OKI Semiconductor

MSM9836 DEMO BOARD

MSM9836 Demonstration Board
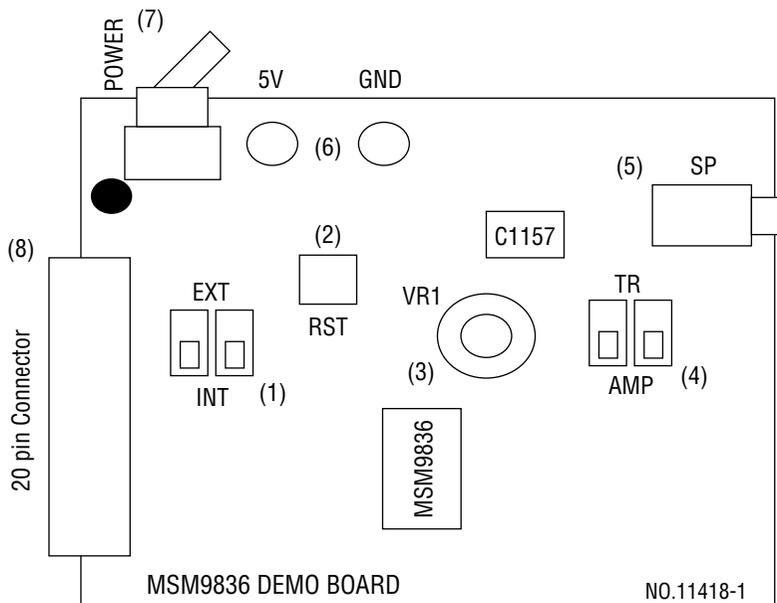
GENERAL DESCRIPTION

The MSM9836 Demonstration Board enables you to readily evaluate your sound data quality and debug your control software by controlling the board through the external MCU board (optional). Two types of board are available; one with on-board sample chip containing general-purpose ROM codes, the other with 24-pin SOP socket for user-programmed data evaluation.

NOTICE TO USERS

This document is prepared to describe the specification of the MSM9836 Demonstration Board. For the specification of MSM9836 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 MSM9836 Demonstration Board. Please contact your local distributor if you plan to use one.

BOARD LAYOUT (TOP VIEW)

For further information on parts 1 to 8 mounted on the board, see "FUNCTIONAL DESCRIPTION" on the following page.

FUNCTIONAL DESCRIPTION

(1) Oscillation Selector (2-unit)

Select either on-board oscillator or external clock for MSM9836 to use as a timing source. You need to set both switches to the same position. With these switches at INT position, the MSM9836 is in ceramic oscillation mode and driven by the on-board ceramic oscillator. While at EXT position the LSI is in external clock mode and uses the external clock signal supplied via 20-pin connector.

(2) RESET Switch

This switch is connected to the RESET pin of the MSM9836. You must initialize the board by pushing the button after powering up.

(3) VR1 (Amplifier Sound Level Control)

Turn left for higher sound level, or turn right for lower sound level.

(4) Speaker Driver Selector (2-unit)

Select a driver for an external speaker. You need to set both switches to the same position. With these switches at AMP position, the speaker is driven by the C1157, a dynamic speaker amplifier chip, mounted on the Demonstration Board, while at TR position, on-boartd TR driver is used for amplificaiton.

(5) SP (Speaker Jack)

Connect an external speaker to this jack.

(6) Power Supply Pins (5V, GND.)

Power supply pins. Use the board within the recommended operating voltage range.
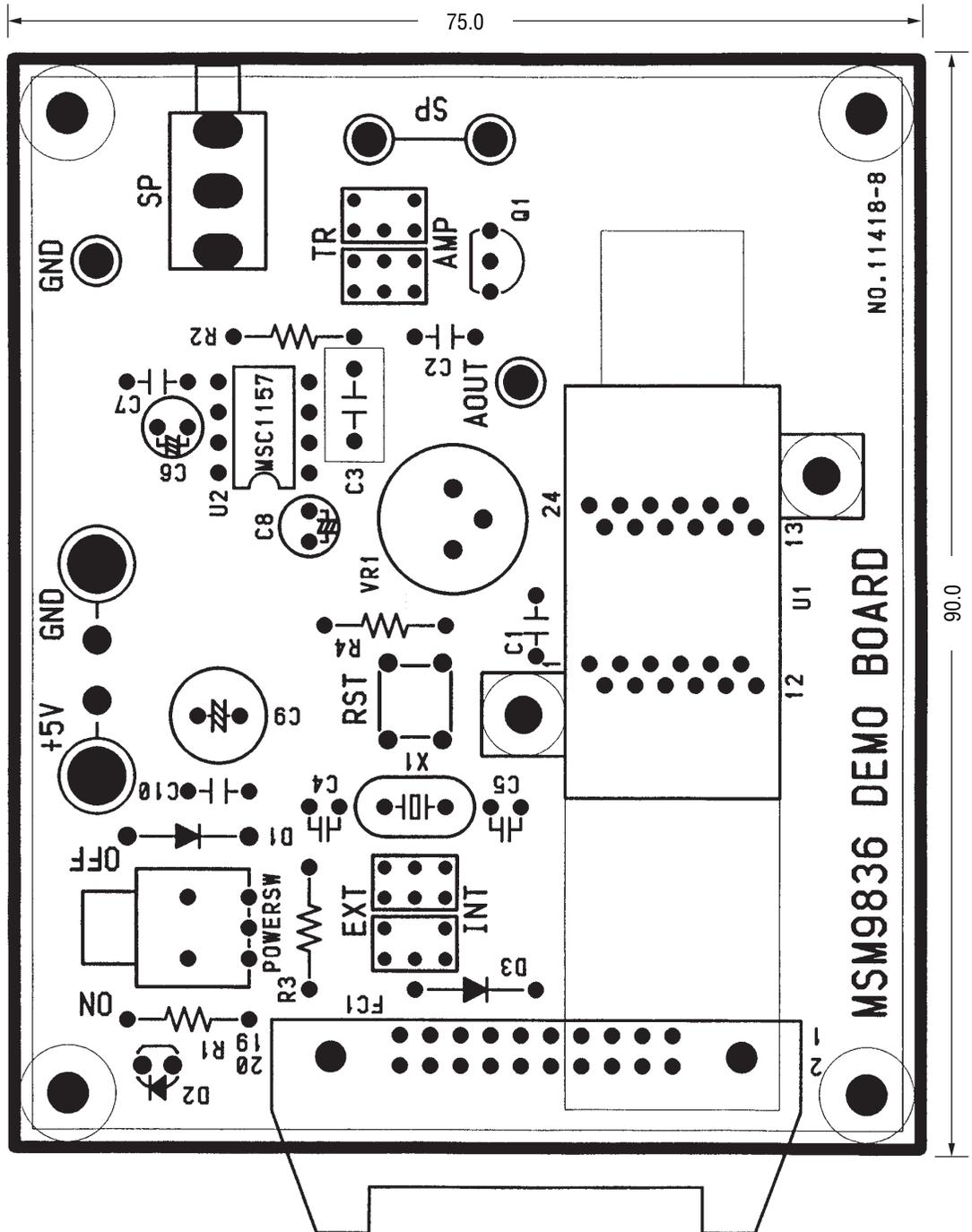
(7) POWER Switch

(8) 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_{DD}	11	I5
2	V_{DD}	12	I6
3	V_{DD}	13	XT
4	$\overline{\text{EXTCK}}$	14	$\overline{\text{RESET}}$
5	$\overline{\text{BUSY}}$	15	$\overline{\text{ST}}$
6	I0	16	$\overline{\text{TEST}}$
7	I1	17	NAR
8	I2	18	GND
9	I3	19	GND
10	I4	20	GND

R1=5.1KΩ
R2=240Ω
R3,R4=100KΩ
VR1=100KΩ

C1,C7,C10=0.1μF
C2=0.01μF
C3=47nF
C4,C5=30pF
C6=10μF
C8=4.7μF
C9=220μF

X1: 4.096MHz
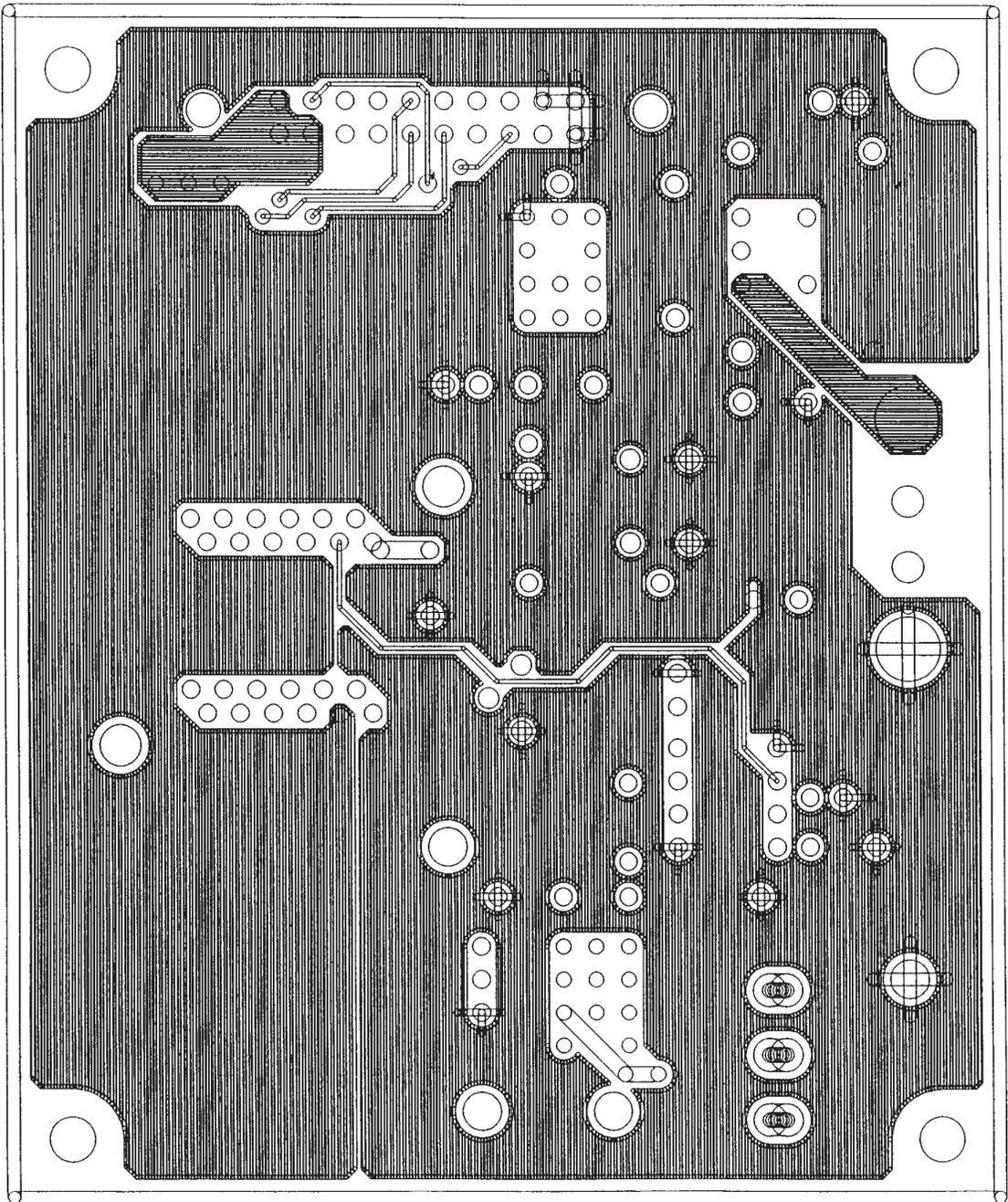
Q1: HIT8050
    or 2SD467

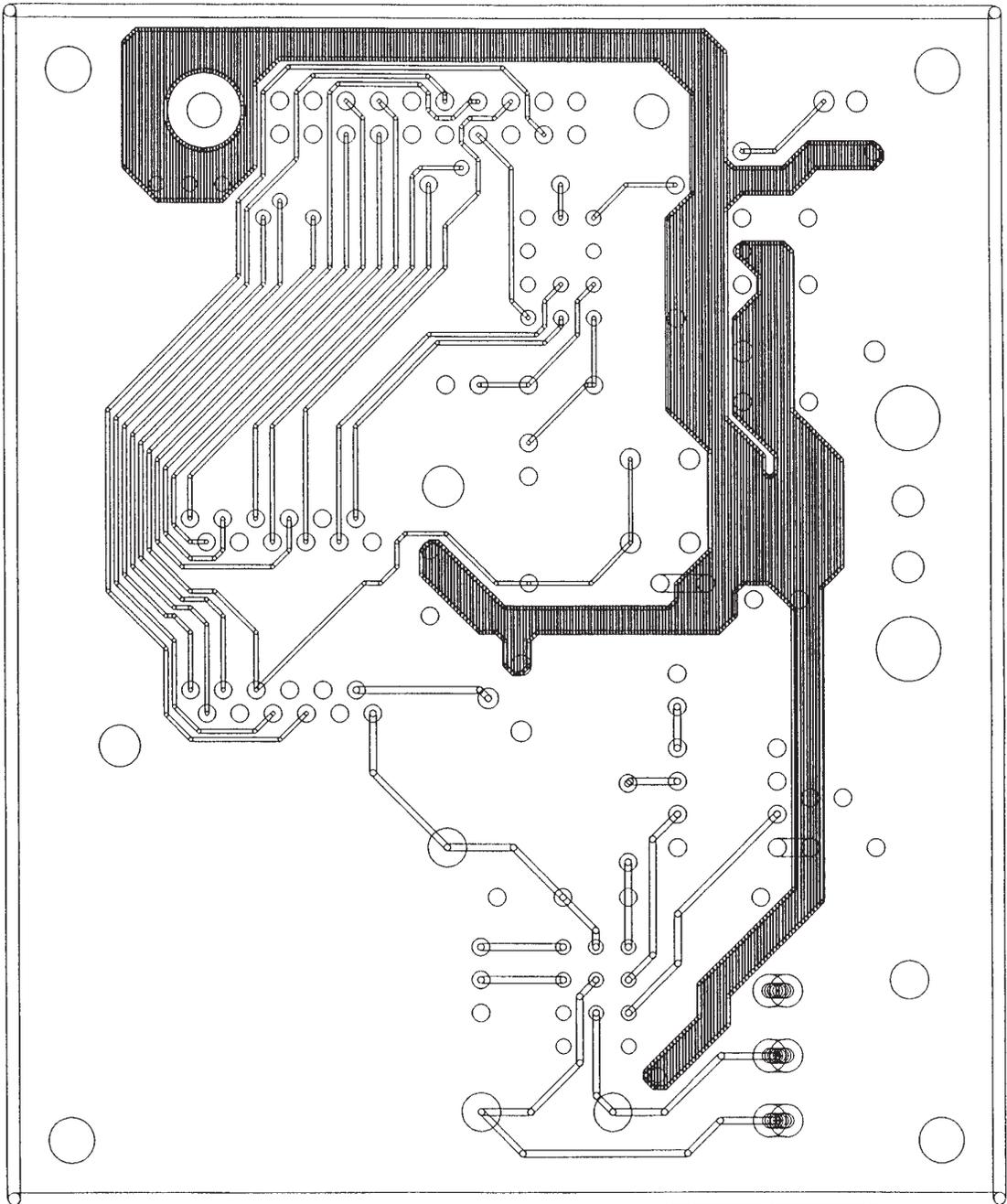D1: 10D1

PATTERN LAYOUT

Silk Screen

(Unit: mm)

Mounting Side

Solder Side

NOTICE

1. The information contained herein can change without notice owing to product and/or technical improvements. Before using the product, please make sure that the information being referred to is up-to-date.

2. The outline of action and examples for application circuits described herein have been chosen as an explanation for the standard action and performance of the product. When planning to use the product, please ensure that the external conditions are reflected in the actual circuit, assembly, and program designs.

3. When designing your product, please use our product below the specified maximum ratings and within the specified operating ranges including, but not limited to, operating voltage, power dissipation, and operating temperature.

4. Oki assumes no responsibility or liability whatsoever for any failure or unusual or unexpected operation resulting from misuse, neglect, improper installation, repair, alteration or accident, improper handling, or unusual physical or electrical stress including, but not limited to, exposure to parameters beyond the specified maximum ratings or operation outside the specified operating range.

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