

Product Catalogue

Memory ICs

2020-2021



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S-24C02D/04D/08D/16D

2-WIRE SERIAL E²PROM

Features

- Operation voltage range
 - Read: 1.7 V to 5.5 V
 - Write: 1.7 V to 5.5 V
- Operation frequency:
 - 1.0 MHz max. ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
 - 400 kHz max. ($V_{CC} = 1.7\text{ V to }5.5\text{ V}$)
- Write time: 5.0 ms max.
- Page write
 - S-24C02D: 8 bytes / page
 - S-24C04D: 16 bytes / page
 - S-24C08D: 16 bytes / page
 - S-24C16D: 16 bytes / page
- Sequential read
- Noise suppression:
 - Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during low power supply voltage
- Endurance: 10^6 cycle / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity
 - S-24C02D: 2 K-bit
 - S-24C04D: 4 K-bit
 - S-24C08D: 8 K-bit
 - S-24C16D: 16 K-bit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: $T_a = -40^\circ\text{C to }+85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free

Package	S-24C02D	S-24C04D	S-24C08D	S-24C16D
8-Pin SOP (JEDEC)	1 A0 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 NC 4 GND 5 SDA 6 SCL 7 WP 8 VCC
8-Pin TSSOP	1 A0 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 NC 4 GND 5 SDA 6 SCL 7 WP 8 VCC
TMSOP-8	1 A0 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 NC 4 GND 5 SDA 6 SCL 7 WP 8 VCC
DFN-8(2030)	1 A0 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 NC 4 GND 5 SDA 6 SCL 7 WP 8 VCC
SNT-8A	1 A0 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 A1 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 A2 4 GND 5 SDA 6 SCL 7 WP 8 VCC	1 NC 2 NC 3 NC 4 GND 5 SDA 6 SCL 7 WP 8 VCC
SOT-23-5	1 SCL 2 GND 3 SDA 4 VCC 5 WP	1 SCL 2 GND 3 SDA 4 VCC 5 WP	1 SCL 2 GND 3 SDA 4 VCC 5 WP	1 SCL 2 GND 3 SDA 4 VCC 5 WP

*1. For each address (Word: 8-bit)

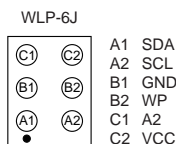
S-24C08C (WLP PRODUCT)

2-WIRE SERIAL E²PROM

Features

- Operating voltage range Read: 1.6 V to 5.5 V
Write: 1.7 V to 5.5 V
- Page write: 16 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 1.6 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 8 K-bit
- Write protect: 100%
- Initial delivery data: FFh
- Lead-free, halogen-free

*1. For each address (Word: 8-bit)



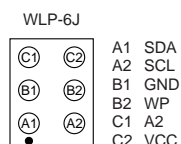
S-24C16C (WLP PRODUCT)

2-WIRE SERIAL E²PROM

Features

- Operating voltage range Read: 1.6 V to 5.5 V
Write: 1.7 V to 5.5 V
- Page write: 16 bytes / page
- Sequential read
- Operation frequency: 400 kHz (1.6 V to 5.5 V)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 16 K-bit
- Write protect: 100%
- Initial delivery data: FFh
- Lead-free, halogen-free

*1. For each address (Word: 8-bit)



S-24C32C/64C

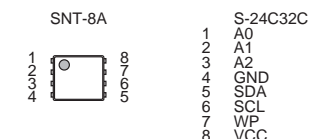
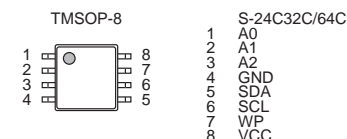
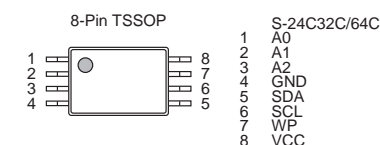
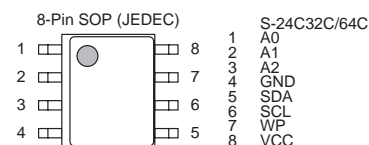
2-WIRE SERIAL E²PROM

Features

- Operating voltage range Read: 1.6 V to 5.5 V
Write: 1.7 V to 5.5 V
- Page write: 32 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 1.6 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity S-24C32C: 32 K-bit
S-24C64C: 64 K-bit
- Write protect: 100%
- Initial shipment data: FFh
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each address (Word: 8-bit)

*2. Refer to "■ Product Name Structure" for details.



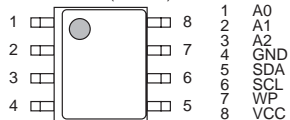
S-24C128C**2-WIRE SERIAL E²PROM****● Features**

- Operating voltage range Read: 1.6 V to 5.5 V
Write: 1.7 V to 5.5 V
- Page write: 64 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 1.6 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 128 K-bit
- Write protect: 100%
- Initial shipment data: FFh
- Lead-free (Sn 100%), halogen-free^{*2}

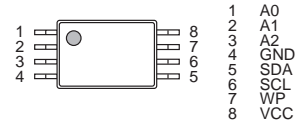
*1. For each address (Word: 8-bit)

*2. Refer to "■ Product Name Structure" for details.

8-Pin SOP (JEDEC)



8-Pin TSSOP

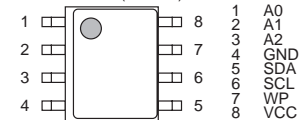
**S-24C256C****2-WIRE SERIAL E²PROM****● Features**

- Operating voltage range Read: 1.6 V to 5.5 V
Write: 1.7 V to 5.5 V
- Page write: 64 bytes / page
- Sequential read
- Operation frequency: 1.0 MHz ($V_{CC} = 2.5 \text{ V to } 5.5 \text{ V}$)
400 kHz ($V_{CC} = 1.6 \text{ V to } 2.5 \text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 256 K-bit
- Write protect: 100%
- Initial shipment data: FFh
- Lead-free (Sn 100%), halogen-free^{*2}

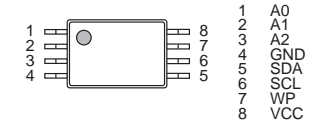
*1. For each unit (unit: the 4 bytes with the same address of W14 to W2)

*2. Refer to "■ Product Name Structure" for details.

8-Pin SOP (JEDEC)



8-Pin TSSOP



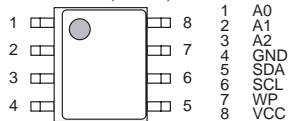
S-24C512C**2-WIRE SERIAL E²PROM****● Features**

- Operating voltage range Read: 1.6 V to 5.5 V
 Write: 1.7 V to 5.5 V
- Page write: 128 bytes / page
- Sequential read
- Operation frequency: 1.0 MHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
 400 kHz ($V_{CC} = 1.6\text{ V to }2.5\text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 512 K-bit
- Write protect: 100%
- Initial shipment data: FFh
- Lead-free (Sn 100%), halogen-free^{*2}

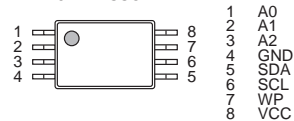
*1. For each unit (unit: the 4 bytes with the same address of W15 to W2)

*2. Refer to "■ Product Name Structure" for details.

8-Pin SOP (JEDEC)



8-Pin TSSOP

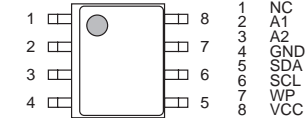
**S-24CM01C****2-WIRE SERIAL E²PROM****● Features**

- Operating voltage range Read: 1.6 V to 5.5 V
 Write: 1.7 V to 5.5 V
- Page write: 256 bytes / page
- Sequential read
- Operation frequency: 1.0 MHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
 400 kHz ($V_{CC} = 1.6\text{ V to }2.5\text{ V}$)
- Write time: 5.0 ms max.
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 1 M-bit
- Write protect: 100%
- Initial shipment data: FFh
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each unit (unit: the 4 bytes with the same address of P0, W15 to W2)

*2. Refer to "■ Product Name Structure" for details.

8-Pin SOP (JEDEC)

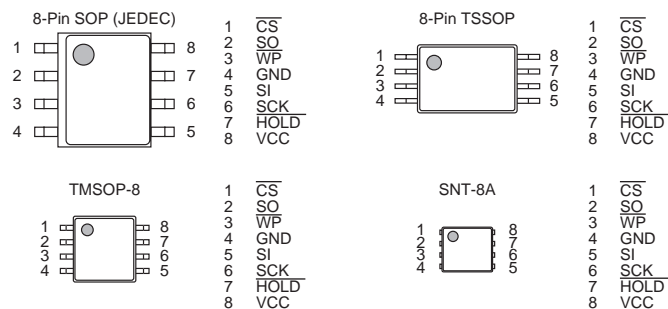


S-25C010A/020A/040A**SPI SERIAL E²PROM****Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 5.0 MHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- Write time: 4.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 16 bytes / page
- Sequential read
- Write protect: Software, Hardware
Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: S-25C010A 1 K-bit
S-25C020A 2 K-bit
S-25C040A 4 K-bit
- Initial delivery state: FFh, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to }+85^\circ\text{C}$
- Lead-free, Sn 100%, halogen-free^{*2}

*1. For each address (Word: 8-bit)

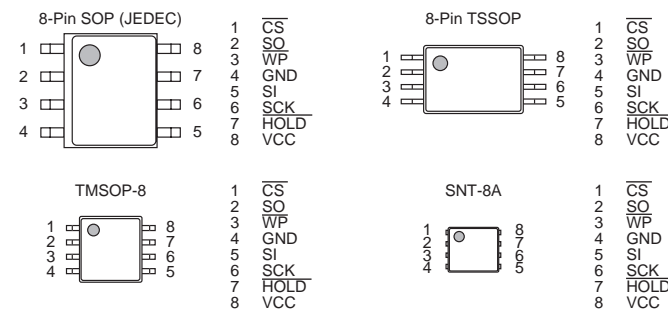
*2. Refer to "■ Product Name Structure" for details.

**S-25C080A****SPI SERIAL E²PROM****Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 5.0 MHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- Write time: 4.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 32 bytes / page
- Sequential read
- Write protect: Software, Hardware
Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 8 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to }+85^\circ\text{C}$
- Lead-free, Sn 100%, halogen-free^{*2}

*1. For each address (Word: 8-bit)

*2. Refer to "■ Product Name Structure" for details.



S-25C160A

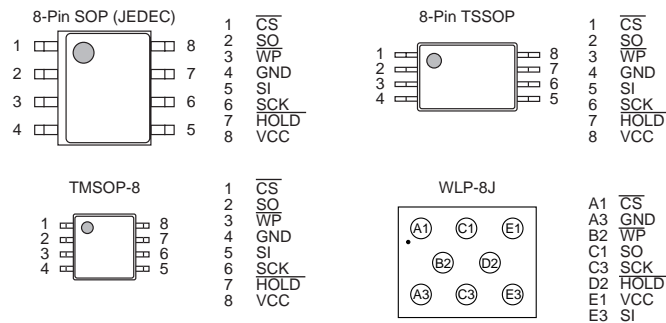
SPI SERIAL E²PROM

Features

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 5.0 MHz (V_{CC} = 2.5 V to 5.5 V)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 32 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10⁶cycles / word^{*1} (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 16 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free, Sn 100%, halogen-free^{*2}

*1. For each address (Word: 8-bit)

*2. Refer to "■ Product Name Structure" for details.



S-25C320A/640A

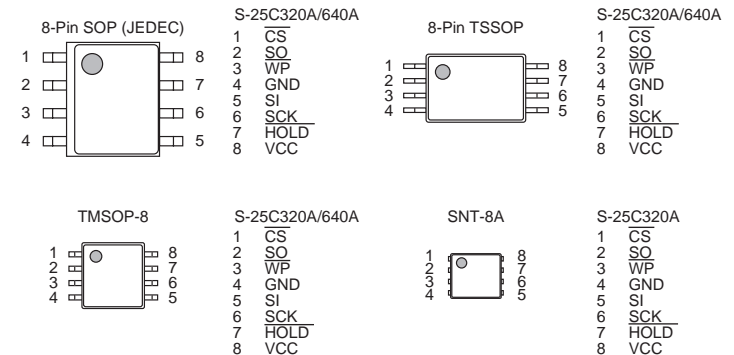
SPI SERIAL E²PROM

Features

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 5.0 MHz (V_{CC} = 2.5 V to 5.5 V)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 32 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitors Write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10⁶cycles / word^{*1} (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: S-25C320A 32 K-bit
S-25C640A 64 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each address (Word: 8-bit)

*2. Refer to "■ Product Name Structure" for details.

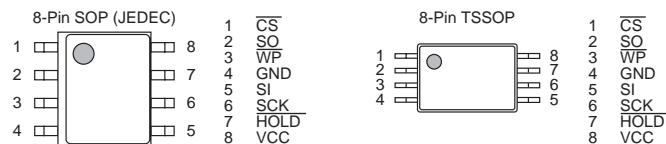


S-25C128A**SPI SERIAL E²PROM****Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 5.0 MHz ($V_{CC} = 2.5 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 64 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / word^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 128 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to } +85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each address (Word: 8-bit)

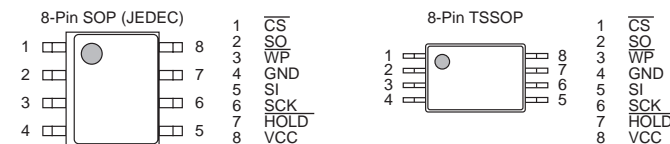
*2. Refer to "■ Product Name Structure" for details.

**S-25C256A****SPI SERIAL E²PROM****Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 10.0 MHz ($V_{CC} = 2.5 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 64 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 256 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to } +85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each unit (unit: the 4 bytes with the same address of A14 to A2)

*2. Refer to "■ Product Name Structure" for details.

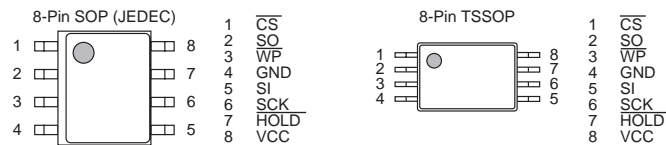


S-25C512ASPI SERIAL E²PROM**Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 10.0 MHz ($V_{CC} = 2.5 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 128 bytes / page
- Sequential read
- Write protect: Software, Hardware
Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 512 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to } +85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each unit (unit: the 4 bytes with the same address of A15 to A2)

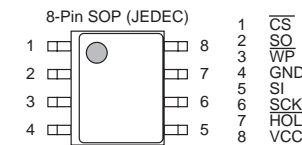
*2. Refer to "■ Product Name Structure" for details.

**S-25CM01A**SPI SERIAL E²PROM**Features**

- Operating voltage range: Read 1.6 V to 5.5 V
Write 1.7 V to 5.5 V
- Operation frequency: 10.0 MHz ($V_{CC} = 2.5 \text{ V to } 5.5 \text{ V}$)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 256 bytes / page
- Sequential read
- Write protect: Software, Hardware
Protect area: 25%, 50%, 100%
- Monitors write to the memory by a status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (\overline{CS} , SCK, SI, \overline{WP} , \overline{HOLD})
- Endurance: 10^6 cycles / unit^{*1} ($T_a = +25^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
- Memory capacity: 1 M-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: $T_a = -40^\circ\text{C to } +85^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free^{*2}

*1. For each unit (unit: the 4 bytes with the same address of A16 to A2)

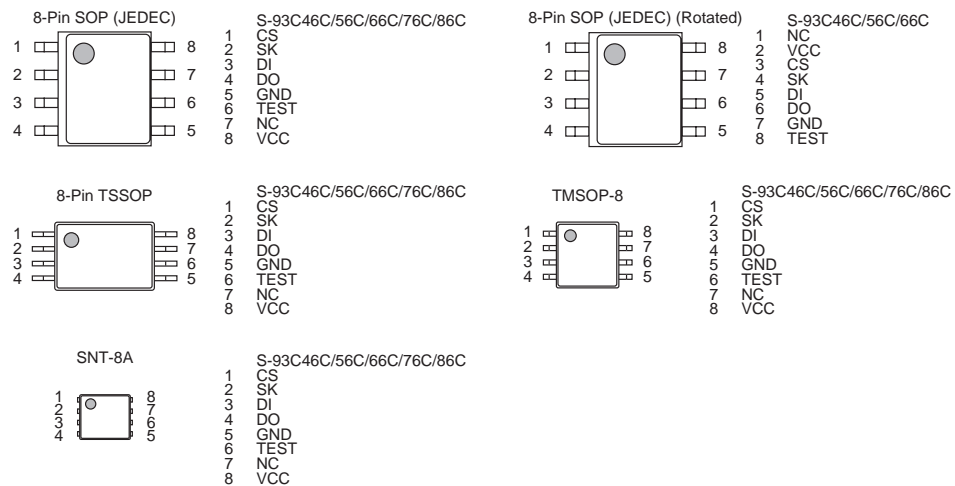
*2. Refer to "■ Product Name Structure" for details.



S-93C46C/56C/66C/76C/86C**3-WIRE SERIAL E²PROM****Features**

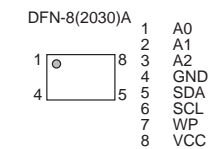
- Memory capacity
 - S-93C46C: 1 K-bit (64-word × 16-bit)
 - S-93C56C: 2 K-bit (128-word × 16-bit)
 - S-93C66C: 4 K-bit (256-word × 16-bit)
 - S-93C76C: 8 K-bit (512-word × 16-bit)
 - S-93C86C: 16 K-bit (1024-word × 16-bit)
- Operation voltage range
 - Read: 1.6 V to 5.5 V
 - Write: 1.8 V to 5.5 V
- Operation frequency: 2.0 MHz max.
- Write time: 4.0 ms max.
- Sequential read
- Write protect function during the low power supply voltage
- Function to protect against write due to erroneous instruction recognition
- Endurance: 10⁶ cycle / word*1 (Ta = +85°C)
- Data retention: 100 years (Ta = +25°C)
50 years (Ta = +85°C)
- Initial delivery state: FFFFh
- Operation temperature range: Ta = -40°C to +85°C
- Lead-free (Sn 100%), halogen-free

*1. For each address (Word: 16-bit)

**S-34C02B****2-WIRE SERIAL E²PROM
FOR DIMM SERIAL PRESENCE DETECT****Features**

- Operation voltage range
 - Read: 1.7 V to 5.5 V
 - Write: 1.7 V to 5.5 V
- Operation frequency: 400 kHz max. (V_{CC} = 1.7 V to 5.5 V)
- Write time: 5.0 ms max.
- Page write: 16 bytes / page
- Sequential read
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Write protect function during low power supply voltage
- Endurance: 10⁶ cycle / word*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 2 K-bit
- Initial delivery state: FFFh
- Operation temperature range: Ta = -40°C to +85°C
- Write protect:
 - Hardware protect 100% (addresses 00h to FFh)
 - Software protect for the lower address of 50% (addresses 00h to 7Fh)
- Lead-free (Sn 100%), halogen-free

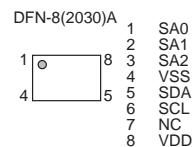
*1. For each address (Word: 8-bit)



S-34C04A**2-WIRE SERIAL E²PROM
FOR DIMM SERIAL PRESENCE DETECT****● Features**

- Page write: 16 bytes / page
- Sequential read
- Write protect function during low power supply voltage
- Write protect: Individual software data protection for each of four 128-byte blocks
- Endurance: 10⁶ cycle / word*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 4 K-bit
- Initial delivery state: FFh
- JEDEC standard compliant: EE1004-1
- Current consumption:
 - Standby mode: 3.0 μA max.
 - Read operation mode: 0.4 mA max.
 - Write operation mode: 2.0 mA max.
- Operation voltage range: 1.7 V to 3.6 V
- Operation frequency: 1.0 MHz max. (V_{DD} = 2.2 V to 3.6 V)
400 kHz max. (V_{DD} = 1.7 V to 3.6 V)
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Operation temperature range: Ta = -20°C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. For each address (Word: 8-bit)

**S-34TS04A****2-WIRE SERIAL E²PROM
WITH TEMPERATURE SENSOR
FOR DIMM SERIAL PRESENCE DETECT****● Features****E²PROM block**

- Page write: 16 bytes / page
- Sequential read
- Write protect function during low power supply voltage
- Write protect: Individual software data protection for each of four 128-byte blocks
- Endurance: 10⁶ cycle / word*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 4 K-bit
- Initial delivery state: FFh

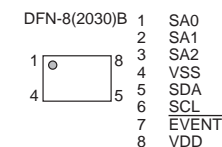
Temperature sensor block

- Temperature accuracy: 0.5°C typ. (Ta = +75°C to +95°C)
1.0°C typ. (Ta = +40°C to +125°C)
- Temperature sample rate: 8 samples / s min.
- Selectable hysteresis width: No hysteresis, 1.5°C, 3.0°C, 6.0°C

Overall

- JEDEC standard compliant: TSE2004B2
- Current consumption:
 - E²PROM in standby mode and temperature sensor in shutdown mode: 3.0 μA max.
 - E²PROM in standby mode and temperature sensor in active mode: 0.1 mA max.
 - E²PROM in read operation mode and temperature sensor in active mode: 0.4 mA max.
 - E²PROM in write operation mode and temperature sensor in active mode: 2.0 mA max.
- Operation voltage range: 2.2 V to 3.6 V
- Operation frequency: 1.0 MHz max. (V_{DD} = 2.2 V to 3.6 V)
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Operation temperature range: Ta = -20°C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. For each address (Word: 8-bit)



S-34TS04L**2-WIRE SERIAL E²PROM
WITH TEMPERATURE SENSOR****● Features****E²PROM block**

- Page write: 16 bytes / page
- Sequential read
- Write protect function during low power supply voltage
- Write protect: Individual software data protection for each of four 128-byte blocks
- Endurance: 10⁶ cycle / word*1 (Ta = +25°C)
- Data retention: 100 years (Ta = +25°C)
- Memory capacity: 4 K-bit
- Initial delivery state: FFh

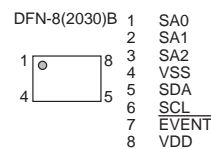
Temperature sensor block

- Temperature accuracy: 0.5°C typ. (Ta = +75°C to +95°C)
1.0°C typ. (Ta = +40°C to +125°C)
- Temperature sample rate: 8 samples / s min.
- Selectable hysteresis width: No hysteresis, 1.5°C, 3.0°C, 6.0°C

Overall

- Current consumption:
 - E²PROM in standby mode and temperature sensor in shutdown mode: 3.0 μA max.
 - E²PROM in standby mode and temperature sensor in active mode: 0.1 mA max.
 - E²PROM in read operation mode and temperature sensor in active mode: 0.4 mA max.
 - E²PROM in write operation mode and temperature sensor in active mode: 2.0 mA max.
- Operation voltage range: 1.7 V to 3.6 V
- Operation frequency: 1.0 MHz max. (V_{DD} = 2.2 V to 3.6 V)
- Noise suppression: Schmitt trigger and noise filter on input pins (SCL, SDA)
- Supported SMBus timeout function
- Operation temperature range: Ta = -20°C to +125°C
- Lead-free (Sn 100%), halogen-free

*1. For each address (Word: 8-bit)

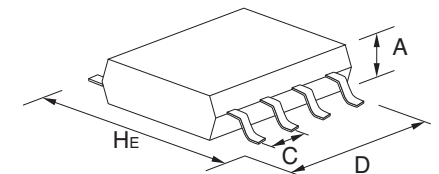


Package List

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			H _E	D	A (max.)	C
Lead insertion type	3	TO-92	7.0	5.2	4.2	2.5/1.27
	3	TO-92S	4.95	4.1	1.62	2.5/1.27
Flat-lead type	3	SOT-89-3	4.0	4.5	1.6	1.5
	5	SOT-89-5	4.5	4.5	1.6	1.5
Gull-wing type	4	SC-82AB	2.1	2.0	1.1	1.3
	5	SC-88A	2.1	2.0	1.1	0.65
	3	SOT-23-3	2.8	2.9	1.3	1.9
	3	SOT-23-3S	2.8	2.9	1.2	1.9
	3	TSOT-23-3S	2.85	2.9	0.8	1.9
	5	SOT-23-5	2.8	2.9	1.3	0.95
	6	SOT-23-6	2.8	2.9	1.35	0.95
	6	SOT-23-6W	2.8	2.9	1.3	0.95
	8	8-Pin SOP (JEDEC)	6.0	5.02	1.75	1.27
	8	8-Pin TSSOP	6.4	3.0	1.1	0.65
	8	8-Pin TSSOP	6.4	3.0	1.1	0.65
	16	16-Pin TSSOP	6.4	5.1	1.1	0.65
	20	20-Pin TSSOP	6.4	6.5	1.2	0.65
	24	24-Pin SSOP	7.6	7.9	1.4	0.65
	8	TMSOP-8	4.0	2.9	0.8	0.65
	8	HTMSOP-8	4.0	2.9	0.8	0.65
	16	HTSSOP-16	6.4	5.12	1.1	0.65
	6	HSOP-6	6.0	5.02	1.75	1.91
	8	HSOP-8A	6.0	5.02	1.68	1.27
	8	HSOP-8A	6.0	5.02	1.65	1.27
	8	HSOP-8Q	6.0	5.02	1.68	1.27
	5	TO-252-5S(A)	6.5	6.5	1.4	1.27
	9	TO-252-9S	6.5	6.5	1.4	0.65

Package Type	Pin Count	Package Name	Package Size (mm)			Pitch (mm)
			H _E	D	A (max.)	C
Non-lead type	6	6-Pin HSON(A)	3.0	2.9	0.9	0.95
	6	SON-6C	2.55	1.56	0.65	0.5
	4	SNT-4A	1.6	1.2	0.5	0.65
	6	SNT-6A SNT-6A(H)	1.8	1.57	0.5	0.5
	8	SNT-8A	2.46	1.97	0.5	0.5
	4	HSNT-4(0808)	0.8	0.8	0.4	0.4
	4	HSNT-4(0808)B	0.8	0.8	0.41	0.4
	4	HSNT-4(1010)	1.0	1.0	0.4	0.65
	4	HSNT-4(1010)B	1.0	1.0	0.41	0.65
	6	HSNT-6(1212)	1.2	1.2	0.4	0.4
	6	HSNT-6A	2.46	1.96	0.5	0.5
	6	HSNT-6(2025)	2.46	1.96	0.5	0.5
	8	HSNT-8(1616)	1.6	1.6	0.4	0.4
	8	HSNT-8(2030)	3.0	2.0	0.5	0.5
	6	DFN-6(1414)A	1.4	1.4	0.6	0.5
	6	DFN-6(1518)A	1.8	1.5	0.33	0.5
	8	DFN-8(1616)A	1.6	1.6	0.6	0.4
	8	DFN-8(2030)	3.0	2.0	0.5	0.5
	8	DFN-8(2030)A	3.0	2.0	0.6	0.5
	8	DFN-8(2030)B	3.0	2.0	0.8	0.5

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