

Product Catalogue

**Automotive ICs
(Memory ICs, Magnetic sensor ICs, Amplifiers, Timer ICs)**

2020-2021



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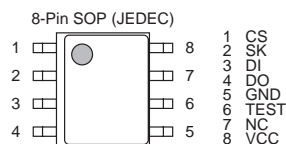
S-93S46A/56A/66A**FOR AUTOMOTIVE 150°C OPERATION
3-WIRE SERIAL E²PROM****● Features**

- Operation voltage range
 - Read: 4.0 V to 5.5 V (Ta = -40°C to +150°C)
 - Write: 4.0 V to 5.5 V (Ta = -40°C to +150°C)
- Operation frequency: 1 MHz (4.5 V to 5.5 V, Ta = -40°C to +150°C)
- Write time: 10.0 ms max.
- Sequential read
- Write protect function during the low power supply voltage
- Function to protect against write due to erroneous instruction recognition
- CMOS schmitt input (CS, SK)
- Endurance^{*1}: 2 × 10⁵ cycle / word^{*2} (Ta = +150°C)
- Data retention: 100 years (Ta = +25°C)
50 years (Ta = +125°C)
20 years (Ta = +150°C)
- Memory capacity
 - S-93S46A: 1 K-bit
 - S-93S56A: 2 K-bit
 - S-93S66A: 4 K-bit
- Initial delivery state: FFFFh
- Burn-in specification: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +150°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*3}

*1. Refer to "■ Endurance" for details.

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

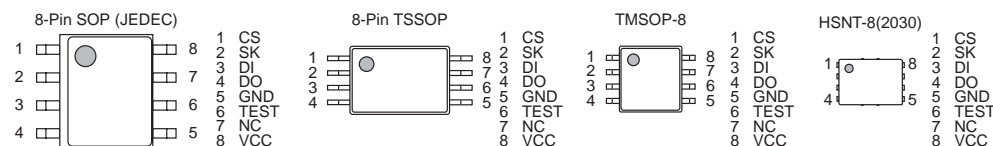
*3. Contact our sales representatives for details.

**S-93A46B/56B/66B/76B/86B****FOR AUTOMOTIVE 125°C OPERATION
3-WIRE SERIAL E²PROM****● Features**

- Memory capacity
 - S-93A46B: 1 K-bit (64-word × 16-bit)
 - S-93A56B: 2 K-bit (128-word × 16-bit)
 - S-93A66B: 4 K-bit (256-word × 16-bit)
 - S-93A76B: 8 K-bit (512-word × 16-bit)
 - S-93A86B: 16 K-bit (1024-word × 16-bit)
- Operation voltage range
 - Read: 2.5 V to 5.5 V
 - Write: 2.5 V to 5.5 V
- Operation frequency: 2.0 MHz max.
- Write time: 4.0 ms max.
- Sequential read
- CMOS schmitt input (CS, SK, DI)
- 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)
8 × 10⁵ cycle / word^{*1} (Ta = +105°C)
5 × 10⁵ cycle / word^{*1} (Ta = +125°C)
- Data retention: 100 years (Ta = +25°C)
50 years (Ta = +125°C)
- Initial delivery state: FFFFh
- Wafer level burn-in (standard specification)
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

*2. Contact our sales representatives for details.



S-93C46C/56C/66C/76C/86C H Series**FOR AUTOMOTIVE 105°C OPERATION
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

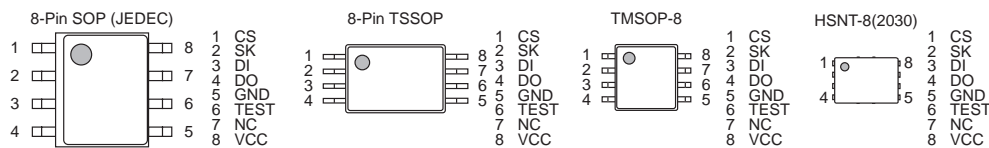
Read:	1.6 V to 5.5 V
Write:	1.8 V to 5.5 V
- Operation frequency: 2.0 MHz max.
- Write time: 4.0 ms max.
- Sequential read
- Write protect function during the low power supply voltage
- Function to protect against write due to erroneous instruction recognition
- Endurance:

10 ⁶ cycle / word* ¹ (Ta = +85°C)
8 × 10 ⁵ cycle / word* ¹ (Ta = +105°C)
- Data retention:

100 years (Ta = +25°C)
50 years (Ta = +105°C)
- Initial delivery state: FFFFh
- Operation temperature range: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*²

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

*2. Contact our sales representatives for details.

**S-25A010A/020A/040A****FOR AUTOMOTIVE 125°C OPERATION
SPI SERIAL E²PROM****Features**

- Operating voltage range

Read:	2.5 V to 5.5 V
Write:	2.5 V to 5.5 V
- Operation frequency: 6.5 MHz max.
- 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%
- Monitoring of a write memory state by the 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*¹:

10 ⁶ cycle / word* ² (Ta = +25°C)
5 × 10 ⁵ cycle / word* ² (Ta = +125°C)
- Data retention:

100 years (Ta = +25°C)
50 years (Ta = +125°C)
- Memory capacity

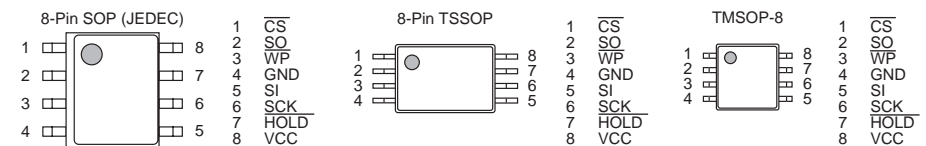
S-25A010A:	1 K-bit
S-25A020A:	2 K-bit
S-25A040A:	4 K-bit
- Initial delivery state: FFh, BP1 = 0, BP0 = 0
- Burn-in specification: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free*³
- AEC-Q100 qualified*⁴

*1. Refer to "■ Endurance" for details.

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

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

*4. Contact our sales office for details.



S-25A080A/160A/320A, S-25A080B/160B/320B

FOR AUTOMOTIVE 125°C OPERATION
SPI SERIAL E²PROM

Features

- Operating voltage range
 - Read: 2.5 V ~ 5.5 V
 - Write: 2.5 V ~ 5.5 V
- Operation frequency: 6.5 MHz max.
- Write time
 - S-25A080A/160A/320A: 4.0 ms max.
 - S-25A080B/160B/320B: 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%
- Monitoring of a write memory state by the status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (CS, SCK, SI, WP, HOLD)
- Endurance^{*1}
 - S-25A080A/160A/320A: 10⁵ cycle / word² (Ta = +25°C)
5 × 10⁵ cycle / word² (Ta = +125°C)
 - S-25A080B/160B/320B: 10⁵ cycle / word² (Ta = +25°C)
3 × 10⁵ cycle / word² (Ta = +125°C)
- Data retention: 100 years (Ta = +25°C)
50 years (Ta = +125°C)
- Memory capacity
 - S-25A080A, S-25A080B: 8 K-bit
 - S-25A160A, S-25A160B: 16 K-bit
 - S-25A320A, S-25A320B: 32 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Burn-in specification: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free^{*3}
- AEC-Q100 qualified^{*4}

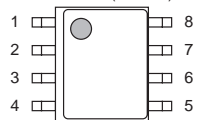
*1. Refer to "■ Endurance" for details.

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

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

*4. Contact our sales office for details.

8-Pin SOP (JEDEC)



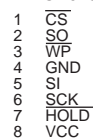
S-25A080A/160A/320A,
S-25A080B/160B/320B



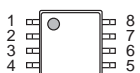
8-Pin TSSOP



S-25A080A/160A,
S-25A080B/160B/320B



TMSOP-8



S-25A080B/160B/320B



S-25A640A, S-25A640B

FOR AUTOMOTIVE 125°C OPERATION
SPI SERIAL E²PROM

Features

- Operating voltage range
 - Read: 2.5 V ~ 5.5 V
 - Write: 2.5 V ~ 5.5 V
- Operation frequency
 - S-25A640A: 5.0 MHz max.
 - S-25A640B: 6.5 MHz max.
- Write time
 - S-25A640A: 4.0 ms max.
 - S-25A640B: 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%
- Monitoring of a write memory state by the status register
- Function to prevent malfunction by monitoring clock pulse
- Write protect function during the low power supply voltage
- CMOS schmitt input (CS, SCK, SI, WP, HOLD)
- Endurance^{*1}
 - S-25A640A: 10⁶ cycle / word² (Ta = +25°C)
5 × 10⁵ cycle / word² (Ta = +125°C)
 - S-25A640B: 10⁶ cycle / word² (Ta = +25°C)
3 × 10⁵ cycle / word² (Ta = +125°C)
- Data retention: 100 years (Ta = +25°C)
50 years (Ta = +125°C)
64 K-bit
- Memory capacity: 64 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Burn-in specification: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free^{*3}
- AEC-Q100 qualified^{*4}

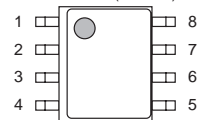
*1. Refer to "■ Endurance" for details.

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

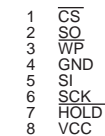
*3. Refer to "■ Product Name Structure" for details.

*4. Contact our sales office for details.

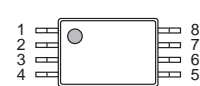
8-Pin SOP (JEDEC)



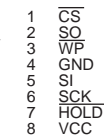
S-25A640A/B



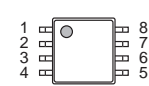
8-Pin TSSOP



S-25A640B



TMSOP-8



S-25A640B



S-25A128B**FOR AUTOMOTIVE 125°C OPERATION
SPI SERIAL E²PROM****● Features**

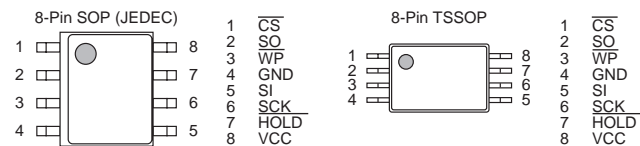
- Operating voltage range
 - Read: 2.5 V ~ 5.5 V
 - Write: 2.5 V ~ 5.5 V
- Operation frequency: 6.5 MHz max.
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 64 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitoring of a write memory state by the 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} , HOLD)
- Endurance^{*1}:
 - 10⁶ cycle / word^{*2} (Ta = +25°C)
 - 3 × 10⁵ cycle / word^{*2} (Ta = +125°C)
- Data retention:
 - 100 years (Ta = +25°C)
 - 50 years (Ta = +125°C)
- Memory capacity: 128 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Burn-in specifications: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free^{*3}
- AEC-Q100 qualified^{*4}

*1. Refer to "■ Endurance" for details.

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

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

*4. Contact our sales office for details.

**S-25A256B****FOR AUTOMOTIVE 125°C OPERATION
SPI SERIAL E²PROM****● Features**

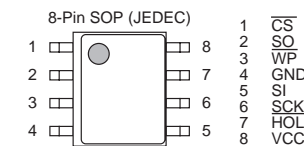
- Operating voltage range
 - Read: 2.5 V ~ 5.5 V
 - Write: 2.5 V ~ 5.5 V
- Operation frequency: 5.0 MHz max.
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 64 bytes / page
- Sequential read
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- Monitoring of a write memory state by the 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} , HOLD)
- Endurance^{*1}:
 - 10⁶ cycle / word^{*2} (Ta = +25°C)
 - 3 × 10⁵ cycle / word^{*2} (Ta = +125°C)
- Data retention:
 - 100 years (Ta = +25°C)
 - 50 years (Ta = +125°C)
- Memory capacity: 256 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Burn-in specifications: Wafer level burn-in
- Operation temperature range: Ta = -40°C to +125°C
- Lead-free (Sn 100%), halogen-free^{*3}
- AEC-Q100 qualified^{*4}

*1. Refer to "■ Endurance" for details.

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

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

*4. Contact our sales office for details.



S-25C010A/020A/040A H Series

105°C OPERATION
SPI SERIAL E²PROM FOR AUTOMOTIVE

Features

- Operating voltage range:

Read	2.5 V to 5.5 V
Write	2.5 V to 5.5 V
- Operation frequency: 6.5 MHz (4.5 V to 5.5 V)
- Write time: 4.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 16 bytes / page
- Sequential read
- Monitors write to the memory by a status register
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- 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} , HOLD)
- Endurance:

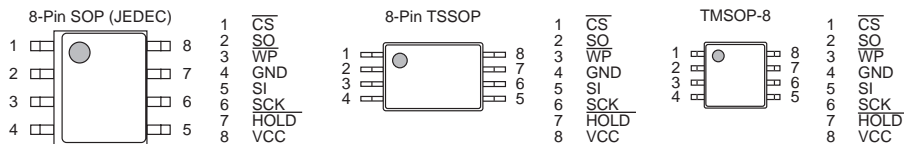
10^6 cycles/word ^{*1} (Ta = +85°C)
8×10^5 cycles/word ^{*1} (Ta = +105°C)
- Data retention:

100 years (Ta = +25°C)
50 years (Ta = +105°C)
- Memory capacitance:

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: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

*2. Contact our sales office for details.



S-25C080A H Series

105°C OPERATION
SPI SERIAL E²PROM FOR AUTOMOTIVE

Features

- Operating voltage range:

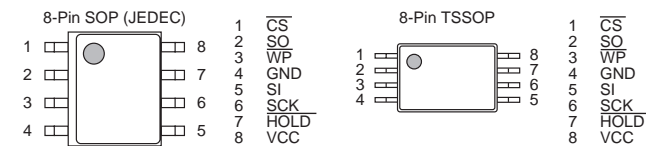
Read	2.5 V to 5.5 V
Write	2.5 V to 5.5 V
- Operation frequency: 6.5 MHz (4.5 V to 5.5 V)
- Write time: 4.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 32 bytes / page
- Sequential read
- Monitors write to the memory by a status register
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- 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} , HOLD)
- Endurance:

10^6 cycles/word ^{*1} (Ta = +85°C)
8×10^5 cycles/word ^{*1} (Ta = +105°C)
- Data retention:

100 years (Ta = +25°C)
50 years (Ta = +105°C)
- Memory capacitance: 8 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

*2. Contact our sales office for details.

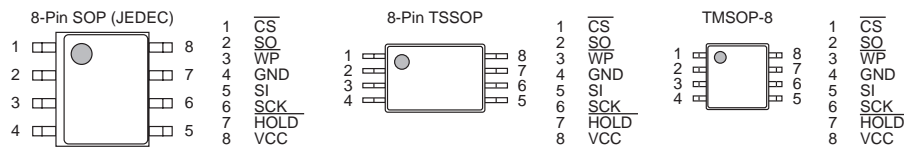


S-25C160A H Series**105°C OPERATION**
SPI SERIAL E²PROM FOR AUTOMOTIVE**Features**

- Operating voltage range: Read 2.5 V to 5.5 V
Write 2.5 V to 5.5 V
- Operation frequency: 5.0 MHz (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
- Monitors write to the memory by a status register
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- 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/word¹ (Ta = +25°C)
 3×10^5 cycles/word¹ (Ta = +85°C)
 2×10^5 cycles/word¹ (Ta = +105°C)
- Data retention: 100 years (Ta = +25°C)
30 years (Ta = +85°C)
25 years (Ta = +105°C)
- Memory capacitance: 16 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified²

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

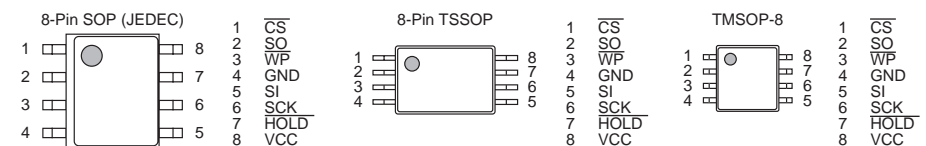
*2. Contact our sales office for details.

**S-25C320A/640A H Series****105°C OPERATION**
SPI SERIAL E²PROM FOR AUTOMOTIVE**Features**

- Operating voltage range: Read 2.5 V to 5.5 V
Write 2.5 V to 5.5 V
- Operation frequency: 5.0 MHz (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
- Monitors write to the memory by a status register
- Write protect: Software, Hardware
- Protect area: 25%, 50%, 100%
- 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/word¹ (Ta = +25°C)
 3×10^5 cycles/word¹ (Ta = +85°C)
 2×10^5 cycles/word¹ (Ta = +105°C)
- Data retention: 100 years (Ta = +25°C)
30 years (Ta = +85°C)
25 years (Ta = +105°C)
- Memory capacitance: 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 +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified²

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

*2. Contact our sales office for details.



S-25C128A H Series

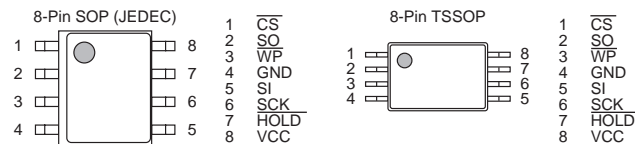
105°C OPERATION
SPI SERIAL E²PROM FOR AUTOMOTIVE

Features

- Operating voltage range: Read 2.5 V to 5.5 V
Write 2.5 V to 5.5 V
- Operation frequency: 5.0 MHz (2.5 V to 5.5 V)
- Write time: 5.0 ms max.
- SPI mode (0, 0) and (1, 1)
- Page write: 64 bytes / page
- Sequential read
- Monitors write to the memory by a status register
- Write protect: Software, Hardware
Protect area: 25%, 50%, 100%
- 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} (Ta = +25°C)
 3×10^5 cycles/word^{*1} (Ta = +85°C)
 2×10^5 cycles/word^{*1} (Ta = +105°C)
- Data retention: 100 years (Ta = +25°C)
30 years (Ta = +85°C)
25 years (Ta = +105°C)
- Memory capacitance: 128 K-bit
- Initial delivery state: FFh, SRWD = 0, BP1 = 0, BP0 = 0
- Operation temperature range: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

*2. Contact our sales office for details.



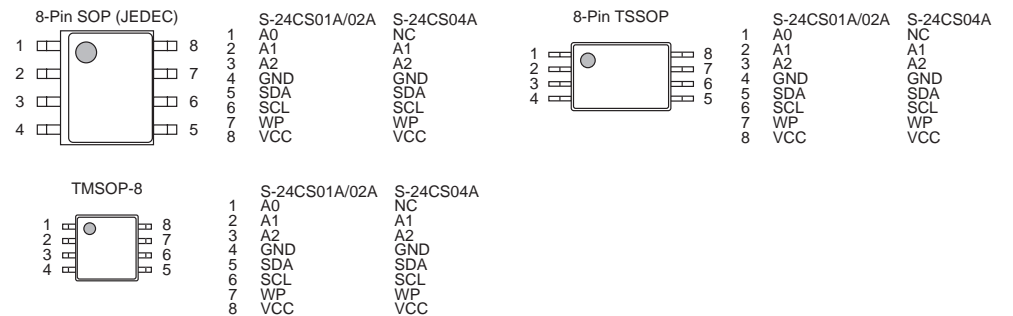
S-24CS01A/02A/04A H Series

FOR AUTOMOTIVE 105°C OPERATION
2-WIRE SERIAL E²PROM

Features

- Operating voltage range: Read 2.55 V to 5.5 V (Ta = -40°C to +105°C)
Write 2.55 V to 5.5 V (Ta = -40°C to +105°C)
- Page write: 8 bytes / page (S-24CS01A/02A)
16 bytes / page (S-24CS04A)
- Sequential read
- Operating Frequency: 400 kHz (V_{CC} = 2.55 V to 5.5 V, Ta = -40°C to +85°C)
350 kHz (V_{CC} = 2.55 V to 5.5 V, Ta = +85°C to +105°C)
- Write time: 10.0 ms max.
- Write protect function during the low power supply voltage
- Endurance: 10^6 cycles/word^{*1} (Ta = +85°C)
 5×10^5 cycles/word^{*1} (Ta = +105°C)
- Data retention: 100 years (Ta = +25°C)
20 years (Ta = +105°C)
- Memory capacity: S-24CS01A 1 Kbit
S-24CS02A 2 Kbit
S-24CS04A 4 Kbit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: Ta = -40°C to +105°C
- Lead-free (Sn 100%), halogen-free

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

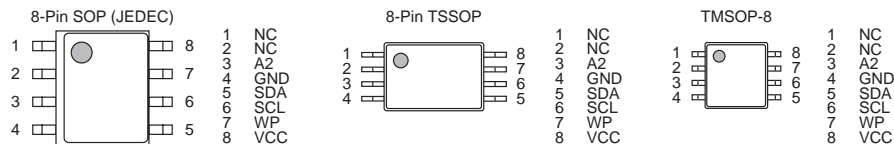


S-24C08C H Series**FOR AUTOMOTIVE 105°C OPERATION
2-WIRE SERIAL E²PROM****Features**

- Operation voltage range: Read 2.5 V to 5.5 V
Write 2.5 V to 5.5 V
- Page write: 16 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- 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} ($T_a = +25^\circ\text{C}$)
 3×10^5 cycles / word^{*1} ($T_a = +85^\circ\text{C}$)
 2×10^5 cycles / word^{*1} ($T_a = +105^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
30 years ($T_a = +85^\circ\text{C}$)
25 years ($T_a = +105^\circ\text{C}$)
- Memory capacity: 8 K-bit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: $T_a = -40^\circ\text{C to }+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

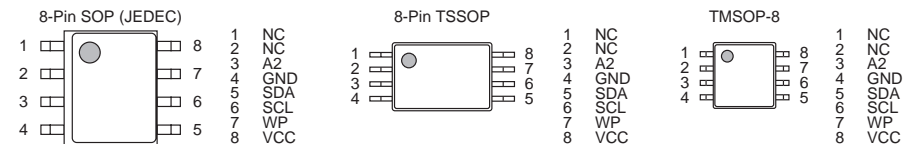
*2. Contact our sales office for details.

**S-24C16C H Series****FOR AUTOMOTIVE 105°C OPERATION
2-WIRE SERIAL E²PROM****Features**

- Operation voltage range: Read 2.5 V to 5.5 V
Write 2.5 V to 5.5 V
- Page write: 16 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- 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} ($T_a = +25^\circ\text{C}$)
 3×10^5 cycles / word^{*1} ($T_a = +85^\circ\text{C}$)
 2×10^5 cycles / word^{*1} ($T_a = +105^\circ\text{C}$)
- Data retention: 100 years ($T_a = +25^\circ\text{C}$)
30 years ($T_a = +85^\circ\text{C}$)
25 years ($T_a = +105^\circ\text{C}$)
- Memory capacity: 16 K-bit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: $T_a = -40^\circ\text{C to }+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

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

*2. Contact our sales office for details.



S-24C32C/64C H Series**FOR AUTOMOTIVE 105°C OPERATION
2-WIRE SERIAL E²PROM****Features**

- Operating voltage range:

Read	2.5 V to 5.5 V
Write	2.5 V to 5.5 V
- Page write: 32 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- 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}	($T_a = +25^\circ\text{C}$)
3×10^5 cycles/word ^{*1}	($T_a = +85^\circ\text{C}$)
2×10^5 cycles/word ^{*1}	($T_a = +105^\circ\text{C}$)
- Data retention:

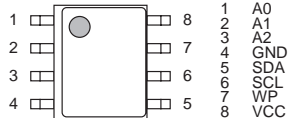
100 years	($T_a = +25^\circ\text{C}$)
30 years	($T_a = +85^\circ\text{C}$)
25 years	($T_a = +105^\circ\text{C}$)
- Memory capacity:

S-24C32C	32 K-bit
S-24C64C	64 K-bit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: $T_a = -40^\circ\text{C to }+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

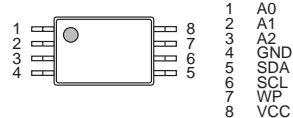
*1. For each address (Word: 8-bit)

*2. Contact our sales office for details.

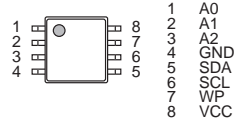
8-Pin SOP (JEDEC)



8-Pin TSSOP



TMSOP-8

**S-24C128C H Series****FOR AUTOMOTIVE 105°C OPERATION
2-WIRE SERIAL E²PROM****Features**

- Operating voltage range:

Read	2.5 V to 5.5 V
Write	2.5 V to 5.5 V
- Page write: 64 bytes / page
- Sequential read
- Operation frequency: 400 kHz ($V_{CC} = 2.5\text{ V to }5.5\text{ V}$)
- 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:

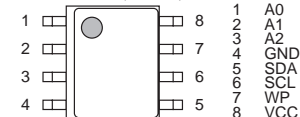
10^6 cycles/word ^{*1}	($T_a = +25^\circ\text{C}$)
3×10^5 cycles/word ^{*1}	($T_a = +85^\circ\text{C}$)
2×10^5 cycles/word ^{*1}	($T_a = +105^\circ\text{C}$)
- Data retention:

100 years	($T_a = +25^\circ\text{C}$)
30 years	($T_a = +85^\circ\text{C}$)
25 years	($T_a = +105^\circ\text{C}$)
- Memory capacity: 128 K-bit
- Write protect: 100%
- Initial delivery state: FFh
- Operation temperature range: $T_a = -40^\circ\text{C to }+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

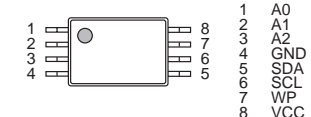
*1. For each address (Word: 8-bit)

*2. Contact our sales office for details.

8-Pin SOP (JEDEC)



8-Pin TSSOP



S-57GD S Series

**AUTOMOTIVE, 150°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
OMNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC**

Features

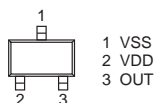
- Pole detection: Omnipolar detection
- Output logic*1: Active "L"
Active "H"
- Output form*1: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity*1: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
 $B_{OP} = 15.0$ mT typ.
- Chopping frequency: $f_c = 500$ kHz typ.
- Output delay time: $t_D = 16.0$ μs typ.
- Power supply voltage range*2: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 in process*3

*1. The option can be selected.

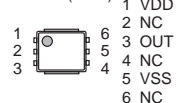
*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)

*3. Contact our sales representatives for details.

TSOT-23-3S



HSNT-6(2025)



S-57GS/GN S Series

**AUTOMOTIVE, 150°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC**

Features

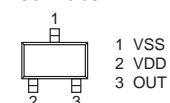
- Pole detection: Unipolar detection
- Output logic*1: Active "L"
Active "H"
- Output form*1: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity*1: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
 $B_{OP} = 15.0$ mT typ.
- Chopping frequency: $f_c = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μs typ.
- Power supply voltage range*2: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 in process*3

*1. The option can be selected.

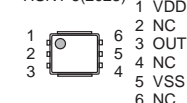
*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)

*3. Contact our sales representatives for details.

TSOT-23-3S



HSNT-6(2025)



S-57A1 A Series

FOR AUTOMOTIVE 125°C OPERATION
HIGH-WITHSTAND VOLTAGE HIGH-SPEED
UNIPOLAR DETECTION TYPE HALL EFFECT SWITCH IC

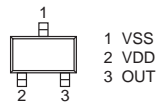
● Features

- Pole detection*1: Detection of S pole
Detection of N pole
- Output logic*1: Active "L"
Active "H"
- Output form*1: Nch open-drain output
Nch driver + built-in pull-up resistor
- Magnetic sensitivity*1: $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $f_c = 250$ kHz typ.
 $t_D = 16.0$ μ s typ.
 $V_{DD} = 3.5$ V to 26.0 V
- Chopping frequency:
- Output delay time:
- Power supply voltage range:
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*2

*1. The option can be selected.

*2. Contact our sales office for details.

SOT-23-3



S-57TZ S Series

AUTOMOTIVE, 150°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
ZCL™ HALL EFFECT IC

● Features

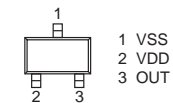
- Pole detection: ZCL detection
- Output logic*1: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form*1: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 k Ω typ.)
- Zero crossing latch point: $B_Z = 0.0$ mT typ.
- Release point (S pole)*1: $B_{RS} = 3.0$ mT typ.
 $B_{RS} = 6.0$ mT typ.
- Chopping frequency: $f_c = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μ s typ.
- Power supply voltage range*2: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 in process*3

*1. The option can be selected.

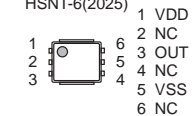
*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 k Ω typ.)

*3. Contact our sales representatives for details.

TSOT-23-3S



HSNT-6(2025)



S-57RB S Series

**AUTOMOTIVE, 150°C OPERATION,
HIGH-WITHSTAND VOLTAGE, HIGH-SPEED,
BIPOLAR HALL EFFECT LATCH IC**

● Features

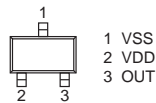
- Pole detection: Bipolar latch
- Output logic^{*1}: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form^{*1}: Nch open-drain output
Nch driver + built-in pull-up resistor (1.2 kΩ typ.)
- Magnetic sensitivity^{*1}: $B_{OP} = 0.5$ mT typ.
 $B_{OP} = 2.2$ mT typ.
 $B_{OP} = 3.0$ mT typ.
 $B_{OP} = 6.0$ mT typ.
 $B_{OP} = 10.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μs typ.
- Power supply voltage range^{*2}: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 in process^{*3}

*1. The option can be selected.

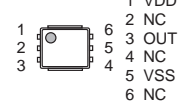
*2. $V_{DD} = 2.7$ V to 5.5 V when output form is Nch driver + built-in pull-up resistor (1.2 kΩ typ.)

*3. Contact our sales representatives for details.

TSOT-23-3S



HSNT-6(2025)



S-57P1 S Series

**FOR AUTOMOTIVE 150°C OPERATION
HIGH-WITHSTAND VOLTAGE
HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC**

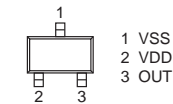
● Features

- Pole detection: Bipolar latch
- Output logic^{*1}: $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form: Nch open-drain output
- Magnetic sensitivity^{*1}: $B_{OP} = 0.5$ mT typ.
 $B_{OP} = 1.5$ mT typ.
 $B_{OP} = 2.2$ mT typ.
 $B_{OP} = 3.0$ mT typ.
- Chopping frequency: $f_C = 500$ kHz typ.
- Output delay time: $t_D = 8.0$ μs typ.
- Power supply voltage range: $V_{DD} = 2.7$ V to 26.0 V
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+150^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*2}

*1. The option can be selected.

*2. Contact our sales office for details.

SOT-23-3S



S-57K1 A Series

FOR AUTOMOTIVE 125°C OPERATION
HIGH-WITHSTAND VOLTAGE
HIGH-SPEED BIPOLAR HALL EFFECT LATCH IC

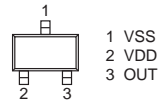
● Features

- Pole detection:
- Output logic*1: Bipolar latch
 $V_{OUT} = "L"$ at S pole detection
 $V_{OUT} = "H"$ at S pole detection
- Output form*1: Nch open-drain output,
Nch driver + built-in pull-up resistor
 $B_{OP} = 3.0 \text{ mT typ.}$
 $B_{OP} = 6.0 \text{ mT typ.}$
- Magnetic sensitivity*1: $f_c = 500 \text{ kHz typ.}$
 $t_D = 8.0 \mu\text{s typ.}$
 $V_{DD} = 3.5 \text{ V to } 26.0 \text{ V}$
- Chopping frequency:
- Output delay time:
- Power supply voltage range:
- Built-in regulator
- Built-in reverse voltage protection circuit
- Built-in output current limit circuit
- Operation temperature range: $T_a = -40^\circ\text{C to } +125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*2

*1. The option can be selected.

*2. Contact our sales office for details.

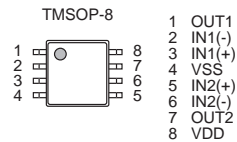
SOT-23-3



S-19610A**AUTOMOTIVE, 125°C OPERATION,
2 circuits
CMOS OPERATIONAL AMPLIFIER****Features**

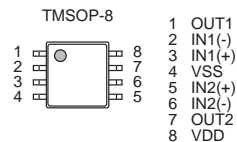
- Low input offset voltage: $V_{IO} = +6.0$ mV max. ($T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$)
- Operation power supply voltage range: $V_{DD} = 2.70$ V to 5.50 V
- Low current consumption (Per circuit): $I_{DD} = 1.00$ mA typ.
- Internal phase compensation: No external parts required
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales office for details.

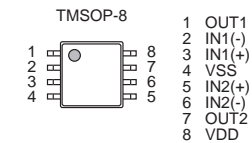
**S-19611A****AUTOMOTIVE, 105°C OPERATION,
2 circuits
LOW INPUT OFFSET VOLTAGE CMOS OPERATIONAL AMPLIFIER****Features**

- Low input offset voltage: $V_{IO} = +17$ μV max. ($T_a = +25^\circ\text{C}$)
 $V_{IO} = +100$ μV max. ($T_a = -40^\circ\text{C}$ to $+105^\circ\text{C}$)
- Operation power supply voltage range: $V_{DD} = 2.65$ V to 5.50 V
- Low current consumption (Per circuit): $I_{DD} = 200$ μA typ.
- Internal phase compensation: No external parts required
- Rail-to-Rail input and output
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales representatives for details.

**S-19630A****AUTOMOTIVE, 125°C OPERATION,
2 circuits
LOW INPUT OFFSET VOLTAGE CMOS OPERATIONAL AMPLIFIER****Features**

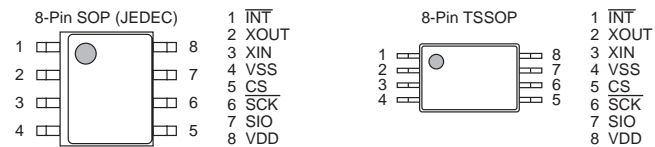
- Low input offset voltage: $V_{IO} = +50$ μV max. ($T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$)
- Low input offset voltage drift: $\frac{\Delta V_{IO}}{\Delta T_a} = \pm 25$ nV/ $^\circ\text{C}$ typ. ($V_{DD} = 30.0$ V, $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$)
- Operation power supply voltage range: $V_{DD} = 4.0$ V to 36.0 V
- Low current consumption (Per circuit): $I_{DD} = 250$ μA typ.
- Low input noise voltage: $V_{NOISE_pp} = 0.8$ μVpp typ. ($f = 0.1$ Hz to 10 Hz)
- Low input noise voltage density: $V_{NOISE} = 25$ nV/ $\sqrt{\text{Hz}}$ typ. ($f = 1$ kHz)
- Built-in output current limit circuit: Overcurrent limit when output pin is short-circuited
- Internal phase compensation: No external parts required
- Rail-to-Rail input and output
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1



S-35190A H Series**FOR AUTOMOTIVE 105°C OPERATION
3-WIRE REAL-TIME CLOCK****● Features**

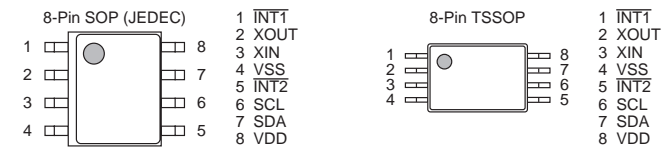
- Low current consumption: 0.25 μ A typ. ($V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$)
- Wide range of operating voltage: 1.3 V to 5.5 V
- Built-in clock correction function
- Built-in free user register
- 3-wire (MICROWIRE) CPU interface
- Built-in alarm interrupter
- Built-in flag generator during detection of low power voltage or at power-on
- Auto calendar up to the year 2099, automatic leap year calculation function
- Built-in constant-voltage circuit
- Built-in 32.768 kHz crystal oscillation circuit (built-in C_d , external C_g)
- Operating temperature range: $T_a = -40^\circ\text{C}$ to $+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*1}

*1. Contact our sales office for details.

**S-35390A H Series****FOR AUTOMOTIVE 105°C OPERATION
2-WIRE REAL-TIME CLOCK****● Features**

- Low current consumption: 0.25 μ A typ. ($V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$)
- Wide range of operating voltage: 1.3 V to 5.5 V
- Built-in clock correction function
- Built-in free user register
- 2-wire (I²C-bus) CPU interface
- Built-in alarm interrupter
- Built-in flag generator during detection of low power voltage or at power-on
- Auto calendar up to the year 2099, automatic leap year calculation function
- Built-in constant voltage circuit
- Built-in 32.768 kHz crystal oscillation circuit (built-in C_d , external C_g)
- Operating temperature range: $T_a = -40^\circ\text{C}$ to $+105^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified^{*1}

*1. Contact our sales office for details.



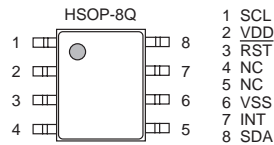
S-35710M A Series

**CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION,
2-WIRE TIMER WITH BUILT-IN QUARTZ CRYSTAL**

Features

- Built-in 32.768 kHz quartz crystal
- Alarm interrupt function: Settable on the second time scale from 1 second to 194 days (Approximately half a year)
- Low current consumption: 0.25 μ A typ. ($V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$)
- Wide range of operation voltage: 1.8 V to 5.5 V
- 2-wire (I²C-bus) CPU interface
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100/Q200 qualified*1

*1. Contact our sales representatives for details.



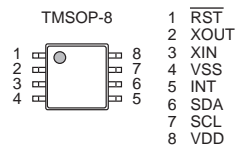
S-35710 A Series

**CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION,
2-WIRE TIMER**

Features

- Alarm interrupt function: Settable on the second time scale from 1 second to 194 days (Approximately half a year)
- Low current consumption: 0.2 μ A typ. (Quartz crystal: $C_L = 6.0$ pF, $V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$)
- Wide range of operation voltage: 1.8 V to 5.5 V
- 2-wire (I²C-bus) CPU interface
- Built-in 32.768 kHz crystal oscillation circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales representatives for details.



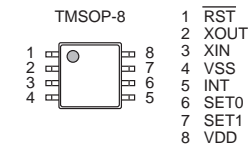
S-35720 A Series

**CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION,
TIMER WITH INTERRUPT TIME SETTING PIN**

Features

- Alarm interrupt function: Settable interrupt time Selectable as the option on the second time scale from 1 second to 194 days (Approximately half a year)
- Low current consumption: 0.2 μ A typ. (Quartz crystal: $C_L = 6.0$ pF, $V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$)
- Wide range of operation voltage: 1.8 V to 5.5 V
- Built-in 32.768 kHz crystal oscillation circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales representatives for details.



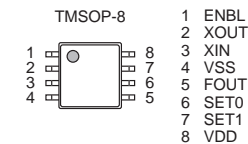
S-35730 A Series

**CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION, CLOCK PULSE OUTPUT,
TIMER WITH FREQUENCY SETTING PIN**

Features

- Clock pulse output function: Settable clock pulse frequency, with an output control pin
- Low current consumption: 0.7 μ A typ. (Quartz crystal: $C_L = 6.0$ pF, $V_{DD} = 3.0$ V, ENBL pin = "H", $T_a = +25^\circ\text{C}$, FOUT pin = Nch open-drain output)
- Wide range of operation voltage: 1.8 V to 5.5 V
- Built-in 32.768 kHz crystal oscillation circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

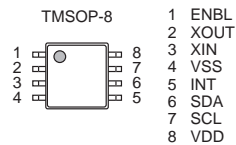
*1. Contact our sales office for details.



S-35740 A Series**CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION,
2-WIRE INTERVAL TIMER****● Features**

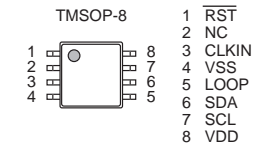
- Fixed-cycle interrupt signal output function: Settable frequency and duty ratio, with an output control pin
- Low current consumption: 0.2 μ A typ.
(Quartz crystal: $C_L = 6.0$ pF, $V_{DD} = 3.0$ V, ENBL pin = "H", $T_a = +25^\circ\text{C}$)
- Wide range of operation voltage: 1.8 V to 5.5 V
- 2-wire (I²C-bus) CPU interface
- Built-in 32.768 kHz crystal oscillation circuit
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales office for details.

**S-35770 A Series****CONVENIENCE TIMER
AUTOMOTIVE, 125°C OPERATION,
2-WIRE COUNTER****● Features**

- External clock signal count function: Countable from 0 to 16,777,215, with output pin for counter loop flag
- Low current consumption: 0.01 μ A typ. ($V_{DD} = 3.0$ V, $T_a = +25^\circ\text{C}$, out of communication (CLKIN pin = 0 V))
- Wide range of operation voltage: 1.5 V to 5.5 V
- 2-wire (I²C-bus) CPU interface
- Operation temperature range: $T_a = -40^\circ\text{C}$ to $+125^\circ\text{C}$
- Lead-free (Sn 100%), halogen-free
- AEC-Q100 qualified*1

*1. Contact our sales office for details.

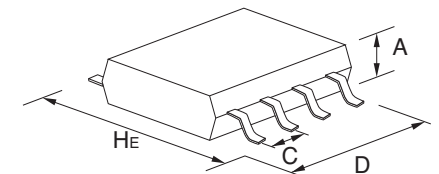


Package List

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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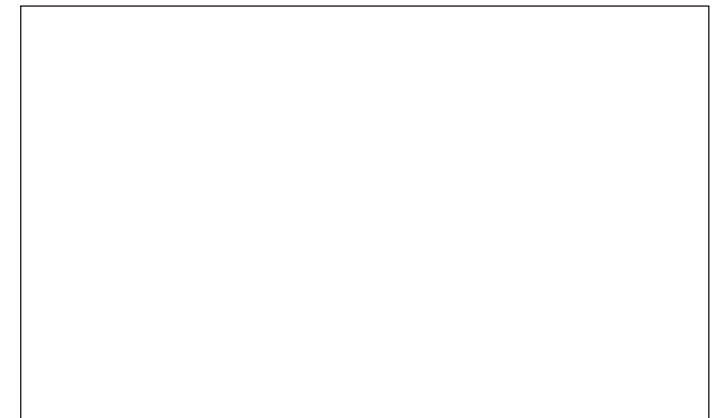
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