
EASY SOUND[®] EM5500S Series

**Tiny Controller-Based Speech
Synthesizer with PWM Output**

Pad Diagrams

Doc. Version 1.0

ELAN MICROELECTRONICS CORP.

January 2005



| Revision History | | |
|------------------|----------------------|------------|
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ELAN MICROELECTRONICS CORPORATION

Headquarters:

No. 12, Innovation Road 1
Science-based Industrial Park
Hsinchu, Taiwan, R.O.C. 30077
Tel: +886 3 563-9977
Fax: +886 3 563-9966
<http://www.emc.com.tw>

Hong Kong:

Elan (HK) Microelectronics Corporation, Ltd.
Rm. 1005B, 10/F Empire Centre
68 Mody Road, Tsimshatsui
Kowloon, HONG KONG
Tel: +852 2723-3376
Fax: +852 2723-7780
elanhk@emc.com.hk

USA:

Elan Information Technology Group
1821 Saratoga Ave., Suite 250
Saratoga, CA 95070
USA
Tel: +1 408 366-8223
Fax: +1 408 366-8220

Europe:

Elan Microelectronics Corp. (Europe)
Siewerdtstrasse 105
8050 Zurich, SWITZERLAND
Tel: +41 43 299-4060
Fax: +41 43 299-4079
<http://www.elan-europe.com>

Shenzhen:

Elan Microelectronics Shenzhen, Ltd.
SSMEC Bldg., 3F, Gaoxin S. Ave.
Shenzhen Hi-Tech Industrial Park
Shenzhen, Guandong, CHINA
Tel: +86 755 2601-0565
Fax: +86 755 2601-0500

Shanghai:

Elan Microelectronics Shanghai Corporation, Ltd.
23/Bldg. #115 Lane 572, Bibo Road
Zhangjiang Hi-Tech Park
Shanghai, CHINA
Tel: +86 021 5080-3866
Fax: +86 021 5080-4600



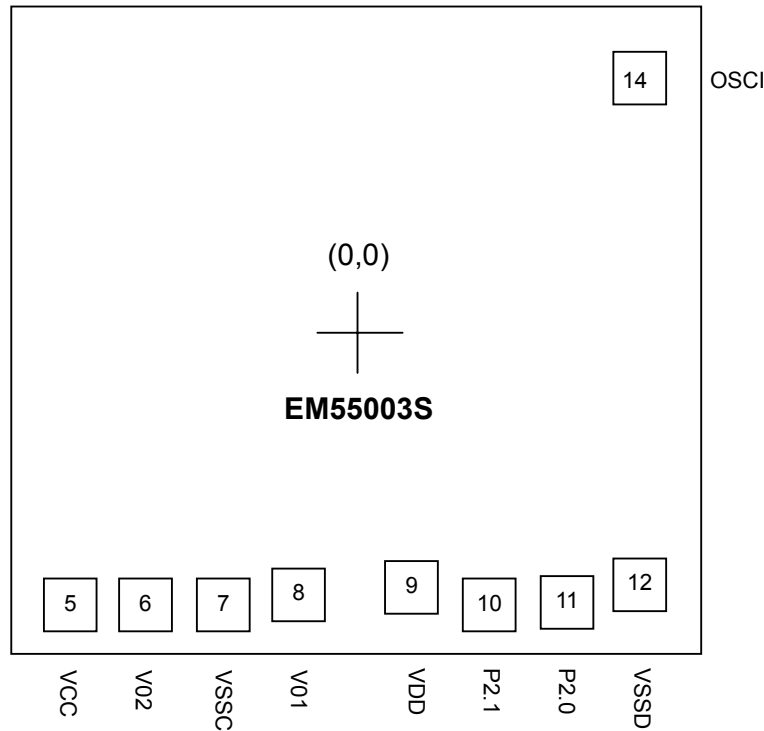
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1 Pad Diagrams

1.1 EM55003S



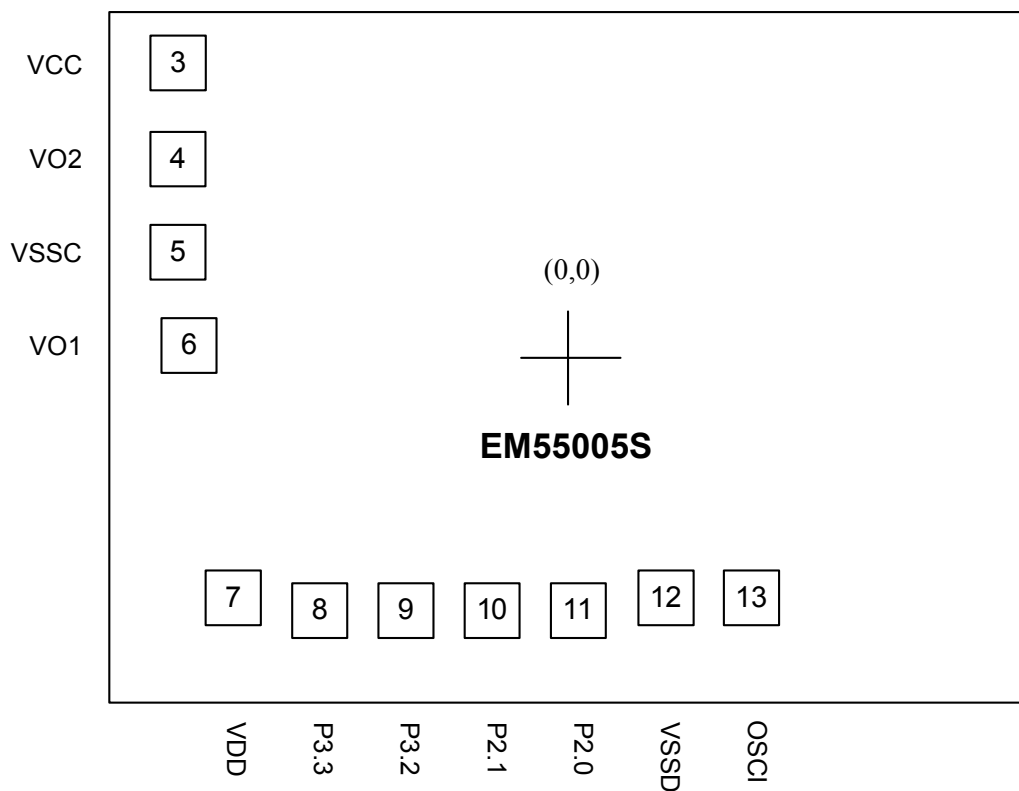
| Pin NO. | Symbol | X | Y | Pin NO. | Symbol | X | Y |
|---------|--------|--------|--------|---------|--------|-------|--------|
| 1 | NC | | | 9 | VDD | 69.2 | -368.4 |
| 2 | NC | | | 10 | P2.1 | 193.9 | -383.4 |
| 3 | NC | | | 11 | P2.0 | 318.6 | -383.4 |
| 4 | NC | | | 12 | VSSD | 443.6 | -368.4 |
| 5 | VCC | -458.9 | -397.9 | 13 | NC | | |
| 6 | VO2 | -338.9 | -397.9 | 14 | OSCI | 458.6 | 381.8 |
| 7 | VSSC | -218.9 | -397.9 | 15 | NC | | |
| 8 | VO1 | -98.9 | -397.9 | 16 | NC | | |

Chip size: 1180 * 1100 μ m

For PCB layout, IC substrate must be connected to VSS (negative power).

- NOTE:**
1. VO1/VO2 should be floating or connected to VSS when not in use.
 2. VSSD & VSSC should be connected together with VSS.
 3. VCC & VDD should be of the same level with the positive power voltage.

1.2 EM55005S

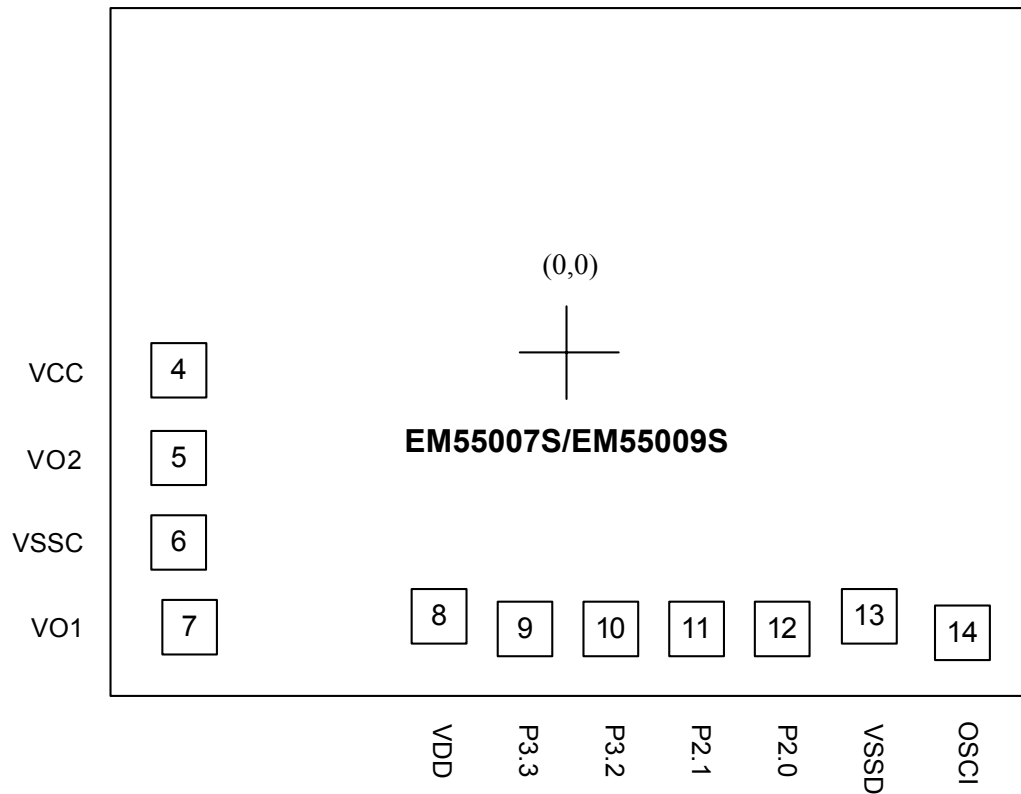


| Pin NO. | Symbol | X | Y | Pin NO. | Symbol | X | Y |
|---------|--------|--------|--------|---------|--------|-------|--------|
| 1 | NC | | | 10 | P2.1 | -96.4 | -354.4 |
| 2 | NC | | | 11 | P2.0 | 28.3 | -354.4 |
| 3 | VCC | -544.0 | 399.1 | 12 | VSSD | 153.3 | -339.4 |
| 4 | VO2 | -544.0 | 279.1 | 13 | OSCl | 296.5 | -341.3 |
| 5 | VSSC | -544.0 | 159.1 | 14 | NC | | |
| 6 | VO1 | -523.9 | 39.1 | 15 | NC | | |
| 7 | VDD | -470.5 | -339.4 | 16 | NC | | |
| 8 | P3.3 | -345.8 | -354.4 | 17 | NC | | |
| 9 | P3.2 | -221.1 | -354.4 | 18 | NC | | |

Chip size: 1400 * 1050 μm

For PCB layout, IC substrate must be connected to VSS (negative power).

- NOTE:**
1. VO1/VO2 should be floating or connected to VSS when not in use.
 2. VSSD & VSSC should be connected together with VSS.
 3. VCC & VDD should be of the same level with the positive power voltage.

1.3 EM55007S/EM55009S


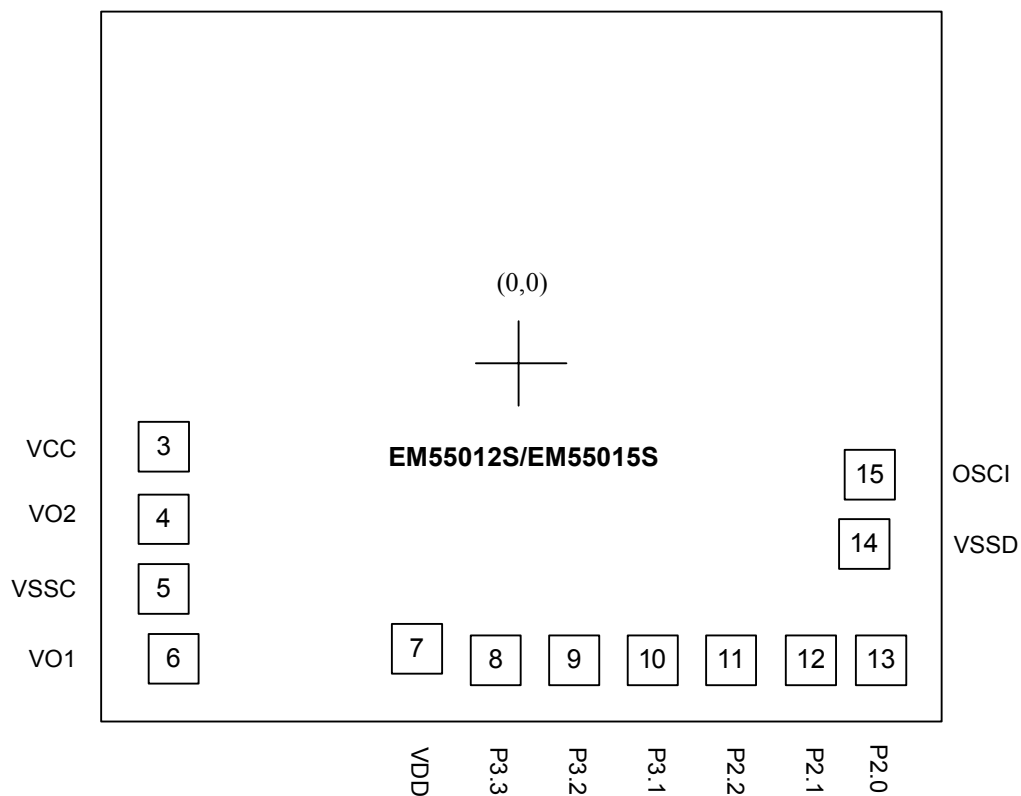
| Pin NO. | Symbol | X | Y | Pin NO. | Symbol | X | Y |
|---------|--------|--------|--------|---------|--------|-------|--------|
| 1 | NC | | | 9 | P3.3 | -28.0 | -378.4 |
| 2 | NC | | | 10 | P3.2 | 96.7 | -378.4 |
| 3 | NC | | | 11 | P2.1 | 221.4 | -378.4 |
| 4 | VCC | -632.4 | -27.9 | 12 | P2.0 | 346.1 | -378.4 |
| 5 | VO2 | -632.4 | -147.9 | 13 | VSSD | 475.8 | -363.4 |
| 6 | VSSC | -632.4 | -267.9 | 14 | OSCI | 624.8 | -378.4 |
| 7 | VO1 | -612.4 | -387.9 | 15 | NC | | |
| 8 | VDD | -148.0 | -363.4 | 16 | NC | | |

Chip size: 1560 * 1100 μm

For PCB layout, IC substrate must be connected to VSS (negative power).

- NOTE:**
1. VO1/VO2 should be floating or connected to VSS when not in use.
 2. VSSD & VSSC should be connected together with VSS.
 3. VCC & VDD should be of the same level with the positive power voltage.

1.4 EM55012S/EM55015S



| Pin NO. | Symbol | X | Y | Pin NO. | Symbol | X | Y |
|---------|--------|--------|--------|---------|--------|-------|--------|
| 1 | NC | | | 9 | P3.2 | 126.5 | -478.4 |
| 2 | NC | | | 10 | P3.1 | 251.2 | -478.4 |
| 3 | VCC | -630.0 | -130.9 | 11 | P2.2 | 375.9 | -478.4 |
| 4 | VO2 | -630.0 | -250.9 | 12 | P2.1 | 500.6 | -478.4 |
| 5 | VSSC | -630.0 | -370.9 | 13 | P2.0 | 625.3 | -478.4 |
| 6 | VO1 | -610.0 | -490.9 | 14 | VSSD | 588.4 | -286.2 |
| 7 | VDD | -118.2 | -463.4 | 15 | OSCI | 603.4 | -137.2 |
| 8 | P3.3 | 1.8 | -478.4 | 16 | NC | | |

Chip size: 1540 * 1290 μm

For PCB layout, IC substrate must be connected to VSS (negative power).

- NOTE:**
1. VO1/VO2 should be floating or connected to VSS when not in use.
 2. VSSD & VSSC should be connected together with VSS.
 3. VCC & VDD should be of the same level with the positive power voltage.