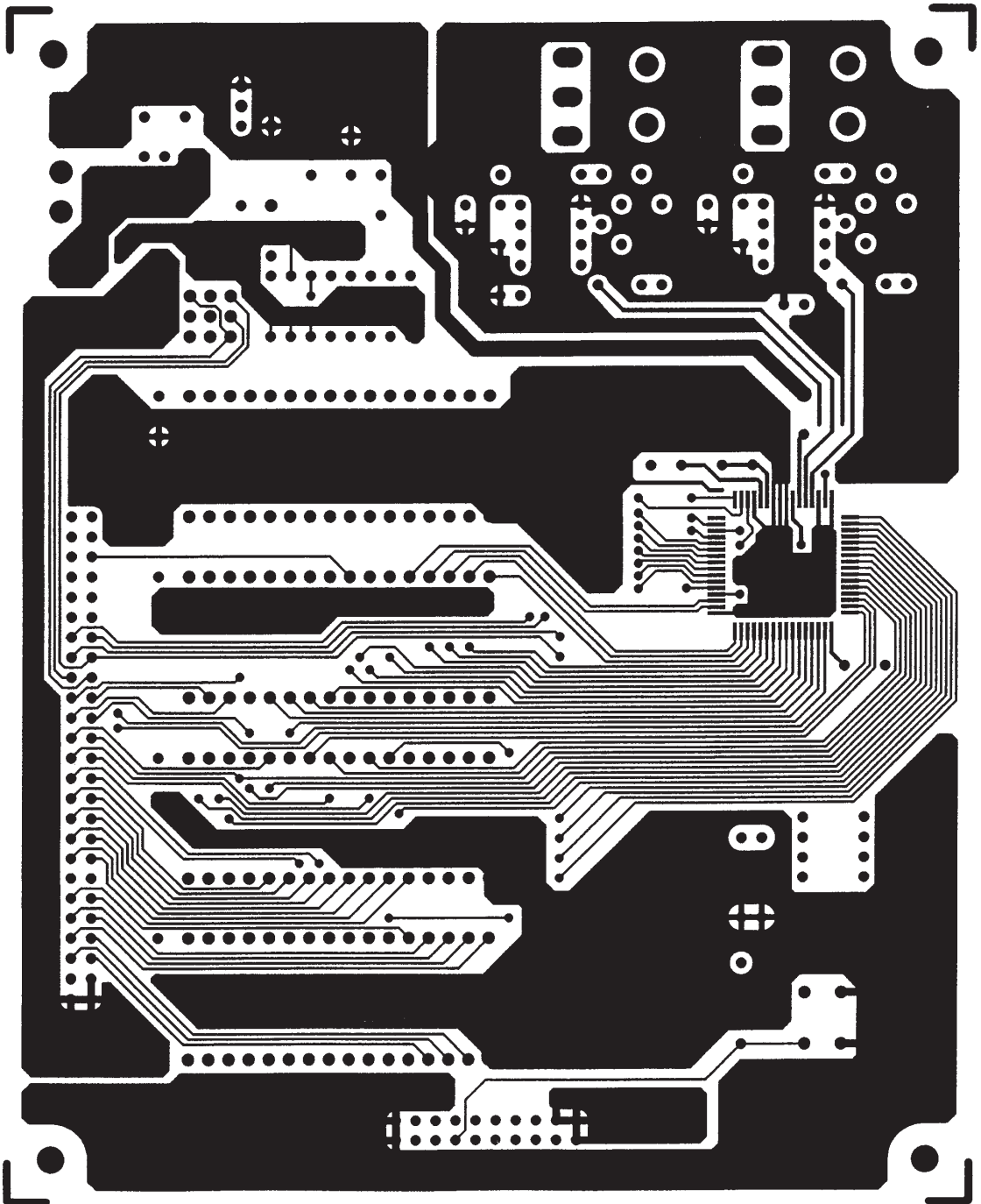


PATTERN LAYOUT

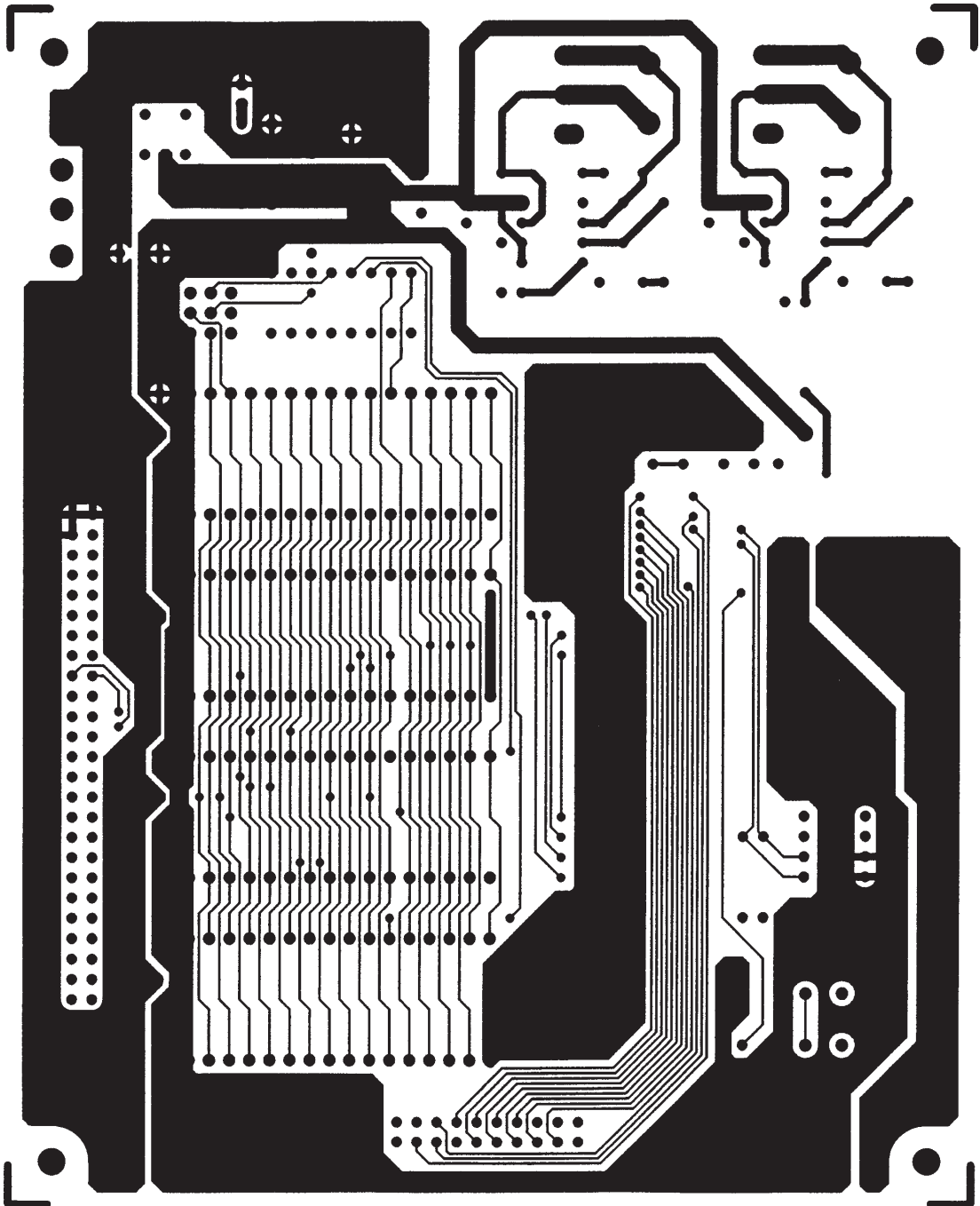
Silk Screen



Mounting Side



Solder Side





NOTICE

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