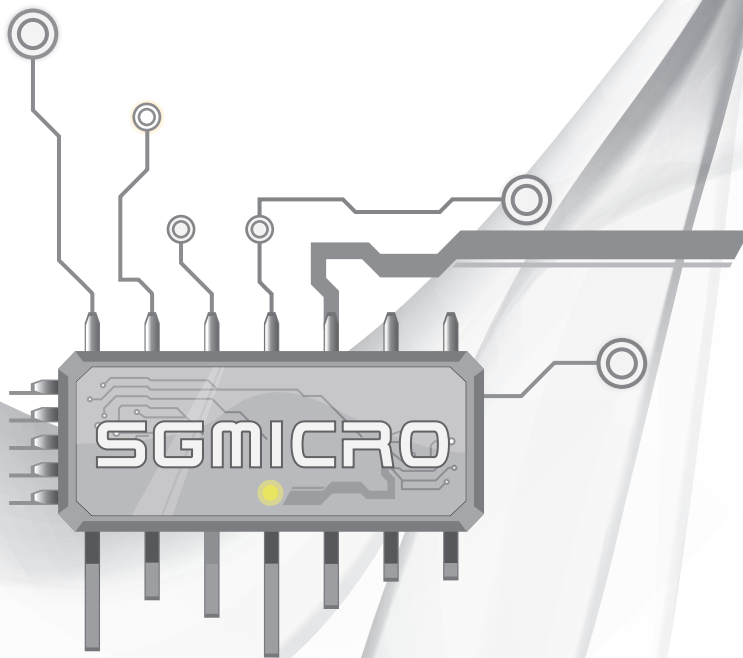
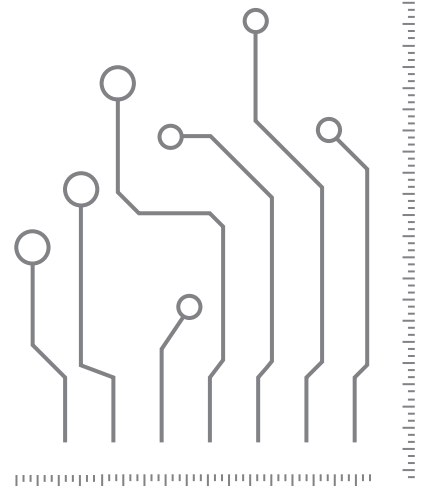


Product Selection Guide

March 2016



- Operational Amplifier
- Audio Amplifier
- Video Buffer
- Switch Complex
- Analog Switch
- High Performance LDO
- Over-Voltage Protection IC
- Li-Ion Battery Charger
- Load Switch
- DC/DC Converter
- MOSFET Driver
- White and Flash LED Driver
- μ P Supervisory Circuit
- Level Translator
- Small Logic IC





SGMICRO OVERVIEW

SG Micro Corp (SGMICRO) specializes in high performance, high quality analog IC design, marketing and sales, and offers innovative solutions for a broad range of applications in wireless communication, consumer, medical, automotive and industrial markets.

SGMICRO's close partnership with customers and technology expertise in analog IC are the driving forces for continuous improvements and innovations. Benefited from years of heavy investments in R&D and advanced technologies, SGMICRO has introduced more than 600 analog IC products with excellent reliability and consistency, including precision signal conditioning products such as amplifiers, buffers, comparators, switches and interface products, as well as the energy efficient power management ICs.

Our innovative analog IC solutions with an extensive portfolio allow our customers to target such diverse and fast growing markets as smart devices, mobile electronics and green energy technologies, and have resulted in improved performance such as longer battery life, less peripheral components, smaller PCB space and lower cost.

Quality and reliability are on top of the priority list at SGMICRO at all times. SGMICRO strives to become one of the world's leading analog IC solution providers by offering our customers with best-quality products and services. It is therefore the policy of SGMICRO to continually improve our technologies and systems in an ongoing effort to meet and exceed our customers' expectations. Through the strictest QA system, SGMICRO assures each chip it produced of excellent quality and reliability.

SGMICRO is committed to improve our life & environment in every possible way through technology & innovations. We strive to bring more value to our customers and pursue the leading position in analog IC industry with advanced design, superior performance and excellent quality.

Bridge Real World with Analog Chips



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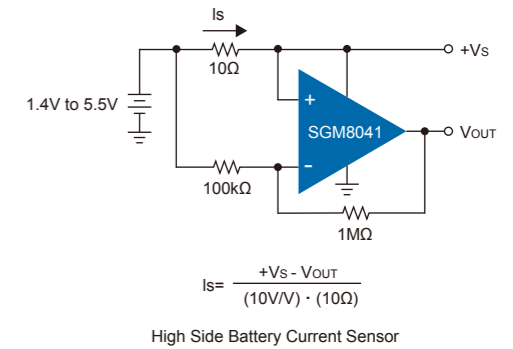
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Small Logic Series

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Nano Power Operational Amplifiers

The Nano Power Operational Amplifier family is designed to support rail-to-rail input and output operation and has as low as 350nA quiescent current. These specifications make these operational amplifiers extremely appropriate for low frequency low power applications, such as battery current monitoring and sensor conditioning.



| Amplifiers per Package | Part Number | ¹ I _{o/Amp} Typ (μA) | Shut-down | V _{CC} (V) | GBP Typ (kHz) | Slew Rate Typ (V/ms) | E _{NOISE} 0.1Hz ~ 10Hz (μV _{PP}) | E _{NOISE} Typ @1kHz (nV/√Hz) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail Input | Rail-to-Rail Output | Package | Features |
|------------------------|-------------|------------------------------------------|-----------|---------------------|---------------|----------------------|-----------------------------------------------------|---------------------------------------|--------------------------------|-----------------------------------|-------------------------|--------------------------|---------------|--------------------|---------------------|-------------------------------|---------------------------------------------------------------|
| 2 | SGM8142 | 0.35 | No | 1.4 ~ 5.5 | 5 | 1.6 | 4 | 130 | 2.5 | 2 | 1 | 93 | 83 | Yes | Yes | SOIC-8,MSOP-8 | Ultra Low Quiescent Current, Rail-to-Rail Input and Output |
| 1 | SGM8141 | 0.38 | No | 1.4 ~ 5.5 | 5 | 1.5 | 4.9 | 125 | 2.5 | 2 | 1 | 90 | 80 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | Ultra Low Quiescent Current, Rail-to-Rail Input and Output |
| 2 | SGM8042 | 0.67 | No | 1.4 ~ 5.5 | 14.5 | 4.2 | 3.2 | 180 | 2.5 | 2.5 | 1 | 93 | 84 | Yes | Yes | SOIC-8,MSOP-8 | Very Low Quiescent Current, Rail-to-Rail Input and Output |
| 4 | SGM8044 | 0.67 | No | 1.4 ~ 5.5 | 15 | 3.4 | 3.2 | 190 | 2.5 | 2.5 | 1 | 93 | 83 | Yes | Yes | SOIC-14,TSSOP-14,TQFN-3x3-16L | Very Low Quiescent Current, Rail-to-Rail Input and Output |
| 2 | SGM8046 | 0.67 | No | 1.4 ~ 5.5 | 100 | 14.5 | 3 | 190 | 2.5 | 2.5 | 1 | 92 | 82 | Yes | Yes | SOIC-8,MSOP-8 | Stable for Gain of 10, 100kHz, Very Low I _Q , RRIO |
| 4 | SGM8048 | 0.69 | No | 1.4 ~ 5.5 | 100 | 14.5 | 3.5 | 205 | 2.5 | 2.5 | 1 | 92 | 83 | Yes | Yes | SOIC-14,TSSOP-14 | Stable for Gain of 10, 100kHz, Very Low I _Q , RRIO |
| 1 | SGM8041 | 0.71 | No | 1.4 ~ 5.5 | 14.5 | 3.3 | 3.4 | 135 | 2.5 | 2.5 | 1 | 93 | 84 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | Very Low Quiescent Current, Rail-to-Rail Input and Output |
| 1 | SGM8045 | 0.71 | No | 1.4 ~ 5.5 | 100 | 16 | 3.2 | 160 | 2.5 | 2.5 | 1 | 93 | 84 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | Stable for Gain of 10, 100kHz, Very Low I _Q , RRIO |

Micro Power Operational Amplifiers

The Micro Power Operational Amplifier family is designed to support rail-to-rail input and output operation and has as low as 2.5μA quiescent current. These specifications make these operational amplifiers extremely appropriate for low frequency low power applications, such as battery current monitoring and sensor conditioning.

| Amplifiers per Package | Part Number | ¹ I _{o/Amp} Typ (μA) | Shut-down | V _{CC} (V) | GBP Typ (MHz) | Slew Rate Typ (V/ms) | E _{NOISE} 0.1Hz ~ 10Hz (μV _{PP}) | E _{NOISE} Typ @1kHz (nV/√Hz) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail Input | Rail-to-Rail Output | Package | Features |
|------------------------|-------------|------------------------------------------|-----------|---------------------|---------------|----------------------|-----------------------------------------------------|---------------------------------------|--------------------------------|-----------------------------------|-------------------------|--------------------------|---------------|--------------------|---------------------|-----------------------------|--------------------------------------------------------------------|
| 1 | SGM8049-1 | 2.5 | No | 1.8 ~ 5.5 | 0.12 | 80 | 3.5 | 75 | 0.85 | 0.6 | 1 | 118 | 100 | Yes | Yes | SOT-23-5,SC70-5,TDFN-2x2-6L | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 2 | SGM8049-2 | 2.5 | No | 1.8 ~ 5.5 | 0.12 | 80 | 3.5 | 75 | 0.85 | 0.6 | 1 | 118 | 100 | Yes | Yes | SOT-23-8,SOIC-8 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 4 | SGM8049-4 | 2.5 | No | 1.8 ~ 5.5 | 0.12 | 80 | 3.5 | 75 | 0.85 | 0.6 | 1 | 118 | 100 | Yes | Yes | TSSOP-14 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8240-1 | 3 | No | 2.7 ~ 24 | 0.1 | 80 | 3.5 | 100 | 0.4† | | 50 | 120 | 100 | Yes | Yes | SC70-5,SOT-23-5 | High Voltage, Micro Power, Precision |
| 2 | SGM8240-2 | 3.3 | No | 2.7 ~ 24 | 0.1 | 80 | 3.5 | 100 | 0.4† | | 50 | 120 | 100 | Yes | Yes | TDFN-2x3-8L,SOIC-8,MSOP-8 | High Voltage, Micro Power, Precision |
| 1 | SGM8521 | 5.5 | No | 2.1 ~ 5.5 | 0.15 | 50 | | 85 | 3.5 | 0.5 | 0.5 | 110 | 87 | Yes | Yes | SOT-23-5,SOIC-8 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 2 | SGM8522 | 5.5 | No | 2.1 ~ 5.5 | 0.15 | 50 | | 85 | 3.5 | 0.5 | 0.5 | 110 | 87 | Yes | Yes | SOIC-8,MSOP-8 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 4 | SGM8524 | 5.5 | No | 2.1 ~ 5.5 | 0.15 | 50 | | 85 | 3.5 | 0.5 | 0.5 | 110 | 87 | Yes | Yes | SOIC-14,TSSOP-14 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8531 | 18 | No | 2.1 ~ 5.5 | 0.5 | 200 | | 33 | 3.5 | 1.7 | 0.5 | 104 | 75 | Yes | Yes | SOT-23-5,SOIC-8 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 2 | SGM8532 | 18 | No | 2.1 ~ 5.5 | 0.5 | 200 | | 33 | 3.5 | 1.7 | 0.5 | 104 | 75 | Yes | Yes | SOIC-8,MSOP-8 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 4 | SGM8534 | 18 | No | 2.1 ~ 5.5 | 0.5 | 200 | | 33 | 3.5 | 1.7 | 0.5 | 104 | 75 | Yes | Yes | SOIC-14,TSSOP-14 | Low Bias Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8541 | 46 | No | 2.1 ~ 5.5 | 1.1 | 520 | | 27 | 3.5 | 2.7 | 0.5 | 105 | 80 | Yes | Yes | SOT-23-5,SOIC-8,SC70-5 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 2 | SGM8542 | 46 | No | 2.1 ~ 5.5 | 1.1 | 520 | | 27 | 3.5 | 2.7 | 0.5 | 105 | 80 | Yes | Yes | SOIC-8,MSOP-8,TSSOP-8 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 4 | SGM8544 | 46 | No | 2.1 ~ 5.5 | 1.1 | 520 | | 27 | 3.5 | 2.7 | 0.5 | 105 | 80 | Yes | Yes | SOIC-14,TSSOP-14 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8543 | 48 | Yes | 2.1 ~ 5.5 | 1.1 | 520 | | 27 | 3.5 | 2.7 | 0.5 | 105 | 76 | Yes | Yes | SOT-23-6,SOIC-8 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8545 | 48 | No | 2.1 ~ 5.5 | 1.1 | 520 | | 27 | 3.5 | 2.7 | 0.5 | 105 | 76 | Yes | Yes | SOT-23-5 | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 1 | SGM8210-1 | 55 | No | 2.7 ~ 24 | 1 | 300 | 3.5 | 25 | 0.4† | | 5 | 120 | 100 | Yes | Yes | SOT-23-5 | High Voltage, Micro Power, Precision |

Note: † Typical Values @25°C

Micro Power Operational Amplifiers

| Amplifiers per Package | Part Number | 1 [▲] | | Shut-down | V _{CC} (V) | GBP Typ (MHz) | Slew Rate Typ (V/ms) | E _{NOISE} 0.1Hz ~ 10Hz (μV _{PP}) | E _{NOISE} Typ @1kHz (nV/√Hz) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail Input | Rail-to-Rail Output | Package | Features |
|------------------------|-------------|------------------------------|------------------------------|-----------|---------------------|---------------|----------------------|-----------------------------------------------------|---------------------------------------|--------------------------------|-----------------------------------|-------------------------|--------------------------|---------------|--------------------|---------------------|-------------------------------|-----------------------------------------------------|
| | | I _O /Amp Typ (μA) | I _O /Amp Typ (μA) | | | | | | | | | | | | | | | |
| 2 | SGM8210-2 | 55 | | No | 2.7 ~ 24 | 1 | 300 | 3.5 | 25 | 0.4† | | 5 | 120 | 100 | Yes | Yes | SOIC-8,MSOP-8 | High Voltage, Micro Power, Precision |
| 1 | SGM321 | 60 | | No | 2.1 ~ 5.5 | 1 | 520 | | 27 | 5 | 2.7 | 10 | 84 | 68 | Yes | Yes | SC70-5,SOT-23-5 | General Purpose Low Power Amp |
| 4 | SGM324 | 60 | | No | 2.1 ~ 5.5 | 1 | 520 | | 27 | 5 | 2.7 | 10 | 84 | 68 | Yes | Yes | SOIC-14,TSSOP-14 | General Purpose Low Power Amp |
| 2 | SGM358 | 60 | | No | 2.1 ~ 5.5 | 1 | 520 | | 27 | 5 | 2.7 | 10 | 84 | 68 | Yes | Yes | SOIC-8,MSOP-8,DIP-8 | General Purpose Low Power Amp |
| 1 | SGM8535 | 80 | | No | 1.8 ~ 5.5 | 1.5 | 800 | | 30 | 3.4 | 1.5 | 3 | 103 | 85 | No | Yes | SOT-23-5,SC70-5,SOIC-8,MSOP-8 | 1.5MHz/1.8V, Unity Gain Stable, Rail-to-Rail Output |
| 2 | SGM8536 | 80 | | No | 1.8 ~ 5.5 | 1.5 | 800 | | 30 | 3.4 | 1.5 | 3 | 103 | 85 | No | Yes | SOIC-8,MSOP-8 | 1.5MHz/1.8V, Unity Gain Stable, Rail-to-Rail Output |
| 1 | SGM8537 | 80 | | Yes | 1.8 ~ 5.5 | 1.5 | 800 | | 30 | 3.4 | 1.5 | 3 | 103 | 85 | No | Yes | SOT-23-6,SOIC-8,MSOP-8 | 1.5MHz/1.8V, Unity Gain Stable, Rail-to-Rail Output |
| 4 | SGM8538 | 80 | | No | 1.8 ~ 5.5 | 1.5 | 800 | | 30 | 3.4 | 1.5 | 3 | 103 | 85 | No | Yes | SOIC-14,TSSOP-14 | 1.5MHz/1.8V, Unity Gain Stable, Rail-to-Rail Output |
| 1 | SGM8271 | 144 | | No | 4.5 ~ 36 | 1.4 | 5000 | | 45 | 3 | 3 | 20 | 86 | 84 | No | Yes | SOT-23-5,SOIC-8,MSOP-8 | 1.4MHz/5V/μs, Low Power, Rail-to-Rail Output |
| 2 | SGM8272 | 144 | | No | 4.5 ~ 36 | 1.4 | 5000 | | 45 | 3 | 3 | 20 | 86 | 84 | No | Yes | SOIC-8,MSOP-8 | 1.4MHz/5V/μs, Low Power, Rail-to-Rail Output |
| 4 | SGM8274 | 144 | | No | 4.5 ~ 36 | 1.4 | 5000 | | 45 | 3 | 3 | 20 | 86 | 84 | No | Yes | SOIC-14,TSSOP-14 | 1.4MHz/5V/μs, Low Power, Rail-to-Rail Output |

Note: † Typical Values @25°C

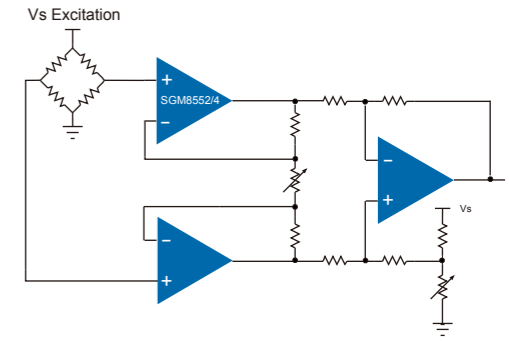
High Speed Operational Amplifiers

| Amplifiers per Package | Part Number | 1 [▲] | | Shut-down | V _{CC} (V) | Slew Rate Typ (V/μs) | E _{NOISE} Typ @1MHz (nV/√Hz) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | I _O /Amp Typ (mA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail Input | Rail-to-Rail Output | Package | Features |
|------------------------|-------------|----------------|-----------------------|-----------|---------------------|----------------------|---------------------------------------|--------------------------------|-----------------------------------|-------------------------|------------------------------|--------------------------|---------------|--------------------|---------------------|------------------------|---------------------------------------------|
| | | GBP Typ (MHz) | Bandwidth @-3dB (MHz) | | | | | | | | | | | | | | |
| 1 | SGM8965-1 | 50 | | No | 2.1 ~ 5.5 | 28 | 4.7† | 0.05††† | 1 | 0.5 | 4.8 | 120 | 100 | Yes | Yes | SOT-23-5,SOIC-8 | 50MHz, High Precision Amp |
| 2 | SGM8965-2 | 50 | | No | 2.1 ~ 5.5 | 28 | 4.7† | 0.05††† | 1 | 0.5 | 4.8 | 120 | 100 | Yes | Yes | SOIC-8 | 50MHz, High Precision Amp |
| 1 | SGM8301 | 57 | 110 | No | 4.5 ~ 12 | 140 | 65†† | 18 | 12 | | 7.5 | 105 | 75 | No | Yes | SOT-23-5,SOIC-8,MSOP-8 | 110MHz High Voltage Rail-to-Rail Output Amp |
| 2 | SGM8302 | 57 | 110 | No | 4.5 ~ 12 | 140 | 65†† | 18 | 12 | | 7.5 | 105 | 75 | No | Yes | SOIC-8,MSOP-8 | 110MHz High Voltage Rail-to-Rail Output Amp |
| 4 | SGM8304 | 57 | 110 | No | 4.5 ~ 12 | 140 | 65†† | 18 | 12 | | 7.5 | 105 | 75 | No | Yes | SOIC-14,TSSOP-14 | 110MHz High Voltage Rail-to-Rail Output Amp |
| 1 | SGM80581 | 105 | 220 | No | 2.5 ~ 5.5 | 150 | 6.2 | 1.5††† | | 1.5 | 5 | 105 | 65 | Yes | Yes | SOT-23-5,SOIC-8 | 220MHz Rail-to-Rail Input and Output Amp |
| 2 | SGM80582 | 105 | 220 | No | 2.5 ~ 5.5 | 150 | 6.2 | 1.5††† | | 1.5 | 5 | 105 | 65 | Yes | Yes | SOIC-8,MSOP-8 | 220MHz Rail-to-Rail Input and Output Amp |
| 4 | SGM80584 | 105 | 220 | No | 2.5 ~ 5.5 | 150 | 6.2 | 1.5††† | | 1.5 | 5 | 105 | 65 | Yes | Yes | SOIC-14 | 220MHz Rail-to-Rail Input and Output Amp |

Notes: † Typical Values @100kHz
 †† Typical Values @10kHz
 ††† Typical Values @25°C

High Precision Operational Amplifiers

The High Precision Operational Amplifier family provides high precision, low noise, low drift, rail-to-rail input and output, and single/dual/quad channel operational amplifiers. The internal auto-zero circuit cancels the input offset voltage and drift over time and temperature, and eliminates the 1/f noise as well. The combination of these characteristics makes them good choices for temperature, position and pressure sensors, medical equipment, strain gauge amplifiers, or any other industrial applications requiring high precision, low noise and long term stability.



| Amplifiers per Package | Part Number | 1 [▲] V _{OS} Max @25°C (mV) | 2 [▲] TC of V _{OS} Typ (μV/°C) | I _b Typ (pA) | Shut-down | V _{CC} (V) | GBP Typ (MHz) | Slew Rate Typ (V/μs) | E _{NOISE} 0.1Hz ~ 10Hz (μV _{PP}) | E _{NOISE} Typ @1kHz (nV/√Hz) | I _o /Amp Typ (μA) | A _{vo} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail -Rail Input | Rail-to-Rail -Rail Output | Package | Features |
|------------------------|-------------|--------------------------------------------------------|-----------------------------------------------------------|----------------------------|-----------|------------------------|---------------------|----------------------------|-----------------------------------------------------------|---------------------------------------------|---------------------------------|-----------------------------|------------------|--------------------------------|---------------------------------|-----------------------------------------|--------------------------------------------------------------------|
| 1 | SGM8255-1 | 0.01† | 0.03 | 200 | No | 4.5 ~ 36 | 9 | 4 | 0.5 | 28 | 820 | 136 | 110 | No | Yes | SOT-23-5,SOIC-8,MSOP-8 | High Voltage, Ultra High Precision, Low Noise |
| 2 | SGM8255-2 | 0.01† | 0.03 | 200 | No | 4.5 ~ 36 | 9 | 4 | 0.5 | 28 | 820 | 136 | 110 | No | Yes | SOIC-8 | High Voltage, Ultra High Precision, Low Noise |
| 4 | SGM8255-4 | 0.01† | 0.03 | 200 | No | 4.5 ~ 36 | 9 | 4 | 0.5 | 28 | 820 | 136 | 110 | No | Yes | SOIC-14 | High Voltage, Ultra High Precision, Low Noise |
| 1 | SGM8551 | 0.02 | 0.02 | 10 | No | 2.5 ~ 5.5 | 1.53 | 0.9 | 0.8 | 47.5 | 930 | 145 | 105 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | Very High Precision, Low Noise, Zero-Drift |
| 2 | SGM8552 | 0.02 | 0.02 | 10 | No | 2.5 ~ 5.5 | 1.53 | 0.9 | 0.8 | 47.5 | 465 | 145 | 105 | Yes | Yes | SOIC-8,MSOP-8 | Very High Precision, Low Noise, Zero-Drift |
| 4 | SGM8554 | 0.02 | 0.07 | 10 | No | 2.5 ~ 5.5 | 1.5 | 1 | 1.6 | 63 | 465 | 145 | 105 | Yes | Yes | SOIC-14,TSSOP-14 | Very High Precision, Low Noise, Zero-Drift |
| 1 | SGM8251 | 0.024 | 0.075 | 100 | No | 4.5 ~ 36 | 3.1 | 1.7 | 1 | 56 | 450 | 135 | 125 | No | Yes | SOT-23-5,SOIC-8,MSOP-8 | High Voltage, Ultra High Precision, Low Noise |
| 2 | SGM8252 | 0.024 | 0.075 | 100 | No | 4.5 ~ 36 | 3.1 | 1.7 | 1 | 56 | 450 | 135 | 125 | No | Yes | SOIC-8,MSOP-8 | High Voltage, Ultra High Precision, Low Noise |
| 4 | SGM8254 | 0.024 | 0.075 | 100 | No | 4.5 ~ 36 | 3.1 | 1.7 | 1 | 56 | 450 | 135 | 125 | No | Yes | SOIC-14,TSSOP-14 | High Voltage, Ultra High Precision, Low Noise |
| 1 | SGM8957-1 | 0.025 | 0.08 | 130 | No | 1.8 ~ 5.5 | 0.35 | 0.18 | 2 | | 20 | 121 | 100 | Yes | Yes | SOT-23-5,SC70-5 | Very High Precision, Low Noise, Micro Power, RRIO |
| 2 | SGM8957-2 | 0.025 | 0.08 | 130 | No | 1.8 ~ 5.5 | 0.35 | 0.18 | 2 | | 20 | 121 | 100 | Yes | Yes | SOIC-8,TDFN-3×3-8L | Very High Precision, Low Noise, Micro Power, RRIO |
| 1 | SGM8955 | 0.05 | 0.08 | 130 | No | 1.8 ~ 5.5 | 0.35 | 0.18 | 2 | | 20 | 121 | 100 | Yes | Yes | SOT-23-5,SC70-5,SOIC-8 | Very High Precision, Low Noise, Micro Power, RRIO |
| 2 | SGM8956 | 0.05 | 0.08 | 130 | No | 1.8 ~ 5.5 | 0.35 | 0.18 | 2 | | 20 | 121 | 100 | Yes | Yes | SOIC-8,MSOP-8,TDFN-3×3-8L | Very High Precision, Low Noise, Micro Power, RRIO |
| 1 | SGM8275-1 | 0.05† | 0.8 | 1000 | No | 3.6 ~ 36 | 3 | 4 | 0.3 | 8.5 | 900 | 120 | 140 | No | Yes | SOT-23-5,SOIC-8 | High Voltage, High Precision, Low Noise |
| 2 | SGM8275-2 | 0.05† | 0.8 | 1000 | No | 3.6 ~ 36 | 3 | 4 | 0.3 | 8.5 | 900 | 120 | 140 | No | Yes | SOIC-8,MSOP-8 | High Voltage, High Precision, Low Noise |
| 2 | SGM8261-2 | 0.05† | 1 | 60000 | No | 4.5 ~ 36 | 20 | 16 | 0.12 | 1.6 | 3600 | 130 | 120 | No | Yes | TDFN-3×3-8AL,TDFN-3×3-8BL,SOIC-8,MSOP-8 | High Voltage, High Precision, Ultra Low Noise, HiFi Audio Amp |
| 1 | SGM8965-1 | 0.05† | 1 | 0.5 | No | 2.1 ~ 5.5 | 50 | 28 | 6.5 | 4.7†† | 4800 | 120 | 100 | Yes | Yes | SOT-23-5,SOIC-8 | 50MHz, High Precision Amp |
| 2 | SGM8965-2 | 0.05† | 1 | 0.5 | No | 2.1 ~ 5.5 | 50 | 28 | 6.5 | 4.7†† | 4800 | 120 | 100 | Yes | Yes | SOIC-8 | 50MHz, High Precision Amp |
| 1 | SGM8295-1 | 0.06† | 1 | 2000 | No | 3.6 ~ 36 | 9 | 8 | 0.2 | 4.5 | 1500 | 120 | 120 | No | Yes | SOIC-8 | High Voltage, High Precision, Low Noise |
| 2 | SGM8295-2 | 0.06† | 1 | 2000 | No | 3.6 ~ 36 | 9 | 8 | 0.2 | 4.5 | 1500 | 120 | 120 | No | Yes | SOIC-8,MSOP-8 | High Voltage, High Precision, Low Noise |
| 1 | SGM8295-3 | 0.06† | 1 | 2000 | Yes | 3.6 ~ 36 | 9 | 8 | 0.2 | 4.5 | 1500 | 120 | 120 | No | Yes | MSOP-8,TDFN-3×3-8L | High Voltage, High Precision, Low Noise |
| 1 | SGM8555 | 0.09 | 0.05 | 30 | No | 2.5 ~ 5.5 | 3.5 | 3 | 0.6 | 21 | 950 | 133 | 98 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | 3.5MHz, 3V/μs, High Precision, Low Noise, RRIO |
| 2 | SGM8556 | 0.09 | 0.05 | 30 | No | 2.5 ~ 5.5 | 3.5 | 3 | 0.6 | 21 | 950 | 133 | 98 | Yes | Yes | SOIC-8,MSOP-8 | 3.5MHz, 3V/μs, High Precision, Low Noise, RRIO |
| 1 | SGM8581 | 0.1 | 0.1 | 15 | No | 2.5 ~ 5.5 | 1.45 | 0.75 | 0.85 | 47.5 | 445 | 145 | 90 | Yes | Yes | SOT-23-5,SOIC-8,MSOP-8 | High Precision, Low Noise, Zero-Drift |
| 2 | SGM8582 | 0.1 | 0.1 | 15 | No | 2.5 ~ 5.5 | 1.5 | 0.9 | 0.8 | 49 | 430 | 145 | 95 | Yes | Yes | SOIC-8,MSOP-8 | High Precision, Low Noise, Zero-Drift |
| 4 | SGM8584 | 0.1 | 0.15 | 60 | No | 2.5 ~ 5.5 | 1.5 | 0.9 | 1.4 | 78 | 430 | 135 | 92 | Yes | Yes | SOIC-14,TSSOP-14 | High Precision, Low Noise, Zero-Drift |
| 1 | SGM8925 | 0.6 | 2.5 | 1 | No | 1.6 ~ 5.5 | 0.11 | 0.04 | | 105 | 6.4 | 93 | 85 | No | Yes | SOT-23-5,SC70-5,SOIC-8,MSOP-8 | High Precision, Very Low Quiescent Current, Low Side Current Sense |
| 1 | SGM8927 | 0.6 | 2.5 | 1 | Yes | 1.6 ~ 5.5 | 0.11 | 0.04 | | 105 | 6.4 | 93 | 85 | No | Yes | SOT-23-6,SOIC-8,MSOP-8 | High Precision, Very Low Quiescent Current, Low Side Current Sense |
| 1 | SGM8951 | 0.8 | | | No | 1.8 ~ 5.5 | 0.11 | 0.045 | 3.5 | 115 | 26 | 92 | 92 | Yes | Yes | SOT-23-5,SOIC-8 | High Precision, Low Noise, Micro Power, RRIO |
| 2 | SGM8952 | 0.8 | | | No | 1.8 ~ 5.5 | 0.11 | 0.045 | 3.5 | 115 | 17 | 92 | 92 | Yes | Yes | SOIC-8,MSOP-8 | High Precision, Low Noise, Micro Power, RRIO |
| 1 | SGM8931 | 0.9 | 1.5 | 3 | No | 1.8 ~ 5.5 | 1.5 | 0.8 | | 30 | 80 | 100 | 86 | No | Yes | SOT-23-5,SC70-5,SOIC-8,MSOP-8 | High Precision, Low Power, Low Noise, Rail-to-Rail Output |
| 2 | SGM8932 | 0.9 | 1.5 | 3 | No | 1.8 ~ 5.5 | 1.5 | 0.8 | | 30 | 80 | 100 | 86 | No | Yes | SOIC-8,MSOP-8 | High Precision, Low Power, Low Noise, Rail-to-Rail Output |

Notes: † Typical Values @25°C
†† Typical Values @100kHz

High Precision Operational Amplifiers

| Amplifiers per Package | Part Number | ¹ V _{os} Max @25°C (mV) | ² TC of V _{os} Typ (μV/°C) | I _b Typ (pA) | Shut-down | V _{CC} (V) | GBP Typ (MHz) | Slew Rate Typ (V/μs) | E _{NOISE} 0.1Hz ~ 10Hz (μV _{PP}) | E _{NOISE} Typ @1kHz (nV/√Hz) | I _o /Amp Typ (μA) | A _{vo} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail Input | Rail-to-Rail Output | Package | Features |
|------------------------|-------------|---------------------------------------------|------------------------------------------------|-------------------------|-----------|---------------------|---------------|----------------------|-----------------------------------------------------|---------------------------------------|------------------------------|--------------------------|---------------|--------------------|---------------------|------------------------|-------------------------------------------------------------------------|
| 1 | SGM8933 | 0.9 | 1.5 | 3 | Yes | 1.8 ~ 5.5 | 1.5 | 0.8 | | 30 | 80 | 100 | 86 | No | Yes | SOT-23-6,SOIC-8,MSOP-8 | High Precision, Low Power, Low Noise, Rail-to-Rail Output |
| 4 | SGM8934 | 0.9 | 1.5 | 3 | No | 1.8 ~ 5.5 | 1.5 | 0.8 | | 30 | 80 | 100 | 86 | No | Yes | SOIC-14,TSSOP-14 | High Precision, Low Power, Low Noise, Rail-to-Rail Output |
| 2 | SGM8922A | 0.9 | 1.6 | | No | 3.0 ~ 5.5 | 12.7 | 6.8 | | 6 | 3000 | 104 | 108 | No | Yes | SOIC-8,MSOP-8,TSSOP-8 | High Precision, 300mA Output Short Circuit Current, Rail-to-Rail Output |
| 2 | SGM8926 | 0.9 | 2.5 | 1 | No | 1.6 ~ 5.5 | 0.11 | 0.04 | | 105 | 6.4 | 93 | 85 | No | Yes | SOIC-8,MSOP-8 | High Precision, Very Low Quiescent Current, Low Side Current Sense |
| 2 | SGM8924A | 1 | 1.5 | | No | 3.0 ~ 5.5 | 8.9 | 5.1 | | 6 | 5500 | 105 | 102 | No | Yes | MSOP-10 | High Precision, 300mA Output Short Circuit Current, Rail-to-Rail Output |
| 1 | SGM8291 | 1.5 | 3 | 20 | No | 4.5 ~ 36 | 1.4 | 5 | | 45 | 144 | 86 | 84 | No | Yes | SOT-23-5,SOIC-8,MSOP-8 | High Voltage, Precision, Low Power, Rail-to-Rail Output |
| 2 | SGM8292 | 1.5 | 3 | 20 | No | 4.5 ~ 36 | 1.4 | 5 | | 45 | 144 | 86 | 84 | No | Yes | SOIC-8,MSOP-8 | High Voltage, Precision, Low Power, Rail-to-Rail Output |
| 4 | SGM8294 | 1.5 | 3 | 20 | No | 4.5 ~ 36 | 1.4 | 5 | | 45 | 144 | 86 | 84 | No | Yes | SOIC-14,TSSOP-14 | High Voltage, Precision, Low Power, Rail-to-Rail Output |

Operational Amplifier, Comparator

Audio/Video Driver

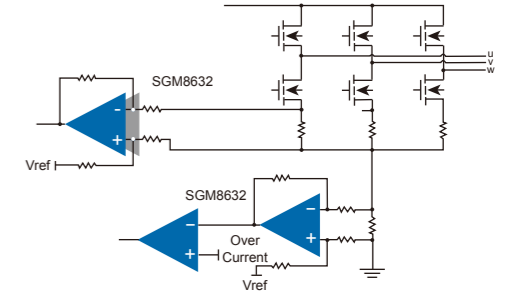
Analog Switch

Power Management IC

Logic IC

Low Noise Operational Amplifiers

The Low Noise Operational Amplifier family provides rail-to-rail input and output with an excellent speed/power consumption ratio. They are designed to provide optimal performance in low noise systems, providing rail-to-rail output swing into heavy loads. The combination of these characteristics makes them extremely suitable for sensor interfaces, high speed current sensing and active filtering.



| 2 [▲] Amplifiers per Package | Part Number | 1 [▲] E _{NOISE} 1kHz (nV/√Hz) | I _{NOISE} Typ @1kHz (pA/√Hz) | GBP Typ (MHz) | Slew Rate Typ (V/μs) | I _{OUT} Min @25°C (mA) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | V _{CC} (V) | I _O /Amp Typ (mA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to- -Rail I/O | Package | Features |
|------------------------------------------------|----------------|----------------------------------------------------------|---------------------------------------------|---------------------|----------------------------|---------------------------------------|--------------------------------------|-----------------------------------------|----------------------------|------------------------|---------------------------------|-----------------------------|------------------|--------------------------|-----------------------------------------|------------------------------------------------------------------------|
| 2 | SGM8261-2 | 1.6 | 6 | 20 | 16 | 60† | 0.05† | 1 | 60000 | 4.5 ~ 36 | 3.6 | 130 | 120 | Output | TDFN-3×3-8AL,TDFN-3×3-8BL,SOIC-8,MSOP-8 | 20MHz, Ultra Low Noise, HiFi Audio Amp |
| 2 | SGM8261-5 | 1.6 | 6 | 20 | 16 | 120† | 0.05† | 1 | 60000 | 4.5 ~ 36 | 4 | 130 | 120 | Output | TDFN-3×3-10L,MSOP-10 | 20MHz, Ultra Low Noise, HiFi Audio Amp |
| 1 | SGM8295-1 | 4.5 | 2 | 9 | 8 | 50† | 0.06† | 1 | 2000 | 3.6 ~ 36 | 1.5 | 120 | 120 | Output | SOIC-8 | 9MHz, Low Noise, High Voltage Amp |
| 1 | SGM8295-3 | 4.5 | 2 | 9 | 8 | 50† | 0.06† | 1 | 2000 | 3.6 ~ 36 | 1.5 | 120 | 120 | Output | MSOP-8,TDFN-3×3-8L | 9MHz, Low Noise, High Voltage Amp with Enable Pin |
| 2 | SGM8295-2 | 4.5 | 2 | 9 | 8 | 50† | 0.06† | 1 | 2000 | 3.6 ~ 36 | 1.5 | 120 | 120 | Output | SOIC-8,MSOP-8 | 9MHz, Low Noise, High Voltage Amp |
| 4 | SGM8295-4 | 4.5 | 2 | 9 | 8 | 50† | 0.06† | 1 | 2000 | 3.6 ~ 36 | 1.5 | 120 | 120 | Output | SOIC-14 | 9MHz, Low Noise, High Voltage Amp |
| 1 | SGM8275-1 | 8.5 | 1.5 | 3 | 4 | 35† | 0.05† | 0.8 | 1000 | 3.6 ~ 36 | 0.9 | 120 | 140 | Output | SOT-23-5,SOIC-8 | 3MHz, Low Noise, High Voltage Amp |
| 2 | SGM8275-2 | 8.5 | 1.5 | 3 | 4 | 35† | 0.05† | 0.8 | 1000 | 3.6 ~ 36 | 0.9 | 120 | 140 | Output | SOIC-8,MSOP-8 | 3MHz, Low Noise, High Voltage Amp |
| 1 | SGM8651 | 8.7†† | | 50 | 66 | 100 | 8 | 4.5 | 6 | 2.5 ~ 5.5 | 2.3 | 80 | 80 | Output | SOT-23-5,SOIC-8 | 50MHz/66V/μs, Low Noise, Rail-to-Rail Output |
| 1 | SGM8653 | 8.7†† | | 50 | 66 | 100 | 8 | 4.5 | 6 | 2.5 ~ 5.5 | 2.3 | 80 | 80 | Output | SOT-23-6,SOIC-8 | 50MHz/66V/μs, Low Noise, Single Amp with Shutdown, Rail-to-Rail Output |
| 2 | SGM8652 | 8.7†† | | 50 | 66 | 100 | 8 | 4.5 | 6 | 2.5 ~ 5.5 | 2.3 | 80 | 80 | Output | SOIC-8,MSOP-8 | 50MHz/66V/μs, Low Noise, Rail-to-Rail Output |
| 2 | SGM8655 | 8.7†† | | 50 | 66 | 100 | 8 | 4.5 | 6 | 2.5 ~ 5.5 | 2.3 | 80 | 80 | Output | MSOP-10 | 50MHz/66V/μs, Low Noise, Dual Amps with Shutdown, Rail-to-Rail Output |
| 4 | SGM8654 | 8.7†† | | 50 | 66 | 100 | 8 | 4.5 | 6 | 2.5 ~ 5.5 | 2.3 | 80 | 80 | Output | SOIC-14,TSSOP-14 | 50MHz/66V/μs, Low Noise, Rail-to-Rail Output |
| 4 | SGM8634 | 12 | 0.003 | 6 | 3.7 | 49 | 3.5 | 2.4 | 1 | 2.5 ~ 5.5 | 0.47 | 97 | 83 | Yes | SOIC-14,TSSOP-14 | 6MHz/3.7V/μs, Low Noise, RRIO |
| 1 | SGM721 | 12.5 | | 11 | 8.5 | 52 | 4 | 2.1 | 1 | 2.1 ~ 5.5 | 1.1 | 90 | 75 | Yes | SOT-23-5,SOIC-8,SC70-5 | 11MHz/8.5V/μs, Low Noise, RRIO |
| 1 | SGM723 | 12.5 | | 11 | 8.5 | 52 | 4 | 2.1 | 1 | 2.1 ~ 5.5 | 1.1 | 90 | 75 | Yes | SOT-23-6,SOIC-8 | 11MHz/8.5V/μs, Low Noise, Single Amp with Shutdown, RRIO |
| 2 | SGM722 | 12.5 | | 11 | 8.5 | 52 | 4 | 2.1 | 1 | 2.1 ~ 5.5 | 1.1 | 90 | 75 | Yes | SOIC-8,MSOP-8,TSSOP-8 | 11MHz/8.5V/μs, Low Noise, RRIO |
| 4 | SGM724 | 12.5 | | 11 | 8.5 | 52 | 4 | 2.1 | 1 | 2.1 ~ 5.5 | 1.1 | 90 | 75 | Yes | SOIC-14,TSSOP-14 | 11MHz/8.5V/μs, Low Noise, RRIO |
| 1 | SGM8631 | 13 | | 6 | 3.7 | 39 | 3.5 | 2.4 | 1 | 2 ~ 5.5 | 0.48 | 92 | 76 | Yes | SOT-23-5,SOIC-8,SC70-5 | 6MHz/3.7V/μs, Low Noise, RRIO |
| 1 | SGM8633 | 13 | | 6 | 3.7 | 39 | 3.5 | 2.4 | 1 | 2 ~ 5.5 | 0.48 | 92 | 76 | Yes | SOT-23-6,SOIC-8 | 6MHz/3.7V/μs, Low Noise, Single Amp with Shutdown, RRIO |
| 2 | SGM8632 | 13 | | 6 | 3.7 | 39 | 3.5 | 2.4 | 1 | 2 ~ 5.5 | 0.48 | 92 | 76 | Yes | MSOP-8,SOIC-8 | 6MHz/3.7V/μs, Low Noise, RRIO |
| 1 | SGM8621 | 17.5 | | 3 | 1.7 | 43 | 3 | 2.7 | 1 | 2 ~ 5.5 | 0.21 | 92 | 71 | Yes | SOT-23-5,SOIC-8,SC70-5 | 3MHz/1.7V/μs, Low Noise, RRIO |
| 1 | SGM8623 | 17.5 | | 3 | 1.7 | 43 | 3 | 2.7 | 1 | 2 ~ 5.5 | 0.21 | 92 | 71 | Yes | SOT-23-6,SOIC-8 | 3MHz/1.7V/μs, Low Noise, Single Amp with Shutdown, RRIO |
| 2 | SGM8622 | 17.5 | | 3 | 1.7 | 43 | 3 | 2.7 | 1 | 2 ~ 5.5 | 0.21 | 92 | 71 | Yes | SOIC-8,MSOP-8 | 3MHz/1.7V/μs, Low Noise, RRIO |
| 4 | SGM8624 | 17.5 | | 3 | 1.7 | 43 | 3 | 2.7 | 1 | 2 ~ 5.5 | 0.21 | 92 | 71 | Yes | SOIC-14,TSSOP-14 | 3MHz/1.7V/μs, Low Noise, RRIO |

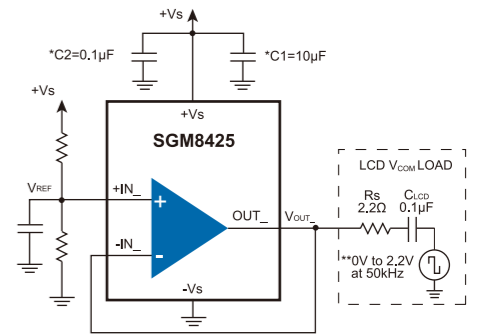
Notes: † Typical Values @25°C
 †† Typical Values @1MHz

Special Function Operational Amplifiers

| Amplifiers per Package | Part Number | Features | Settling Time to 0.1% (μs) | GBP Typ (MHz) | Slew Rate Typ (V/μs) | I _{OUT} Typ (mA) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | V _{CC} (V) | I _Q /Amp Typ (μA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail I/O | Package |
|------------------------|-------------|---------------------------------------------------------------------|----------------------------|---------------|----------------------|---------------------------|--------------------------------|-----------------------------------|-------------------------|---------------------|------------------------------|--------------------------|---------------|------------------|-----------------|
| 1 | SGM8481 | Single Power Supply, True Negative Signal Amp | | 5.3 | 8 | 20 | 2 | | | 3 ~ 5.5 | 12000 | 120 | 90 | | MSOP-10 |
| 2 | SGM8482 | Single Power Supply, True Negative Signal Amp | | 5.3 | 8 | 20 | 2 | | | 3 ~ 5.5 | 12000 | 120 | 90 | | TSSOP-14 |
| 1 | SGM8941 | Crossover Distortion Free, 0.9mV V _{OS} , Low Bias Current | 2 | 1.5 | 0.8 | | 0.9 | 3 | 3 | 1.8 ~ 5.5 | 120 | 90 | 90 | Yes | SOT-23-5,SOIC-8 |
| 2 | SGM8942 | Crossover Distortion Free, 0.9mV V _{OS} , Low Bias Current | 2 | 1.5 | 0.8 | | 0.9 | 3 | 3 | 1.8 ~ 5.5 | 120 | 90 | 90 | Yes | SOIC-8,MSOP-8 |

High Output Operational Amplifiers

| Amplifiers per Package | Part Number | Transient Output Peak Current (mA) | Settling Time to 0.1% (μs) | GBP Typ (MHz) | Slew Rate Typ (V/μs) | I _{OUT} Typ (mA) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | I _B Typ (pA) | V _{CC} (V) | I _Q /Amp Typ (μA) | A _{VO} Typ (dB) | CMRR Typ (dB) | Rail-to-Rail I/O | Package | Features |
|------------------------|-------------|------------------------------------|----------------------------|---------------|----------------------|---------------------------|--------------------------------|-----------------------------------|-------------------------|---------------------|------------------------------|--------------------------|---------------|------------------|------------------------|----------------------------------------------------------------------------------------|
| 2 | SGM8422 | | | 2.4 | 2 | 80 | 5.9 | | 10 | 4.5 ~ 30 | 660 | 113 | 73 | Yes | SOIC-8,MSOP-8 | Low Power, 30V _{CC} , Dual V _{COM} Buffer for Small Panel |
| 4 | SGM8424 | | | 2.4 | 2 | 80 | 5.9 | | 10 | 4.5 ~ 30 | 660 | 113 | 73 | Yes | SOIC-14,TSSOP-14 | Low Power, 30V _{CC} , Quad V _{COM} Buffer for Small Panel |
| 1 | SGM8425 | 336 | 0.34 | 9 | 14 | 80 | 6.5 | 4.9 | | 4.5 ~ 30 | 1600 | 92 | 71 | Yes | SOT-23-5,SOIC-8,MSOP-8 | 336mA Peak Output Current, 14V/μs, 30V _{CC} , Single V _{COM} Buffer |
| 2 | SGM8426 | 336 | 0.34 | 9 | 14 | 80 | 6.5 | 4.9 | | 4.5 ~ 30 | 1600 | 92 | 71 | Yes | SOIC-8,MSOP-8 | 336mA Peak Output Current, 14V/μs, 30V _{CC} , Dual V _{COM} Buffer |
| 4 | SGM8428 | 336 | 0.34 | 9 | 14 | 80 | 6.5 | 4.9 | | 4.5 ~ 30 | 1600 | 92 | 71 | Yes | SOIC-14,TSSOP-14 | 336mA Peak Output Current, 14V/μs, 30V _{CC} , Quad V _{COM} Buffer |
| 1 | SGM8416-1 | 800 | 0.16 | 25 | 65 | 300 | 8 | | 1000 | 4.5 ~ 26.5 | 2500 | 120 | 72 | Yes | TDFN-3x3-8L | 0.8A Peak Output Current, 65V/μs, 26.5V _{CC} , Single V _{COM} Buffer |
| 2 | SGM8416-2 | 800 | 0.16 | 25 | 65 | 300 | 8 | | 1000 | 4.5 ~ 26.5 | 2500 | 120 | 72 | Yes | MSOP-8 (Exposed Pad) | 0.8A Peak Output Current, 65V/μs, 26.5V _{CC} , Dual V _{COM} Buffer |
| 4 | SGM8416-4 | 800 | 0.16 | 25 | 65 | 300 | 8 | | 1000 | 4.5 ~ 26.5 | 2500 | 120 | 72 | Yes | TSSOP-14 (Exposed Pad) | 0.8A Peak Output Current, 65V/μs, 26.5V _{CC} , Quad V _{COM} Buffer |
| 1 | SGM8417-1 | 1500 | 0.135 | 27 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 3300 | 120 | 72 | Yes | TDFN-3x3-8L | 1.5A Peak Output Current, 65V/μs, 26.5V _{CC} , Single V _{COM} Buffer |
| 2 | SGM8417-2 | 1500 | 0.135 | 27 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 3300 | 120 | 72 | Yes | MSOP-8 (Exposed Pad) | 1.5A Peak Output Current, 65V/μs, 26.5V _{CC} , Dual V _{COM} Buffer |
| 4 | SGM8417-4 | 1500 | 0.135 | 27 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 3300 | 120 | 72 | Yes | TSSOP-14 (Exposed Pad) | 1.5A Peak Output Current, 65V/μs, 26.5V _{CC} , Quad V _{COM} Buffer |
| 2 | SGM8423-2 | 2000 | | 72/60 | 68/75 | 1500 | 2/1† | | 20/30 | 5 ~ 12 | 2200 | 130/110 | 110/100 | Yes | TQFN-4x4-20L | High Speed, Low Noise, 2A PLC Driver |
| 1 | SGM8418-1 | 3000 | 0.13 | 25 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 4500 | 120 | 72 | Yes | TDFN-3x3-8L | 3A Peak Output Current, 65V/μs, 26.5V _{CC} , Single V _{COM} Buffer |
| 2 | SGM8418-2 | 3000 | 0.13 | 25 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 4500 | 120 | 72 | Yes | MSOP-8 (Exposed Pad) | 3A Peak Output Current, 65V/μs, 26.5V _{CC} , Dual V _{COM} Buffer |
| 4 | SGM8418-4 | 3000 | 0.13 | 25 | 65 | 400 | 8 | | 1000 | 4.5 ~ 26.5 | 4500 | 120 | 72 | Yes | TSSOP-14 (Exposed Pad) | 3A Peak Output Current, 65V/μs, 26.5V _{CC} , Quad V _{COM} Buffer |
| 1 | SGM8421-1 | 3000 | 0.13 | 25 | 65 | 400 | 1† | 3.6 | 1000 | 4.5 ~ 26.5 | 4500 | 120 | 72 | Yes | TO-263-A | High Speed, Low Noise, 400mA Continuous Output Current Resolver Driver |



Notes: † Typical Values @25°C

Tiny Package Operational Amplifiers

| Amplifiers per Package | Part Number | Estimated Package Size (W×L) (mm ²) | V _{OS} Max @25°C (mV) | TC of V _{OS} Typ (μV/°C) | GBP Typ (MHz) | A _{VO} Typ (dB) | I _b Typ (pA) | V _{CC} (V) | I _b /Amp Typ (μA) | Settling Time to 0.1% (μs) | Slew Rate Typ (V/μs) | I _{OUT} Typ (mA) | CMRR Typ (dB) | Rail-to-Rail I/O | Package | Features |
|------------------------|-------------|-------------------------------------------------|--------------------------------|-----------------------------------|---------------|--------------------------|-------------------------|---------------------|------------------------------|----------------------------|----------------------|---------------------------|---------------|------------------|-----------------------------------------|--------------------------------------------------------------------|
| 1 | SGM8605-1 | 1.45 | 5 | 6 | 12.5 | 88 | 1 | 2.1 ~ 5.5 | 1200 | 0.36 | 8.5 | 77 | 78 | Yes | UTDFN-1.45×1-6L | Ultra Tiny Package, Low Noise |
| 1 | SGM8601 | 4 | 4 | 8.7 | 11 | 92 | 1 | 2.1 ~ 5.5 | 1100 | 0.21 | 8.5 | 63 | 82 | Yes | TDFN-2×2-8L | Tiny Package, Low Noise |
| 1 | SGM8603 | 4 | 4.9 | 2.7 | 11 | 91 | 1 | 2.1 ~ 5.5 | 1100 | 0.21 | 8.5 | 64 | 83 | Yes | TDFN-2×2-6L | Tiny Package, Low Noise |
| 2 | SGM8600 | 4 | 4 | 8.7 | 11 | 92 | 1 | 2.1 ~ 5.5 | 1100 | 0.21 | 8.5 | 63 | 82 | Yes | TDFN-2×2-8L,SOIC-8 | Tiny Package, Positive Offset, Low Noise |
| 1 | SGM8049-1 | 4 | 0.85 | 0.6 | 0.12 | 118 | 1 | 1.8 ~ 5.5 | 2.5 | | 0.08 | 20 | 100 | Yes | SC70-5,SOT-23-5,TDFN-2×2-6L | Pico Amp Input Current, Micro Power, Rail-to-Rail Input and Output |
| 2 | SGM8602 | 6 | 5.1 | 4.7 | 12 | 92 | 1 | 2.1 ~ 5.5 | 1100 | 0.2 | 9 | 65 | 75 | Yes | SOT-23-8,TDFN-2×3-8L | Tiny Package, Low Noise |
| 2 | SGM8240-2 | 6 | 0.4† | | 0.1 | 120 | 50 | 2.7 ~ 24 | 3.3 | | 0.08 | 20 | 100 | Yes | TDFN-2×3-8L,SOIC-8,MSOP-8 | High Performance, Wide Supply Operation, Low Noise |
| 2 | SGM8606 | 9 | 0.05 | 0.1 | 0.35 | 128 | 120 | 1.8 ~ 5.5 | 22 | | 0.12 | | 105 | Yes | TDFN-3×3-10L | Current Sensing AFE |
| 1 | SGM8295-3 | 9 | 0.06† | 1 | 9 | 120 | 2000 | 3.6 ~ 36 | 1500 | 0.6 | 8 | 50 | 120 | Output | MSOP-8,TDFN-3×3-8L | High Voltage, High Precision, Low Noise |
| 2 | SGM8957-2 | 9 | 0.025 | 0.08 | 0.35 | 121 | 130 | 1.8 ~ 5.5 | 20 | | 0.18 | 60 | 100 | Yes | SOIC-8,TDFN-3×3-8L | Very High Precision, Low Noise, Micro Power, RRIO |
| 2 | SGM8956 | 9 | 0.05 | 0.08 | 0.35 | 121 | 130 | 1.8 ~ 5.5 | 20 | | 0.18 | 60 | 100 | Yes | SOIC-8,MSOP-8,TDFN-3×3-8L | Very High Precision, Low Noise, Micro Power, RRIO |
| 2 | SGM8261-2 | 9 | 0.05† | 1 | 20 | 130 | 60000 | 4.5 ~ 36 | 3600 | | 16 | 60 | 120 | Output | SOIC-8,MSOP-8,TDFN-3×3-8AL,TDFN-3×3-8BL | 20MHz, Ultra Low Noise, HiFi Audio Amp |
| 2 | SGM8261-5 | 9 | 0.05† | 1 | 20 | 130 | 60000 | 4.5 ~ 36 | 4000 | | 16 | 120 | 120 | Output | MSOP-10,TDFN-3×3-10L | 20MHz, Ultra Low Noise, HiFi Audio Amp |
| 4 | SGM8044 | 9 | 2.5 | 2.5 | 0.015 | 93 | 1 | 1.4 ~ 5.5 | 0.67 | | 0.0034 | 23 | 83 | Yes | SOIC-14,TSSOP-14,TQFN-3×3-16L | Very Low Quiescent Current, Rail-to-Rail Input and Output |
| 3 | SGM8140 | 16 | 2.5 | 2 | 0.005 | 93 | 1 | 1.4 ~ 5.5 | 1.1 | | 0.0016 | 24 | 83 | Yes | TQFN-4×4-16L | PIR Sensor AFE Integrate 2 Operational Amplifiers and 1 Comparator |

Note: † Typical Values @25°C

Operational Amplifier, Comparator

Audio/Video Driver

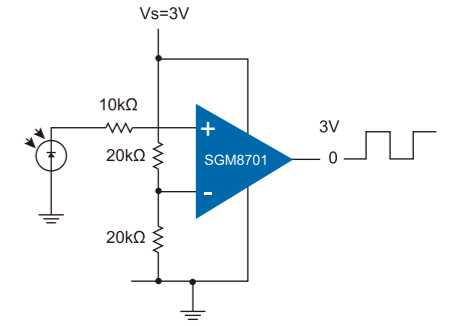
Analog Switch

Power Management IC

Logic IC

Nano Power Comparators

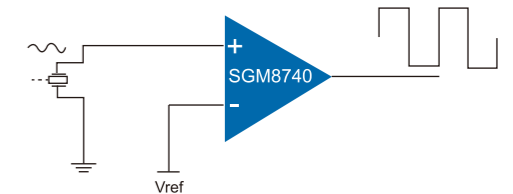
The Nano Power Comparator family provides a typical power supply current as low as 350nA. They have the best-in-class power supply current versus propagation delay performance. The propagation delay is as low as 6µs with 100mV overdrive at 1.4V supply. The Nano Power Comparator family also provides different options featuring push-pull output stage, PFET/NFET open-drain output stage, latch enable, reference output and ultra small DFN packages.



| Comparators per Package | Part Number | $I_{o/Comp}$ Typ (nA) | Latch Enable | V_{CC} (V) | V_{OS} Max @25°C (mV) | $t_{PD, H to L}$ @ $V_{CC} = 5V$ (µs) | $t_{PD, L to H}$ @ $V_{CC} = 5V$ (µs) | Logic Output | Reference Output (V) | Rise Time @ $V_{CC} = 5V$ (ns) | Fall Time @ $V_{CC} = 5V$ (ns) | Package | Features |
|-------------------------|-------------|-----------------------|--------------|--------------|-------------------------|---------------------------------------|---------------------------------------|--------------------|----------------------|--------------------------------|--------------------------------|--------------------------|---------------------------------------------------------------------------|
| 1 | SGM8701 | 350 | No | 1.4 ~ 5.5 | 3 | 6 | 33 | Push-Pull | NA | 85 | 60 | SOT-23-5,SC70-5 | Ultra Low Power, Push-Pull, Small Package |
| 1 | SGM8702 | 350 | No | 1.4 ~ 5.5 | 3 | 6 | 33 | Open-Drain (PFET) | NA | 85 | NA | SOT-23-5,SC70-5 | Ultra Low Power, PFET Open-Drain, Small Package |
| 1 | SGM8703 | 350 | Yes | 1.4 ~ 5.5 | 3 | 6 | 33 | Push-Pull | NA | 85 | 60 | SOT-23-6 | Latch Enable, Ultra Low Power, Push-Pull, Small Package |
| 1 | SGM8704 | 350 | Yes | 1.4 ~ 5.5 | 3 | 6 | 33 | Push-Pull & Invert | NA | 85 | 60 | SOIC-8,MSOP-8 | Latch Enable, Ultra Low Power, Push-Pull and Inverter |
| 2 | SGM8705 | 350 | No | 1.4 ~ 5.5 | 3 | 6 | 33 | Push-Pull | NA | 85 | 60 | SOIC-8,MSOP-8 | Ultra Low Power, Push-Pull |
| 1 | SGM8707 | 350 | No | 1.4 ~ 5.5 | 3 | 6 | 33 | Push-Pull | NA | 85 | 60 | SOT-23-5,SC70-5 | Ultra Low Power, Push-Pull, Small Package |
| 1 | SGM8709 | 350 | No | 1.4 ~ 5.5 | 3 | 5 | | Open-Drain (NFET) | NA | NA | 36 | SOT-23-5,SC70-5 | Ultra Low Power, NFET Open-Drain, Small Package |
| 1 | SGM8706 | 2300 | Yes | 1.8 ~ 5.5 | 3 | 5.6 | 30 | Push-Pull | 1.2 | 40 | 30 | SOIC-8,SOT-23-8,SOT-23-6 | Internal Reference, Latch Enable, Ultra Low Power, Push-Pull |
| 1 | SGM8708 | 2300 | Yes | 1.8 ~ 5.5 | 3 | 5.6 | 30 | Push-Pull & Invert | 1.2 | 40 | 30 | SOT-23-8,SOIC-8 | Internal Reference, Latch Enable, Ultra Low Power, Push-Pull and Inverter |
| 1 | SGM8710 | 2300 | Yes | 1.8 ~ 5.5 | 3 | 5.6 | | Open-Drain (NFET) | 1.2 | NA | 30 | SOT-23-8,SOT-23-6 | Internal Reference, Latch Enable, Ultra Low Power, NFET Open-Drain |
| 1 | SGM8711 | 2300 | No | 1.8 ~ 5.5 | 3 | 5.6 | 30 | Push-Pull | 1.2 | 40 | 30 | UTDFN-1.6×1.6-6L | Tiny Package, Internal Reference, Ultra Low Power, Push-Pull |

High Speed Comparators

The High Speed Comparator family provides the smallest propagation delay as short as 6ns, while input common mode range of the devices extends beyond both power supply rails. The output pulls to within 0.1V of either supply rail without external pull-up circuitry, making the devices ideal for interface with both CMOS and TTL logics. All input and output pins can tolerate a continuous short-circuit fault condition to either rail. Internal hysteresis ensures a clean output switching, even with slow-moving input signals.



| Comparators per Package | Part Number | $t_{PD, H to L}$ @ $V_{CC} = 5V$ (ns) | $t_{PD, L to H}$ @ $V_{CC} = 5V$ (ns) | Rise Time @ $V_{CC} = 5V$ (ns) | Fall Time @ $V_{CC} = 5V$ (ns) | V_{OS} Max @25°C (mV) | V_{CC} (V) | Input Common Mode Voltage Range (V) | $I_{o/Comp}$ Typ (µA) | Logic Output | Rail-to-Rail Output | Package | Features |
|-------------------------|-------------|---------------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------------|--------------|-------------------------------------|-----------------------|--------------|---------------------|-----------------|-------------------------------------------------------------|
| 1 | SGM8743 | 6 | 6 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 1300 | Push-Pull | Yes | SOT-23-5,SC70-5 | Ultra High Speed, Small Package, Single, Rail-to-Rail Input |
| 1 | SGM8744 | 6 | 6 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 1300 | Push-Pull | Yes | SOT-23-5,SC70-5 | Ultra High Speed, Small Package, Single, Rail-to-Rail Input |
| 2 | SGM8745 | 6 | 6 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 1300 | Push-Pull | Yes | SOIC-8,MSOP-8 | Ultra High Speed, Small Package, Dual, Rail-to-Rail Input |
| 1 | SGM8740 | 20 | 25 | 8 | 5 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 155 | Push-Pull | Yes | SOT-23-5,SC70-5 | High Speed, Small Package, Single, Rail-to-Rail Input |
| 1 | SGM8741 | 20 | 25 | 8 | 5 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 155 | Push-Pull | Yes | SOT-23-5,SC70-5 | High Speed, Small Package, Single, Rail-to-Rail Input |
| 2 | SGM8742 | 20 | 25 | 8 | 5 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 155 | Push-Pull | Yes | SOIC-8,MSOP-8 | High Speed, Small Package, Dual, Rail-to-Rail Input |
| 1 | SGM8751 | 30 | 22 | 11 | 8 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S-1.2$ | 150 | Push-Pull | Yes | SOT-23-5 | Low Power, Small Package, Single, Rail-to-Rail Output |
| 1 | SGM8746 | 95 | 120 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 22 | Push-Pull | Yes | SOT-23-5,SC70-5 | Low Power, Small Package, Single, Rail-to-Rail Input |
| 1 | SGM8747 | 95 | 120 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 22 | Push-Pull | Yes | SOT-23-5,SC70-5 | Low Power, Small Package, Single, Rail-to-Rail Input |
| 2 | SGM8748 | 95 | 120 | 8 | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 22 | Push-Pull | Yes | SOIC-8,MSOP-8 | Low Power, Small Package, Dual, Rail-to-Rail Input |
| 1 | SGM8749 | 97 | NA | NA | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 22 | Open-Drain | No | SOT-23-5,SC70-5 | Low Power, Small Package, Single, Open-Drain Output |
| 2 | SGM8750 | 97 | NA | NA | 6 | 5 | 2.7 ~ 5.5 | -0.1 ~ $V_S+0.1$ | 22 | Open-Drain | No | SOIC-8,MSOP-8 | Low Power, Small Package, Dual, Open-Drain Output |

High Performance Video Buffers

The High Performance, High Reliability Video Buffer family provides industry's broadest products of driving Standard Definition and High Definition analog video signals, including 1080p. These comprehensive filtering solutions provide the designers flexibility to easily filter and drive various video signals, including high definition video, DVD and set-top box applications.

| Part Number | Standard Definition Channels | High Definition Channels | 1080p Support | Shut-down | V _{CC} (V) | Internal Gain (dB) | -3dB Bandwidth Typ (MHz) | -0.1dB Bandwidth Typ (MHz) | Rail-to-Rail Output | Internal Filter | Quiescent Current (mA) | Slew Rate Typ (V/μs) | Group Delay (ns) | Package | Features |
|-------------|------------------------------|--------------------------|---------------|-----------|---------------------|--------------------|--------------------------|----------------------------|---------------------|-----------------|------------------------|----------------------|------------------|-----------------------|----------------------------------------------------------------------------|
| SGM9111 | 1 | | | No | 3.0 ~ 5.5 | 6 | 8 | 6 | Yes | Yes | 6 | 35 | 28 | SOIC-8,SC70-5 | Single Channel, Standard Definition, Small Package |
| SGM9113 | 1 | | | No | 3.0 ~ 5.5 | 6 | 8 | 6 | Yes | Yes | 6 | 35 | 28 | SOIC-8,SC70-5 | Single Channel, Standard Definition, Small Package |
| SGM9114 | 1 | | | Yes | 3.0 ~ 5.5 | 6 | 8 | 6 | Yes | Yes | 6 | 35 | 28 | SOT-23-6 | Single Channel, Standard Definition, Small Package with Shutdown |
| SGM9115 | 3 | | | No | 3.3 ~ 5.5 | 6 | 9 | 5.5 | Yes | Yes | 21 | 44 | 31 | SOIC-8 | Triple Channels, Standard Definition |
| SGM9116 | | 3 | | No | 3.3 ~ 5.5 | 6 | 38.5 | 30.5 | Yes | Yes | 30 | 165 | 3 | SOIC-8 | Triple Channels, High Definition, 1080i Supported |
| SGM9117 | | 3 | Yes | No | 2.5 ~ 5.5 | 6 | 200 | 92 | Yes | No | 27.5 | 300 | 3 | SOIC-8 | Triple Channels, High Definition, 1080p Supported |
| SGM9119 | 3 | | | No | 3.3 ~ 5.5 | 6 | 8 | 5.56 | Yes | Yes | 21 | 31.5 | 31.2 | SOIC-8,MSOP-8 | Triple Channels, Standard Definition |
| SGM9121 | 1 | | | Yes | 3.0 ~ 5.5 | 6 | 8 | 6 | Yes | Yes | 6 | 35 | 28 | SC70-6 | Single Channel, Standard Definition, Small Package with Shutdown |
| SGM9122 | 2 | | | No | 3.0 ~ 5.5 | 6 | 15 | 8.9 | Yes | Yes | 5.8 | | | WSOP-8,TSSOP-8 | Dual Channels, Standard Definition |
| SGM9124 | 4 | | | No | 3.3 ~ 5.5 | 6 | 8 | 5.9 | Yes | Yes | 30 | 35 | 28 | MSOP-10 | Quad Channels, Standard Definition |
| SGM9125 | 5 | | | No | 3.3 ~ 5.5 | 6 | 8 | 5.8 | Yes | Yes | 44 | 35 | 30.4 | TSSOP-14 | Five Channels, Standard Definition |
| SGM9126 | 6 | | | No | 3.3 ~ 5.5 | 6 | 8 | 5.7 | Yes | Yes | 44 | 35 | 30.5 | TSSOP-14 | Six Channels, Standard Definition |
| SGM9127 | 4 | | | No | 3.3 ~ 5.5 | 6 | 8 | 5.9 | Yes | Yes | 30 | 35 | 28 | TSSOP-14 | Quad Channels, Standard Definition |
| SGM9128YP | 1 | 3 | | No | 3.1 ~ 5.5 | 6 | 8.5/46 | 6.4/32 | Yes | Yes | 65 | 34/190 | 30/2.5 | MSOP-10 (Exposed Pad) | Single SD Channel, Triple HD Channels, 1080i Supported, Exposed Pad |
| SGM9131 | | 3 | | No | 3.1 ~ 5.5 | 6 | 46 | 32 | Yes | Yes | 55 | 190 | 3.5 | SOIC-8 | Triple Channels, High Definition, 1080i Supported |
| SGM9132 | | 3 | Yes | No | 3.1 ~ 5.5 | 6 | 98 | 78 | Yes | Yes | 75 | 340 | 5.3 | SOIC-8 (Exposed Pad) | Triple Channels, High Definition, 1080p Supported |
| SGM9133 | 1 | 3 | Yes | Yes | 3.1 ~ 5.5 | 6 | 8.5/46/98 | 6.4/32/78 | Yes | Yes | 75 | 34/190/340 | 35/3.5/7 | TSSOP-14 | Single SD Channel, Triple HD Channels, 1080i/1080p Supported with Shutdown |
| SGM9134 | 1 | 3 | | No | 3.1 ~ 5.5 | 6 | 8.5/46 | 6.4/32 | Yes | Yes | 58 | 34/190 | 35/3.5 | TSSOP-14 | Single SD Channel, Triple HD Channels, 1080i Supported |
| SGM9135 | 1 | 3 | Yes | No | 3.1 ~ 5.5 | 6 | 8.5/98 | 6.4/78 | Yes | Yes | 88 | 34/340 | 35/5.3 | MSOP-10 (Exposed Pad) | Single SD Channel, Triple HD Channels, 1080p Supported |
| SGM9136 | 1 | 3 | Yes | Yes | 3.1 ~ 5.5 | 6 | 8.5/46/98 | 6.4/33/78 | Yes | Yes | 75 | 34/190/340 | 35/3.5/5.3 | TSSOP-14 | Single SD Channel, Triple HD Channels, 1080i/1080p Supported with Shutdown |
| SGM9137 | 1 | 3 | | No | 3.1 ~ 5.5 | 6 | 8.5/46 | 6.4/32 | Yes | Yes | 58 | 34/190 | 35/3.5 | TSSOP-14 | Single SD Channel, Triple HD Channels, 1080i Supported |
| SGM9144 | 1 | | | Yes | 2.5 ~ 4.0 | 6/12 | 14/14 | | Yes | Yes | 11.8 | 60 | | MSOP-8,TDFN-2x2-8L | Single SD Channel, Capless Output Coupling |
| SGM9152 | | 1 | Yes | Yes | 3.1 ~ 5.5 | 6 | 79 | 64 | Yes | Yes | 15 | 300 | 3.5 | MSOP-8 | Single HD Channel, 1080p Supported |
| SGM9153 | | 1 | Yes | Yes | 2.5 ~ 4.0 | 6 | 82 | 62 | Yes | Yes | 36 | 305 | 6.2 | MSOP-10,TDFN-3x3-10L | Single HD Channel, 1080p Supported, Capless Output Coupling |
| SGM9155 | | 1 | | Yes | 3.1 ~ 5.5 | 6 | 40 | | Yes | Yes | 12.5 | 175 | 3.8 | SOT-23-6,SC70-5 | Single HD Channel, 720p Supported |
| SGM9203 | 3 | 3 | Yes | Yes | 3.3 ~ 5.5 | 6/0 | 8/18/38/75 | 5.4/12/30/40 | Yes | Yes | 40 | 40/78/155/311 | 22/13.5/9.5/NA | TSSOP-14 | Triple Channels, Selectable SD/PS/HD(1080i)/HD(1080p) with Shutdown |
| SGM9346 | 3 | 3 | | No | 3.3 ~ 5.5 | 6 | 8/35 | 5.36/28.2 | Yes | Yes | 64.5 | 39.5/140 | 10.5/4.9 | TSSOP-20 | Triple SD Channels, Triple HD Channels |

High Performance Audio Line Drivers

The Audio Line Driver family provides pop & click free stereo line drivers designed to allow the removal of the output DC-blocking capacitors for reduced component count and cost. The products are ideal for single supply electronics where size and cost are critical design parameters. The use of external gain resistors also allows the implementation of a 2nd order low pass filter to complement DAC's and SoC converters.

1▲

| Part Number | Output Voltage | Output Power | Stereo or Mono | V _{CC} (V) | Differential Input | Shutdown Logic | Shutdown Current | | Package | Features |
|-------------|-------------------------------------------------------------|------------------------------------------------------------|----------------|---------------------|--------------------|----------------|------------------|-------------------------|-----------------------|----------------------------------------------|
| | R _L = 600Ω THD ≤ 0.1%, V _{CC} = 5.0V | R _L = 32Ω THD ≤ 0.1%, V _{CC} = 5.0V | | | | | Typ (μA) | Pop & Click Suppression | | |
| SGM4916 | | 88mW/CH | Stereo | 2.7 ~ 5.5 | No | Active Low | 0.01 | Yes | TQFN-3×3-12L | OCL Headphone Driver |
| SGM4917 | | 80mW/CH | Stereo | 2.7 ~ 5.5 | Yes | Active Low | 0.01 | Yes | TQFN-3×3-16L | OCL Headphone Driver with Differential Input |
| SGM4918 | | 80mW/CH | Stereo | 2.7 ~ 5.1 | No | Active Low | 0.01 | Yes | TDFN-3×3-10L | OCL Headphone Driver |
| SGM8903 | 3.05Vrms | | Stereo | 3.0 ~ 5.5 | Yes | Active Low | 100 | Yes | TSSOP-14 | 600Ω Audio Line Driver with UVP Function |
| SGM8904 | 3.05Vrms | | Stereo | 3.0 ~ 5.5 | No | Active Low | 100 | Yes | MSOP-10 | 600Ω Audio Line Driver with UVP Function |
| SGM8905 | 3.05Vrms | | Stereo | 3.0 ~ 5.5 | No | Active Low | 100 | Yes | MSOP-10 (Exposed Pad) | 600Ω Audio Line Driver with UVP Function |
| SGM89000 | 2.05Vrms @V _{CC} = 3.3V | | Stereo | 3.0 ~ 3.6 | Yes | Active Low | 100 | Yes | TSSOP-14 | 600Ω Audio Line Driver with UVP Function |

Class AB Audio Power Amplifiers

The Class AB Audio Power Amplifier family provides single-ended or full-differential audio power amplifiers that are designed for portable communication devices. With the advanced pop & click circuitry, low-power shutdown mode and minimal count of external components, these products provide up to 1.3W of continuous average power to an 8Ω load with 1% distortion (THD+N) from a 5V battery voltage. All these features make these devices ideal for wireless handsets and other low voltage applications where minimal power consumption is a primary requirement.

1▲

| Part Number | Output Power | Output Power | Stereo or Mono | V _{CC} (V) | Differential Input | Shutdown Logic | Shutdown Current | | Package | Features |
|-------------|---------------------------------------------------------|---------------------------------------------------------|----------------|---------------------|--------------------|----------------|------------------|--|-------------------------------------------------------------------------------|-----------------------------------------------|
| | R _L = 8Ω THD ≤ 1%, V _{CC} = 3.6V | R _L = 8Ω THD ≤ 1%, V _{CC} = 5.0V | | | | | Typ (μA) | | | |
| SGM4863 | 0.7W/CH | 1.3W/CH | Stereo | 2.8 ~ 5.5 | No | Active High | 0.03 | | TSSOP-20 (Exposed Pad), TSSOP-16 (Exposed Pad), TQFN-3×3-20L, SOIC-16, DIP-16 | ClassAB, BTL Output with Headphone Driver |
| SGM4871 | | 1.2W/CH | Mono | 2.5 ~ 5.5 | No | Active High | 0.07 | | SOIC-8, SOIC-8 (Exposed Pad) | ClassAB, BTL Output |
| SGM4891 | 0.6W/CH | 1.2W/CH | Mono | 2.5 ~ 5.5 | No | Active Low | 0.02 | | TDFN-2×2-8L | ClassAB, BTL Output |
| SGM4995 | 0.65W/CH | 1.3W/CH | Mono | 2.5 ~ 5.5 | Yes | Active Low | 0.02 | | TDFN-2×2-8L | ClassAB, Fully Differential Input, BTL Output |
| SGM4996 | 0.65W/CH | 1.3W/CH | Mono | 2.5 ~ 5.5 | Yes | Active Low | 0.01 | | MSOP-8, MSOP-10, TDFN-3×3-10L | ClassAB, Fully Differential Input, BTL Output |

Analog Switches

The Analog Switch family provides industry's broadest analog switches covering the requirements of low on-resistance (as low as 0.4Ω), high speed (up to 600MHz), multi-channel selection and high voltage operation (up to 40V).

| Channels per Package | Part Number | Type | V _{CC} (V) | Quiescent Current (μA) | R _{ON} (Ω) | 3 ^Δ Bandwidth @-3dB (MHz) | Digital I/O V _{INH} Min (V) | Digital I/O V _{INL} Max (V) | t _{ON} (ns) | t _{OFF} (ns) | Package | Features |
|----------------------|-------------|------|---------------------|------------------------|---------------------|--------------------------------------|--------------------------------------|--------------------------------------|----------------------|-----------------------|---------------------------------------------------------|--------------------------------------------------------------------------------|
| | | | | | | | | | | | | |
| 1 | SGM3003 | 1:2 | 1.8 ~ 5.5 | <1 | 0.5 | 30 | 2.4 | 0.8 | 21 | 9 | MSOP-8 | Small Package, 30MHz, Ultra Low On-Resistance, Single SPDT |
| 1 | SGM4157YC | 1:2 | 1.8 ~ 5.5 | 0.1 | 0.8 | 90 | 1.6 | 0.4 | 56 | 32 | SC70-6 | Low R _{ON} , Small Package, Single SPDT |
| 1 | SGM3001 | 1:2 | 1.8 ~ 5.5 | <1 | 2.5 | 120 | 2.4 | 0.8 | 11 | 30 | SC70-6 | Small Package, 120MHz, Low On-Resistance, Single SPDT |
| 1 | SGM3157 | 1:2 | 1.8 ~ 5.5 | <5 | 4.5 | 300 | 1.5 | 0.6 | 20 | 15 | SC70-6 | 300MHz, Small Package, Single SPDT |
| 1 | SGM3719 | 1:2 | 2.5 ~ 5.0 | <8 | 4 | 400 | 1.65 | 0.6 | 15 | 11 | SOT-23-6 | 400MHz, Negative Signal Passing, Single SPDT |
| 1 | SGM3167 | 1:2 | 1.8 ~ 5.5 | <5 | 9 | 600 | 1.5 | 0.6 | 20 | 15 | SC70-6 | 600MHz, Small Package, Single SPDT |
| 2 | SGM4684 | 1:2 | 1.8 ~ 5.5 | <1 | 0.4 | 13 | 2.4 | 0.8 | 25 | 28 | WLCSP-2.0×1.5-10B | Ultra Low R _{ON} , Tiny Package, Dual SPDT |
| 2 | SGM3005 | 1:2 | 1.8 ~ 5.5 | <1 | 0.5 | 15 | 2.4 | 0.8 | 50 | 15 | TDFN-3×3-10L,MSOP-10 | Tiny Package, 15MHz, Ultra Low On-Resistance, Dual SPDT |
| 2 | SGM2267 | 1:2 | 1.8 ~ 4.2 | <1 | 0.4 | 40 | 1.6 | 0.5 | 96 | 16 | TQFN-2.1×1.6-10L | Ultra Low R _{ON} , Tiny Package, Dual SPDT |
| 2 | SGM2268 | 1:2 | 1.8 ~ 4.2 | <1 | 0.4 | 40 | 1.6 | 0.5 | 88 | 16 | TQFN-1.8×1.4-10L | Ultra Low R _{ON} , Tiny Package, Dual SPDT |
| 2 | SGM5223 | 1:2 | 1.8 ~ 4.2 | <1 | 0.5 | 55 | 1.6 | 0.5 | 17 | 27.5 | TQFN-1.8×1.4-10L | Ultra Low R _{ON} , Dual, SPDT |
| 2 | SGM3718 | 1:2 | 2.5 ~ 5.0 | <3.5 | 0.6 | 80 | 1.5 | 0.6 | 17 | 24 | TQFN-1.8×1.4-10L | 80MHz, Negative Signal Passing, Tiny Package, Dual SPDT |
| 2 | SGM3002 | 1:2 | 1.8 ~ 5.5 | <1 | 2.5 | 120 | 2.4 | 0.8 | 11 | 8 | MSOP-10 | Small Package, 120MHz, Low On-Resistance, Dual SPDT |
| 2 | SGM3158 | 1:2 | 1.8 ~ 5.5 | <5 | 4.5 | 270 | 1.5 | 0.6 | 20 | 15 | TDFN-3×1-12L | 270MHz, Tiny Package, Dual SPDT |
| 2 | SGM2258 | 1:2 | 1.8 ~ 5.5 | <1 | 4.5 | 300 | 1.6 | 0.5 | 70 | 20 | TQFN-2.1×1.6-10L | USB2.0 Full Speed Analog Switch |
| 2 | SGM2260 | 1:2 | 1.8 ~ 4.3 | <1 | 6 | 300 | 1.6 | 0.5 | 20 | 20 | UTQFN-1.8×1.4-10L | 6Ω, 300MHz, Low-Power Full-Speed USB (12Mbps) Switch |
| 2 | SGM4717 | 1:2 | 1.8 ~ 5.5 | <5 | 4.5 | 300 | 1.5 | 0.6 | 26 | 20 | WLCSP-2.0×1.5-10B,MSOP-10,TDFN-3×3-10L,TQFN-1.8×1.4-10L | 300MHz, WLCSP, Tiny Package, Dual SPDT |
| 2 | SGM3717 | 1:2 | 2.5 ~ 5.0 | <6 | 4 | 400 | 1.5 | 0.6 | 15 | 11 | UTQFN-1.8×1.4-10L,MSOP-10 | 400MHz, Negative Signal Passing, Tiny Package, Dual SPDT |
| 2 | SGM7223 | 1:2 | 1.8 ~ 4.3 | <1 | 4.5 | 500 | 1.6 | 0.5 | 11 | 20 | TQFN-2.1×1.6-10L | USB2.0 High Speed, Dual SPDT |
| 2 | SGM7222 | 1:2 | 1.8 ~ 4.3 | <1 | 4.5 | 550 | 1.6 | 0.5 | 10 | 22 | TQFN-1.8×1.4-10L,MSOP-10,UTQFN-1.8×1.4-10L | USB2.0 High Speed, Dual SPDT |
| 2 | SGM7226 | 1:2 | 1.8 ~ 5.5 | <30 | 5 | 550 | 1.5 | 0.35 | 15 | 20 | TQFN-2.6×1.8-16L | 5.5V, USB2.0 High Speed, Dual SPDT |
| 2 | SGM7227 | 1:2 | 1.8 ~ 4.3 | <1 | 5 | 550 | 1.6 | 0.5 | 15 | 20 | MSOP-10,UTQFN-1.8×1.4-10L | 550MHz, USB2.0 Certified, Tiny Package, Dual SPDT |
| 2 | SGM7228 | 1:2 | 1.8 ~ 4.3 | <1 | 6 | 550 | 1.6 | 0.5 | 10 | 22 | TQFN-1.8×1.4-10L | Low Cost, High Speed USB 2.0 (480Mbps) DPDT Analog Switch |
| 2 | SGM3710 | 1:2 | 2.7 ~ 12 | 300 | 1/11 | 160/130 | 1.6 | 0.3 | 200 | 100 | TQFN-2.6×1.8-16L,SOIC-16 | 1Ω/11Ω, High Voltage, Rail-to-Rail Negative Signal Passing |
| 2 | SGM3712 | 1:2 | 2.7 ~ 12 | 700 | 1/1 | 75/200 | 1.6 | 0.3 | 18 | 25 | WLCSP-1.27×2.13-15B | 1Ω, High Voltage, Rail-to-Rail Negative Signal Passing |
| 3 | SGM4583 | 1:2 | 3.6 ~ 11 | <20 | 36 | 140 | 2.4 | 0.8 | 60 | 70 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | High Voltage, Triple 1:2 Mux |
| 3 | SGM48753 | 1:2 | 2.5 ~ 5.5 | <6 | 48 | 180 | 1.7 | 0.5 | 60 | 70 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | Low On-Resistance, Low Charge Injection, Triple 1:2 Mux |
| 4 | SGM3699 | 1:2 | 1.8 ~ 4.35 | <1 | 0.5 | 70 | 1.6 | 0.5 | 52 | 25 | TQFN-3×3-16L | 70MHz, Low Voltage, Low I _Q , Ultra Low R _{ON} , Quad SPDT |
| 4 | SGM3799 | 1:2 | 1.8 ~ 4.35 | <1 | 0.5 | 70 | 1.6 | 0.5 | 52 | 25 | TQFN-2.6×1.8-16L | 70MHz, Low Voltage, Low I _Q , Ultra Low R _{ON} , Quad SPDT |
| 4 | SGM44599 | 1:2 | 1.8 ~ 5.5 | <1 | 4 | 300 | 1.6 | 0.5 | 31.5 | 30 | TQFN-3×3-16L,TQFN-2.5×2.5-16L | 300MHz, Small Package, Quad SPDT |
| 4 | SGM44600 | 1:2 | 1.8 ~ 5.5 | <1 | 4 | 300 | 1.6 | 0.5 | 29.5 | 29.5 | TQFN-3×3-16L | 300MHz, Small Package, Quad SPDT |
| 4 | SGM44601 | 1:2 | 1.8 ~ 5.5 | <1 | 4 | 300 | 1.6 | 0.5 | 36 | 30 | TQFN-2.6×1.8-16L | 300MHz, Tiny Package, Quad SPDT |
| 4 | SGM44602 | 1:2 | 1.8 ~ 5.5 | <1 | 4 | 300 | 1.6 | 0.5 | 32 | 26 | TQFN-2.6×1.8-16L | 300MHz, Tiny Package, Quad SPDT |
| 4 | SGM44603 | 1:2 | 1.8 ~ 5.5 | <1 | 4.5 | 300 | 1.6 | 0.5 | 40 | 30 | TQFN-2.6×1.8-16L | 300MHz, Tiny Package, Quad SPDT |
| 4 | SGM5018 | 1:2 | 1.8 ~ 5.5 | <1 | 4.5 | 300 | 1.6 | 0.5 | 40 | 30 | TSSOP-16 | 300MHz, Quad SPDT |
| 4 | SGM3700 | 1:2 | 2.5 ~ 5.5 | <15 | 4 | 380 | 1.5 | 0.5 | 15 | 9 | TQFN-3×3-16L | 380MHz, Negative Signal Passing, Quad SPDT, Tiny Package |
| 4 | SGM330A | 1:2 | 5 | <20 | 12 | 500 | 2 | 0.6 | 25 | 13 | SOIC-16,TSSOP-16,SSOP-16 | Quad, SPDT Video Analog Switch |
| 4 | SGM331A | 1:2 | 5 | <20 | 12 | 500 | 2 | 0.6 | 25 | 13 | SOIC-16,TSSOP-16,SSOP-16 | Quad, SPDT Video Analog Switch with 1.2V Self Bias |
| 1 | SGM48780 | 1:4 | 1.8 ~ 4.2 | <1 | 4 | 150 | 1.4 | 0.3 | 35 | 9 | TDFN-3×3-10L,MSOP-10 | Single SPQT |
| 1 | SGM48755 | 1:4 | 2.5 ~ 5.5 | <6 | 24 | 180 | 1.7 | 0.5 | 50 | 85 | MSOP-10 | Low On-Resistance, Low Charge Injection, Single 1:4 Mux |

Analog Switches

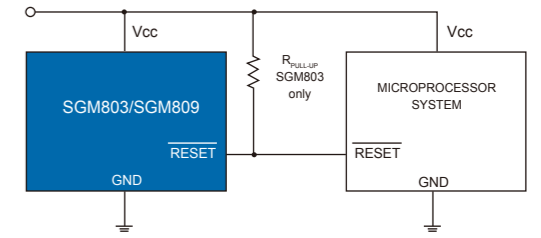
| 2 [▲] Channels per Package | Part Number | 1 [▲] Type | V _{CC} (V) | Quiescent Current (μA) | R _{ON} (Ω) | 3 [▲] Bandwidth @-3dB (MHz) | Digital I/O V _{INH} Min (V) | Digital I/O V _{INL} Max (V) | t _{ON} (ns) | t _{OFF} (ns) | Package | Features |
|----------------------------------------------|----------------|------------------------|------------------------|------------------------------|------------------------|-----------------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------|--------------------------|---------------------------------------|----------------------------------------------------------|
| 2 | SGM4782 | 1:4 | 1.8 ~ 4.2 | <1 | 0.5 | 30 | 1.6 | 0.5 | 20 | 20 | TQFN-3×3-16L,TSSOP-16 | Ultra Low R _{ON} , Dual, SPQT |
| 2 | SGM4582 | 1:4 | 3.6 ~ 11 | <20 | 36 | 120 | 2.4 | 0.8 | 60 | 60 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | High Voltage, Dual 1:4 Mux |
| 2 | SGM84782 | 1:4 | 1.8 ~ 4.2 | <1 | 4 | 150 | 1.6 | 0.5 | 17 | 9 | TQFN-3×3-16L,TSSOP-16 | Dual SPQT |
| 2 | SGM48752 | 1:4 | 2.5 ~ 5.5 | <6 | 48 | 180 | 1.7 | 0.5 | 60 | 70 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | Low On-Resistance, Low Charge Injection, Dual 1:4 Mux |
| 2 | SGM4589 | 1:4 | 4.5 ~ 40 | | 23 | 300 | 1.6 | 0.5 | 50 | 180 | TSSOP-16,SOIC-16 | 40V, 300MHz, Dual 1:4 Mux in One Package, GPIO Control |
| 1 | SGM4581 | 1:8 | 3.6 ~ 11 | <20 | 36 | 90 | 2.4 | 0.8 | 60 | 60 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | High Voltage, Single 1:8 Mux |
| 1 | SGM4588 | 1:8 | 4.5 ~ 40 | | 23 | 160 | 1.6 | 0.5 | 50 | 180 | TSSOP-16,SOIC-16 | 40V, 160MHz, Single 1:8 Mux in One Package, GPIO Control |
| 1 | SGM48751 | 1:8 | 2.5 ~ 5.5 | <6 | 48 | 180 | 1.7 | 0.5 | 60 | 70 | SSOP-16,TSSOP-16,SOIC-16,TQFN-3×3-16L | Low On-Resistance, Low Charge Injection, Single 1:8 Mux |
| 4 | SGM48754 | SPST | 2.5 ~ 5.5 | <6 | 24 | 180 | 1.7 | 0.5 | 40 | 100 | TSSOP-14,SOIC-14 | Low On-Resistance, Low Charge Injection, Quad SPST |
| 4 | SGM4511 | SPST | 4.5 ~ 40 | | 23 | 300 | 1.6 | 0.5 | 40 | 120 | TSSOP-16,SOIC-16 | 40V, 300MHz, Quad SPST, Fast Turn-On Time |
| 4 | SGM4512 | SPST | 4.5 ~ 40 | | 23 | 300 | 1.6 | 0.5 | 40 | 120 | TSSOP-16,SOIC-16 | 40V, 300MHz, Quad SPST, Fast Turn-On Time |

Switch Complexes

| Part Number | Type | V _{CC} (V) | 1 [▲] Bandwidth @-3dB (MHz) | Control Interface | R _{ON} (Ω) | R _{ON} Flatness (Ω) | C _{ON} (pF) | C _{OFF} C _S /C _D (pF) | Crosstalk Typ (dB) | Charge Injection Typ (pC) | Package | Features |
|----------------|----------|------------------------|-----------------------------------------------|----------------------|------------------------|------------------------------------|-------------------------|------------------------------------------------------------|-----------------------|---------------------------------|---------------------------|-------------------------------------------------------|
| SGM6516 | 16×8 | 4.5 ~ 13.2 | 45 | I/O | 40 | | 65 | 25 | -47 | | LQFP-10×10-44L,PLCC-44L | 16×8, Passive |
| SGM6512 | 1:16 | 3.3 ~ 13.2 | 80 | I/O | 24 | 12 | 75 | 8/70 | -70 | 25 | TQFN-5×5-32L,TSSOP-28 | 1:16, Multiplexer |
| SGM6515 | 1:8 | 3.3 ~ 13.2 | 80 | I/O | 24 | 12 | 75 | 8/70 | -70 | 25 | TSSOP-16 | 1:8, Multiplexer |
| SGM6501 | 12×9 | 3.1 ~ 5.5 | 84 | I ² C | | | | | -74 | | SSOP-28,TSSOP-28 | 12×9, Buffered |
| SGM6502 | 8×6 | 3.1 ~ 5.5 | 88 | I ² C | | | | | -77 | | TSSOP-24 | 8×6, Buffered |
| SGM65232 | (1:2)×32 | 3.3 ~ 5 | 100 | I/O | 11 | | 26 | 13 | -60 | | LQFP-14×14-100L | High Speed, 2:1 32-Bit Bus Multiplexer |
| SGM6510 | 16×4 | 2.7 ~ 5.5 | 120 | I ² C | 30 | 8 | 40 | | -110 | 7 | TSSOP-28,TQFN-4×4-28L | 16×4, Passive |
| SGM6511 | 16×8 | 2.7 ~ 5.5 | 120 | I ² C | 30 | 8 | 50 | | -110 | 7 | TQFN-5×5-32L,LQFP-7×7-32L | 16×8, Passive |
| SGM6513 | (1:8)×2 | 3.3 ~ 13.2 | 135 | I/O | 24 | 12 | 50 | 8/36 | -70 | 25 | TQFN-5×5-32L,TSSOP-28 | Dual 1:8, Multiplexer |
| SGM6514 | 16×8 | 2.7 ~ 5.5 | 250 | I ² C | 30 | 8 | 50 | | -110 | 7 | LQFP-7×7-32L | High Speed, 16×8, Passive, I ² C Interface |
| SGM6518 | 16×8 | 2.7 ~ 5.5 | 250 | SPI | 28 | 7 | 50 | 25 | -55 | 6 | LQFP-7×7-32L | High Speed, 16×8, Passive, Serial Digital Interface |
| SGM6533 | (1:3)×3 | 2.5 ~ 5.5 | 350 | I/O | 7 | | | | -60 | | TQFN-3×3-20L,TSSOP-20 | High Speed, 3-1:3 Multiplexer |
| SGM7232 | (1:3)×2 | 2.7 ~ 4.3 | 380/400 | I/O | 4/9 | | 18 | 7 | -90 | | UTQFN-2.2×1.4-12L | High Speed, 2-1:3 Multiplexer |
| SGM6503 | | 1.8 ~ 5.5 | 400 | I/O | | 3.5/0.45 | 12/185 | | -80 | 3/80 | TQFN-3×3-20L | SIM I/F Swap |
| SGM6504 | (2:2)×4 | 1.8 ~ 5.5 | 400 | I/O | 12 | 3.5 | 12 | | -80 | 2.5 | TQFN-3×3-20L | 4-2:2, Passive Swap |
| SGM6505 | (1:2)×6 | 2 ~ 5 | 450 | I/O | 8.5 | 4.5 | 15 | 4/9 | -55 | 1.2 | TSSOP-24,TQFN-4×4-24L | Six Channels 1:2 Multiplexer |

Supervisory Circuits

The Supervisory Circuits family provides industry standard supervisory IC with high reliability and consistency, featuring low power supply, manual reset, up to 8 reset thresholds suitable for monitoring 1.8V, 2.5V, 3V, 3.3V and 5V supply voltages, adjustable reset time setup with output capacitance and watchdog.



| Part Number | Supply Current (μA) | Manual Reset | V _{CC} (V) | Reset Threshold (V) | Watchdog Timer | V _{CC} to Reset Delay (μs) | Reset Active Timeout Period (ms) | Reset Output | Package | Features |
|-------------|---------------------|--------------|---------------------|-----------------------------------------|----------------|-------------------------------------|----------------------------------|---------------------------|--------------------|---------------------------------------------------------------------------|
| SGM706 | 50 | Yes | 1.0 ~ 5.5 | 4.65,4.4,4.0,3.08,2.93,2.63 | 1.6s | | 200 | Active Low/Push-Pull | SOIC-8 | 6 Selectable Thresholds, Watchdog, Debounced Manual-Reset Input |
| SGM708 | 20 | Yes | 1.0 ~ 5.5 | 4.65,4.4,4.0,3.08,2.93,2.63 | No | | 200 | Active Low/High/Push-Pull | SOIC-8 | 6 Selectable Thresholds, Debounced Manual-Reset Input, Dual Reset Outputs |
| SGM800 | 3 | No | 1.0 ~ 5.5 | 2.93,2.63,2.32,1.63 | No | 80 | Programmable | Active Low/Open-Drain | SOT-23-5 | Programmable Reset Timeout, Low Quiescent Current |
| SGM802 | 3 | No | 1.0 ~ 5.5 | 2.93,2.63,2.32,1.63 | No | 80 | Programmable | Active High/Push-Pull | SC70-4 (R),SOT-143 | Programmable Reset Timeout, Low Quiescent Current, Small Package |
| SGM803 | 13 | No | 1.0 ~ 5.5 | 4.63,4.38,4.00,3.08,2.93,2.63,2.32,1.63 | No | 20 | 240 | Active Low/Open-Drain | SOT-23-3,SOT-23 | 8 Selectable Thresholds, Low Power |
| SGM804 | 3 | No | 1.0 ~ 5.5 | 2.93,2.63,2.32,1.63 | No | 80 | Programmable | Active Low/Push-Pull | SOT-23-5 | Programmable Reset Timeout, Low Quiescent Current |
| SGM809 | 13 | No | 1.0 ~ 5.5 | 4.63,4.38,4.00,3.08,2.93,2.63,2.32,1.63 | No | 20 | 240 | Active Low/Push-Pull | SOT-23-3,SOT-23 | 8 Selectable Thresholds, Low Power |
| SGM810 | 13 | No | 1.0 ~ 5.5 | 4.63,4.38,4.00,3.08,2.93,2.63,2.32,1.63 | No | 20 | 240 | Active High/Push-Pull | SOT-23-3,SOT-23 | 8 Selectable Thresholds, Low Power |
| SGM811 | 13 | Yes | 1.0 ~ 5.5 | 4.63,4.38,4.00,3.08,2.93,2.63,2.32,1.63 | No | 20 | 240 | Active Low/Push-Pull | SOT-143,SOT-23-5 | 8 Selectable Thresholds, Low Power |
| SGM812 | 13 | Yes | 1.0 ~ 5.5 | 4.63,4.38,4.00,3.08,2.93,2.63,2.32 | No | 20 | 240 | Active High/Push-Pull | SOT-143,SOT-23-5 | 7 Selectable Thresholds, Low Power |

Over-Voltage Protection ICs

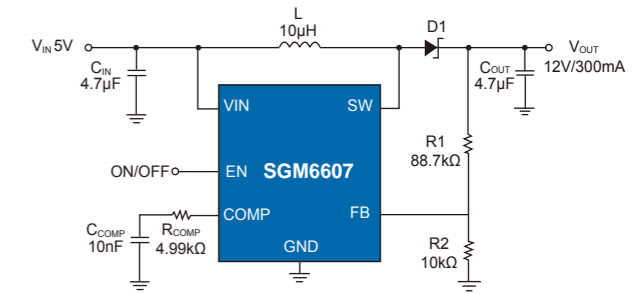
| Part Number | Input Over-Voltage Protection Threshold (V) | Input Voltage Max (V) | Battery Over-Voltage Protection Threshold (V) | Maximum Start-Up Output Current (mA) | Shutdown Current (μA) | Soft-Start | Soft-Stop | LDO Mode Output Voltage (V) | Package | Features |
|-------------|---------------------------------------------|-----------------------|-----------------------------------------------|--------------------------------------|-----------------------|------------|-----------|-----------------------------|----------------------------------|------------------------------------------------------------------------------|
| SGM40653 | Adj (Default 15.4V) | 28 | NA | 4500 | NA | Yes | Yes | NA | WLCSP-1.3×1.83-12B | 120V Surge/Inrush Immunity Function, ADJ OVP, 4.5A, Soft Start-Up, 28V Input |
| SGM40654 | Adj (Default 6.8V) | 28 | NA | 4500 | NA | Yes | Yes | NA | WLCSP-1.3×1.83-12B | 120V Surge/Inrush Immunity Function, ADJ OVP, 4.5A, Soft Start-Up, 28V Input |
| SGM40655 | Adj (Default 5.8V) | 28 | NA | 4500 | NA | Yes | Yes | NA | WLCSP-1.3×1.83-12B | 120V Surge/Inrush Immunity Function, ADJ OVP, 4.5A, Soft Start-Up, 28V Input |
| SGM4062 | 6.8 | 18 | 4.35 | 1500 | <2 | Yes | Yes | 5.1 | TDFN-2×2-8L,MSOP-8 (Exposed Pad) | 1.5A Fixed Start-Up Current, Soft-Start, Soft-Stop, 18V Input |
| SGM4064 | 6.8 | 18 | 4.35 | Adj (Max 1500) | <2 | Yes | Yes | 5.1 | TDFN-2×2-8L | Adjustable Start-Up Current, Soft-Start, Soft-Stop, 18V Input |
| SGM4065 | 7.1 | 18 | 4.35 | 1500 | <2 | Yes | Yes | 5.1 | TDFN-2×2-8L | 1.5A Fixed Start-Up Current, Soft-Start, Soft-Stop, 18V Input |
| SGM4066 | 7.1 | 18 | 4.35 | Adj (Max 1500) | <2 | Yes | Yes | 5.1 | TDFN-2×2-8L | Adjustable Start-Up Current, Soft-Start, Soft-Stop, 18V Input |
| SGM41000 | 4.15V to 4.45V with 50mV per step | 12 | | 540 | 0.3 | NA | NA | NA | UTDFN-1.5×2-6L | Single Battery Protection IC |

Standalone Li-Ion Battery Chargers

| Part Number | Input Over-Voltage Protection Threshold (V) | Charge Voltage (V) | V _{IN} Min (V) | V _{IN} Max (V) | Programmable Current (mA) | Shutdown Current From V _{IN} (μA) | Status Indication | Foldback Current From Battery (μA) | Package | Features |
|-------------|---------------------------------------------|--------------------|-------------------------|-------------------------|---------------------------|--------------------------------------------|-------------------|------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|
| SGM41500 | 5.5 | 4.15,4.25,4.35 | 2.7 | 5.5 | 500 ~ 4000 | | Yes | | TQFN-4×4-24AL | Multi-Channel 4A Quick Charger |
| SGM4056 | 6.8,10.5 | 4.2 | 4.55 | 26.5 | 100 ~ 900 | 200 | Yes | <1 | TDFN-3×3-8L,TDFN-2×3-8L,TDFN-2×2-8L,SOIC-8 (Exposed Pad) | 100mA ~ 900mA, 6.8V/10.5V Over-Voltage Protection, Input Voltage up to 26.5V |
| SGM40562 | | 4.2,4.05,4.35 | 4.55 | 26.5 | 5 ~ 400 | 175 | Yes | <1 | TDFN-2×2-8L,WLCSP-1.3×0.7-6B | 5mA ~ 400mA, 4.2V/4.05V/4.35V Output Voltage for Long Battery Life Application |
| SGM40561 | 10.5 | 4.2, 4.3,4.35 | 4.55 | 26.5 | 5 ~ 200 | 180 | Yes | <1 | TDFN-2×2-8L | 5mA ~ 200mA, 10.5V Over-Voltage Protection, Input Voltage up to 26.5V |

DC/DC Converters

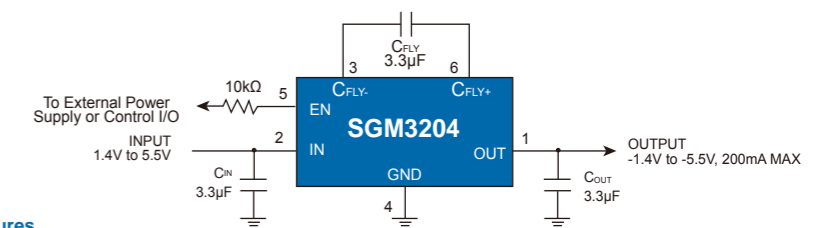
The DC/DC Converter family provides various DC/DC converters with high efficiency, high reliability in five different topologies, featuring high input voltage, low shutdown current, tiny DFN package, and SOIC-8 with exposed pad. All these features make the family extremely suitable for portable and industrial applications.



| DC/DC Topology | Part Number | Output Current Max (mA) | V _{IN} Min (V) | V _{IN} Max (V) | Output Voltage (V) | Switching Frequency (MHz) | Quiescent Current (µA) | Shutdown Current (µA) | Enable Logic | Efficiency Max | Package | Features |
|-----------------------|-------------|-------------------------|-------------------------|-------------------------|--------------------|---------------------------|------------------------|-----------------------|--------------|----------------|------------------------|-------------------------------------------------------------------------|
| Sync Buck | SGM6010 | 3000 | 3 | 5.5 | Adj | 0.3 ~ 2 | 410 | <2 | Active Low | 95% | TDFN-3×3-10L | 3A, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6011 | 2000 | 2.5 | 5.5 | 3.3/Adj | 1.4 | 300 | <2 | Active High | 95% | TDFN-3×3-10L | 2A, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6014 | 2000 | 2.5 | 5.5 | 1.2/1.8/3.3/Adj | 1.4 | 55 | <2 | Active High | 95% | TDFN-3×3-10L | 2A, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6016 | 1200 | 2.7 | 5.5 | Adj | 1.6 | 30 | <1 | Active High | 95% | TDFN-3×3-10L | 1.2A, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6019 | 1200 | 2.7 | 5.5 | Adj | 1.6 | 30 | <1 | Active High | 95% | TDFN-2×3-8L | 1.2A, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6012 | 600 | 2.5 | 5.5 | 1.2/1.8/3.3/Adj | 1.6 | 30 | <1 | Active High | 95% | TSOT-23-5 | 600mA, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Buck | SGM6013 | 600 | 2.5 | 5.5 | 1.2/1.8/3.3/Adj | 1.6 | 30 | <1 | Active High | 95% | TSOT-23-5, TDFN-2×2-6L | 600mA, High Efficiency, Low Voltage, Synchronous Buck |
| Sync Boost | SGM6606 | 2500 | 2.7 | 5.5 | Adj (3.0 ~ 5.5) | 0.6 | 55 | <1 | Active High | 95% | TDFN-3×3-14L | 5.5V/2.5A, Internal MOSFET, High Efficiency, Synchronous Boost |
| Sync Boost | SGM6608 | 2500 | 2.4 | 5 | Adj (3.0 ~ 5.0) | 0.66 | 55 | <1 | Active High | 95% | TDFN-3×3-12L | 2.5A, 660kHz, Internal MOSFET, High Efficiency, Synchronous Boost |
| Sync Boost | SGM6609 | 2000 | 2.4 | 5 | Adj (3.0 ~ 5.0) | 1.2 | 50 | <1 | Active High | 95% | TDFN-3×3-12L | 2.5A, 1.2MHz, High Efficiency, Sync-Boost with Adjustable Current Limit |
| Sync Boost | SGM66051 | 1000 | 2.2 | 5.5 | 5.1/5.4/Adj | 1.2 | 20 | <1 | Active High | 90% | TSOT-23-6 | 2.5A Switch, Internal MOSFET, High Efficiency, Synchronous Boost |
| Sync Boost | SGM66052 | 1000 | 2.2 | 5.2 | 5.1/Adj | 1.2 | 20 | <1 | Active High | 90% | UTDFN-2×1.5-6L | 2.5A Switch, Internal MOSFET, High Efficiency, Synchronous Boost |
| Sync Boost | SGM6603 | 600 | 0.9 | 5.5 | 3.3/5.0/Adj | 1.2 | 33 | <1 | Active High | 90% | SOT-23-6 | 0.9V Input, Synchronous Boost |
| Sync Boost | SGM6605 | 600 | 2.7 | 5.5 | 5.0/Adj | 1.2 | 30 | <1 | Active High | 90% | SOT-23-6 | 1.1A Switch, Internal MOSFET, High Efficiency, Synchronous Boost |
| Non-Sync Buck | SGM6130 | 3000 | 4.5 | 28.5 | Adj | 0.385 | 800 | <18 | Active High | 94% | SOIC-8 (Exposed Pad) | 3A, 28.5V Input, Non-Synchronous Buck |
| Non-Sync Buck | SGM6132 | 3000 | 4.5 | 28.5 | Adj | 1.4 | 800 | <18 | Active High | 91% | SOIC-8 (Exposed Pad) | 3A, 28.5V Input, Non-Synchronous Buck |
| Non-Sync Buck | SGM6332 | 3000 | 4.5 | 18 | Adj | 1.4 | 800 | <18 | Active High | 91% | SOIC-8 (Exposed Pad) | 3A, 18V Input, Non-Synchronous Buck |
| Non-Sync Buck | SGM6230 | 2000 | 4.5 | 38 | Adj | 0.385 | 800 | <18 | Active High | 94% | SOIC-8 (Exposed Pad) | 2A, 38V Input, Non-Synchronous Buck |
| Non-Sync Buck | SGM6232 | 2000 | 4.5 | 38 | Adj | 1.4 | 800 | <18 | Active High | 91% | SOIC-8 (Exposed Pad) | 2A, 38V Input, Non-Synchronous Buck |
| Non-Sync Boost | SGM6607 | 300† | 3 | 20 | Adj (up to 38) | 1.2 | 400 | <1 | Active High | 93% | TDFN-2×2-6L, TSOT-23-6 | 1.1A Switch, Internal MOSFET, High Voltage Non-Synchronous Boost |
| Non-Sync Boost | SGM6601 | | 1.8 | 5.5 | Adj (up to 38) | up to 1 | 20 | <1 | Active High | | TSOT-23-5, TDFN-2×2-6L | 400mA Switch, Internal MOSFET, High Voltage Non-Synchronous Boost |
| LCM Bias Power Supply | SGM3803 | 200 | 2.7 | 5.5 | Adj (up to 5.5) | 1.2/0.95 | 30 | <1 | Active High | 90% | TDFN-3×3-12L | P/N Voltage Output, 200mA Output Current Synchronous Boost |
| LCM Bias Power Supply | SGM3806 | 200 | 2.7 | 5.5 | Adj (2.4 ~ 6.4) | 1.6 | 400 | 0.4 | Active High | 84% | WLCSP-1.7×1.51-12B | P/N Voltage Output, 200mA Output Current Synchronous Boost |
| LCM Bias Power Supply | SGM3804 | 100 | 2.7 | 5.5 | Adj (2.4 ~ 6.4) | 1.6 | 400 | 0.4 | Active High | 84% | WLCSP-1.7×1.51-12B | P/N Voltage Output, 100mA Output Current Synchronous Boost |

Note: † Input Voltage = 5V, Output Voltage = 12V

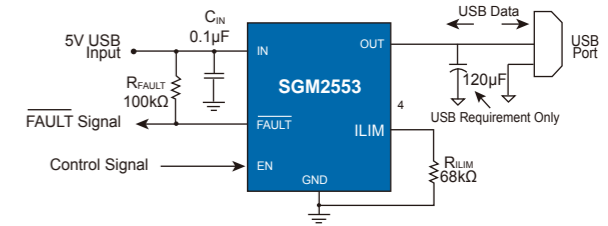
Charge Pump DC/DC Converters



| Converters per Package | Part Number | Output Current Max (mA) | Shut-down | V _{IN} Min (V) | V _{IN} Max (V) | Output Voltage (V) | Switching Frequency (kHz) | Quiescent Current (µA) | Shutdown Current (µA) | Output Type | Package | Features |
|------------------------|-------------|-------------------------|-----------|-------------------------|-------------------------|--------------------|---------------------------|------------------------|-----------------------|-------------|---------------------|-----------------------------------------------------|
| 1 | SGM3204 | 200 | Yes | 1.4 | 5.5 | -V _{IN} | 950 | 1500 | <1 | Unregulated | SOT-23-6 | Unregulated Inverter, 950kHz, 200mA |
| 1 | SGM3110 | 100 | Yes | 2.7 | 5 | 5 | 750 | 60 | <1 | Regulated | SOT-23-6 | Low Noise, Doubler/White LED Driver |
| 1 | SGM3209 | 100 | Yes | 4 | 18 | -V _{IN} | 120 ~ 1280 | 1200 | 0.5 | Unregulated | SOIC-8, TDFN-2×2-8L | Unregulated Inverter, Programmable Frequency, 100mA |
| 1 | SGM3206 | 60 | No | 1.4 | 5.5 | -V _{IN} | 47 | 115 | NA | Unregulated | SOT-23-5 | Unregulated Inverter, 47kHz, 60mA |
| 1 | SGM3207 | 60 | No | 1.4 | 5.5 | -V _{IN} | 19 | 72 | NA | Unregulated | SOT-23-5 | Unregulated Inverter, 19kHz, 60mA |

Load Switches

Load switches are integrated electronic relays used for turning on and off power rails, power distribution and power savings. Load switches can be used in telecommunication equipment, computer equipment & peripherals, TVs & STBs, small portable devices, and test equipments with the benefits of reducing overall BOM count and solution size, as well as adding additional protection features.



| Switches per Package | Part Number | Quiescent Current (μA) | V _{IN} Min (V) | V _{IN} Max (V) | Enable Logic | Continuous Output Current (mA) | Shutdown Current (μA) | Current Limit (mA) | Soft-Start | Fault Flag | Package | Features |
|----------------------|-------------|------------------------|-------------------------|-------------------------|--------------|--------------------------------|-----------------------|-------------------------|------------|------------|----------------------|--------------------------------------------------------------------------------------------|
| 1 | SGM2578 | 5 | 1.0 | 5.0 | Active High | 1000 | <1.5 | 1600 | | No | WLCSP-0.9×0.9-4B | 1A, Ultra Low Quiescent Current, WLCSP Package |
| 1 | SGM2581A | 23 | 2.5 | 5.5 | Active High | 1000 | <1 | 1100 | Yes | Yes | SOT-23-5 | 1A Output Current, 1.1A Fixed Current Limit, Low Power |
| 1 | SGM2588A | 23 | 2.5 | 5.5 | Active High | 1000 | <1 | 1100 | Yes | Yes | SOT-23-5 | 1A Output Current, 1.1A Fixed Current Limit, Low Power, Auto Discharge |
| 1 | SGM2588G | 23 | 2.5 | 5.5 | Active High | 1000 | <1 | 1100 | Yes | Yes | SOT-23-5 | 1A Output Current, 1.1A Fixed Current Limit, Low Power, Default Disable /EN |
| 1 | SGM2554A | 19 | 2.2 | 5.5 | Active High | 1100 | <1 | 1850 | Yes | No | SOT-23-5 | 1.1A Output Current, 1.85A Fixed Current Limit, Low Power |
| 1 | SGM2554B | 19 | 2.2 | 5.5 | None | 1100 | NA | 1750 | Yes | No | SOT-23-5 | 1.1A Output Current, 1.75A Fixed Current Limit, Low Power |
| 1 | SGM2555 | 19 | 2.2 | 5.5 | Active High | 1100 | <1 | 1850 | Yes | No | TDFN-2×2-6L | 1.1A Output Current, 1.85A Fixed Current Limit, Low Power |
| 1 | SGM2556 | 19 | 2.2 | 5.5 | Active High | 1100 | <1 | 1850 | Yes | Yes | TDFN-2×2-6L | 1.1A Output Current, 1.85A Fixed Current Limit, Low Power |
| 1 | SGM2551A/C | 71 | 2.5 | 5.5 | Active High | 1500 | <1 | Programmable (100~1700) | Yes | No | TDFN-2×2-6L,SOT-23-5 | 1.5A, Adjustable Current Limit, Soft-Start, Tiny Package |
| 1 | SGM2553/D | 71 | 2.5 | 5.5 | Active High | 1500 | <1 | Programmable (100~1700) | Yes | Yes | TDFN-2×2-6L,SOT-23-6 | 1.5A, Adjustable Current Limit, Soft-Start, Tiny Package |
| 1 | SGM2581C | 23 | 2.5 | 5.5 | Active High | 2000 | <1 | 2100 | Yes | Yes | SOT-23-5 | 2A Output Current, 2.1A Fixed Current Limit, Low Power |
| 1 | SGM2588C | 23 | 2.5 | 5.5 | Active High | 2000 | <1 | 2100 | Yes | Yes | SOT-23-5 | 2A Output Current, 2.1A Fixed Current Limit, Low Power, Auto Discharge |
| 1 | SGM2588I | 23 | 2.5 | 5.5 | Active High | 2000 | <1 | 2100 | Yes | Yes | SOT-23-5 | 2A Output Current, 2.1A Fixed Current Limit, Low Power, Default Disable /EN |
| 1 | SGM2581E | 23 | 2.5 | 5.5 | Active High | 2500 | <1 | 2600 | Yes | Yes | SOT-23-5 | 2.5A [†] Output Current, 2.6A Fixed Current Limit, Low Power |
| 1 | SGM2588E | 23 | 2.5 | 5.5 | Active High | 2500 | <1 | 2600 | Yes | Yes | SOT-23-5 | 2.5A [†] Output Current, 2.6A Fixed Current Limit, Low Power, Auto Discharge |
| 1 | SGM2588K | 23 | 2.5 | 5.5 | Active High | 2500 | <1 | 2600 | Yes | Yes | SOT-23-5 | 2.5A [†] Output Current, 2.6A Fixed Current Limit, Low Power, Default Disable /EN |
| 1 | SGM4073 | 1 | 1.5 | 5.5 | None | 4500 | <1 | NA | Yes | No | WLCSP-1.31x1.62-12B | 4.5A, Ultra Low Quiescent Current, Programmable Reset Time, WLCSP Package |
| 1 | SGM2576 | 23 | 2.5 | 5.5 | Active High | Adj | <1 | Programmable (400~2500) | Yes | No | SOT-23-5 | Adjustable Current Limit, Soft-Start, Low Power |
| 2 | SGM2558A | 28 | 2.7 | 5.5 | Active High | 600/CH | <1 | 1100 | Yes | Yes | SOIC-8,TDFN-3×3-8L | 600mA Output Current, 1.1A Fixed Current Limit, Dual Channels |
| 2 | SGM2558B | 28 | 2.7 | 5.5 | Active Low | 600/CH | <1 | 1100 | Yes | Yes | SOIC-8,TDFN-3×3-8L | 600mA Output Current, 1.1A Fixed Current Limit, Dual Channels |
| 2 | SGM2560A | 28 | 2.7 | 5.5 | Active High | 600/CH | <1 | 1100 | Yes | Yes | SOIC-8,TDFN-3×3-8L | 600mA Output Current, 1.1A Fixed Current Limit, Dual Channels |
| 2 | SGM2560B | 28 | 2.7 | 5.5 | Active Low | 600/CH | <1 | 1100 | Yes | Yes | SOIC-8,TDFN-3×3-8L | 600mA Output Current, 1.1A Fixed Current Limit, Dual Channels |

Note: † This parameter is guaranteed by design and characterization.

High Voltage Linear Regulators

| Part Number | V _{IN} Min (V) | V _{IN} Max (V) | Output Current (mA) | Ground Current (No Load) (μA) | Dropout Voltage @I _{OUT} = 1mA (mV) | PSRR @1kHz (dB) | Reference Voltage (V) | V _{OUT} (V) | Package | Features |
|-------------|-------------------------|-------------------------|---------------------|-------------------------------|----------------------------------------------|-----------------|-----------------------|-------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------|
| | | | | | | | | | | |
| SGM2201 | 2.7 | 36 | 150 | 4.5 | 8 | 40 | 0.8 | Adj | TSOT-23-5,TDFN-2×3-8L | High Voltage, Low I _Q , Small Package, Single |
| SGM2202 | 2.7 | 36 | 150 | 4.5 | 8 | 40 | 0.8 | 0.8V to 4.7V with 0.1V per step 5V to 12V with 0.25V per step Adj | SOT-23-5,SOT-23-6 | High Voltage, Low I _Q , Small Package, Single |
| SGM2203 | 2.7 | 36 | 150 | 4.5 | 8 | 40 | | 0.8V to 4.7V with 0.1V per step 5V to 12V with 0.25V per step | SOT-89-3,SOT-23 | High Voltage, Low I _Q , Small Package, Single |
| SGM2200H | 2.7 | 36 | 60 | 2.2 | | | 0.8 | 0.8V to 4.7V with 0.1V per step 5V to 12V with 0.25V per step Adj | SOT-89-3,TSOT-23-5,SOT-23,SC70-5 | High Voltage, Low I _Q , Small Package, Single |
| SGM2200 | 4 | 26.4 | 50 | 1.75 | 35 | 47 | 1.221 | 1.5,1.8,2.5,2.8,3.0,3.3,3.6,4.4,5.0,Adj | SOT-89-3,TSOT-23-5,SOT-23,SC70-5 | High Voltage, Low I _Q , Small Package, Single |
| SGM2300 | 4 | 18 | 50 | 1.7 | 35 | 47 | 1.221 | 1.5,1.8,2.5,2.8,3.0,3.3,3.6,5.0,Adj | SOT-23-5,SOT-23 | High Voltage, Low I _Q , Small Package, Single |

MOSFET Drivers

| Drivers per Package | Part Number | Output Peak Current (A) | V _{CC} (V) | Rise Time (ns) | Fall Time (ns) | Logic Low Input Voltage (V) | Logic High Input Voltage (V) | Input Hysteresis (V) | I _{CC} Typ (mA) | Package | Features |
|---------------------|-------------|-------------------------|---------------------|----------------|----------------|-----------------------------|------------------------------|----------------------|--------------------------|--------------------|-----------------------------------------------------|
| | | | | | | | | | | | |
| 2 | SGM48000 | 2 | 4.5 ~ 26.5 | 12 | 13 | 0.7 | 1.6 | 0.3 | 1.14 | SOIC-8,TDFN-2×2-8L | 2A Peak Current, 26.5V, Dual Non-Inverting |
| 2 | SGM48001 | 2 | 4.5 ~ 26.5 | 12 | 13 | 0.7 | 1.6 | 0.3 | 1.29 | SOIC-8,TDFN-2×2-8L | 2A Peak Current, 26.5V, Dual Inverting |
| 2 | SGM48002 | 2 | 4.5 ~ 26.5 | 12 | 13 | 0.7 | 1.6 | 0.3 | 1.19 | SOIC-8,TDFN-2×2-8L | 2A Peak Current, 26.5V, Inverting and Non-Inverting |

Flash LED Drivers

The flash LED driver family provides high efficiency LED driving power needed by cameras in smart phone and tablet applications. The configurations include a single LED or dual LEDs with current source options from 500mA to 2A, high switching frequency for smaller inductors, I²C interface, and ultra compact packages.

| Channels per Package | Part Number | Output Current per Channel (mA) | V _{IN} Min (V) | V _{IN} Max (V) | Shutdown Current (μA) | Switching Frequency (MHz) | Quiescent Current (mA) | Package | Features |
|----------------------|-------------|---------------------------------|-------------------------|-------------------------|-----------------------|---------------------------|------------------------|-----------------------|---------------------------------------------|
| 1 | SGM3140 | 500 | 2.7 | 5.5 | <1 | 2.2 | 3 | TDFN-3×3-10L | Inductor Free |
| 1 | SGM3140B | 500 | 2.7 | 5.5 | <1 | 2.2 | 3 | TDFN-3×3-10L | Inductor Free |
| 1 | SGM3141 | 700 | 2.7 | 5.5 | <1 | 2.2 | 3 | TDFN-3×3-10L | Inductor Free |
| 1 | SGM3141B | 700 | 2.7 | 5.5 | <1 | 2.2 | 3 | TDFN-3×3-10L | Inductor Free |
| 2 | SGM3780 | 750 | 3 | 5 | <1 | 2 | 0.45 | TDFN-3×2-14L | High Efficiency, Dual Flash LED Outputs |
| 2 | SGM3781 | 750 | 3 | 5 | <1 | 2 | 0.45 | TDFN-3×2-14L | High Efficiency, Dual Flash LED Outputs |
| 2 | SGM3784 | 1000 | 2.7 | 5 | <1 | 3/1.6 | 0.4 | WLCSP-2×1.6-12B | Independent Control Dual Flash LED Outputs |
| 2 | SGM3785 | 750 | 3 | 5 | <1 | 2 | 0.45 | TDFN-3×2-14L | Flash Dimming Function |
| 1 | SGM37891 | 500 | 2.7 | 5.5 | | | 0.05 | SOT-23-6, TDFN-2×2-6L | Inductor Free |
| 2 | SGM37895 | 750/1000 | 2.7 | 5.5 | | | 0.05 | UTQFN-2.6×1.8-10AL | Inductor Free, Support I ² C Bus |
| 2 | SGM37898 | 750/1000/1500/2000 | 2.7 | 5.5 | | | 0.05 | UTQFN-2.6×1.8-10AL | Inductor Free, Support I ² C Bus |

White LED Drivers

The white LED driver family offers various solutions for LCD backlighting in portable device applications. The devices operate from 2.7V to 20V input supply range and deliver an output voltage up to 38V with up to 8 channels in parallel and up to 10 LEDs in series.

| Channels per Package | Part Number | V _{IN} Min (V) | V _{IN} Max (V) | LEDs per String | Shutdown Current (μA) | Switching Frequency (MHz) | LED Connection Type | Quiescent Current (mA) | Dimming Method | Package | Features |
|----------------------|-------------|-------------------------|-------------------------|-----------------|-----------------------|---------------------------|---------------------|------------------------|----------------|------------------------|------------------------------------------------------|
| 1 | SGM3726 | 3 | 20 | 10 | <1 | 1.25 | Common Anode | 0.4 | PWM | TDFN-2×2-6L, TSOT-23-6 | 1.25MHz, 10 LEDs per String, 20V Input |
| 1 | SGM3733B | 2.7 | 20 | 10 | <1 | 0.65 | Common Anode | 0.4 | PWM | TDFN-2×2-6L, TSOT-23-6 | 650kHz, 10 LEDs per String, 20V Input |
| 1 | SGM3749 | 3 | 20 | 10 | <1 | 1.25 | Common Anode | 0.4 | PWM | TDFN-2×2-6L, TSOT-23-6 | 1:500 High Performance 10 LEDs per String, 20V Input |
| 1 | SGM3750 | 2.7 | 20 | 10 | <1 | 0.65 | Common Anode | 0.4 | PWM | TDFN-2×2-6L, TSOT-23-6 | 1:500 High Performance 10 LEDs per String, 20V Input |
| 2 | SGM3738 | 3 | 18 | 10 | <1 | 0.6 | Common Anode | 0.24 | PWM & One-Wire | TQFN-3×3-16L | 2 Feedback Channels, 18V Input, Serial LED Driver |
| 2 | SGM3743 | 3 | 18 | 10 | <1 | 1.2 | Common Anode | 1.2 | PWM & One-Wire | WLCSP-1.32×1.32-9B | 2 Feedback Channels, 18V Input, Serial LED Driver |
| 3 | SGM3740 | 3 | 18 | 10 | <1 | 0.6 | Common Anode | 0.24 | PWM & One-Wire | TQFN-3×3-16L | 3 Feedback Channels, 18V Input, Serial LED Driver |
| 3 | SGM3741 | 3 | 18 | 10 | <1 | 0.6 | Common Anode | 0.24 | PWM & PWM | TQFN-3×3-16L | 3 Feedback Channels, 18V Input, Serial LED Driver |
| 4 | SGM3740B | 3 | 18 | 10 | <1 | 0.6 | Common Anode | 0.24 | PWM & One-Wire | TQFN-3×3-16L | 4 Feedback Channels, 18V Input, Serial LED Driver |
| 4 | SGM3741B | 3 | 18 | 10 | <1 | 0.6 | Common Anode | 0.24 | PWM & PWM | TQFN-3×3-16L | 4 Feedback Channels, 18V Input, Serial LED Driver |

Level Translators

1[▲]

| Translators per Package | Part Number | Data Rate (Mbps) | V _{CC} (V) | V _L Range (V) | V _{CCA} Range (V) | V _{CCB} Range (V) | Bidirectional | V _{CC} Shutdown I/O State | Shutdown I _{CC} Max (μA) | Logic Output | Package | Features |
|-------------------------|-------------|------------------|---------------------|--------------------------|----------------------------|----------------------------|---------------|------------------------------------|-----------------------------------|----------------------|----------------------------------------|--------------------------------|
| 1 | SGM4552 | 24/2 | | | 1.65 ~ 5.5 | 2.3 ~ 5.5 | Yes | Hi-Z | 5.5 | Open-Drain/Push-Pull | UTDFN-1.45×1-6L,SOT-23-6,SC70-6 | GPIO Level Shifter |
| 1 | SGM4554 | 100 | | | 1.2 ~ 5.0 | 1.65 ~ 5.5 | Yes | Hi-Z | 10 | Push-Pull | SC70-6,UTDFN-1.45×1-6L | GPIO Level Shifter |
| 1 | SGM4555 | | 2.7 ~ 5.5 | 1.4 ~ 5.5 | | | Yes | Low | | | TQFN-2×2-12L,TQFN-3×3-16L | Card Interface |
| 1 | SGM4560 | | 3.3 ~ 5.5 | 1.6 ~ 5.5 | | | Yes | Low | 8 | | TSSOP-14 | CA Card Interface |
| 1 | SGM4561 | | 5.0 ~ 5.5 | 1.6 ~ 5.5 | | | Yes | Low | | | MSOP-10 | HDMI Interface |
| 2 | SGM4551 | | | | 1.2 ~ 3.3 | 1.8 ~ 5.5 | Yes | Hi-Z | 8 | Open-Drain | SOT-23-8,XTDFN-1.4×1-8L | I ² C Level Shifter |
| 2 | SGM4553 | 24/2 | | | 1.65 ~ 5.5 | 2.3 ~ 5.5 | Yes | Hi-Z | 5.5 | Open-Drain/Push-Pull | SOT-23-8,XTDFN-1.4×1-8L | GPIO Level Shifter |
| 2 | SGM4556 | 100 | | | 1.2 ~ 5.0 | 1.65 ~ 5.5 | Yes | Hi-Z | 10 | Push-Pull | SOT-23-8,XTDFN-1.4×1-8L | GPIO Level Shifter |
| 2 | SGM4558 | | 2.7 ~ 5.5 | 1.4 ~ 5.5 | | | Yes | Low | 2 | | TQFN-3×3-20L | SIM/Smart Card Interface |
| 4 | SGM4563 | 100 | | | 1.2 ~ 5.5 | 1.65 ~ 5.5 | No | Hi-Z | 5 | Push-Pull | SOIC-14,UTQFN-1.8×1.8-12L | SPI Bus or UART Interface |
| 4 | SGM4564 | 100 | | | 1.2 ~ 5.5 | 1.65 ~ 5.5 | Yes | Hi-Z | 12/9 | Push-Pull | SOIC-14,UTQFN-1.8×1.8-12L,TQFN-2×2-12L | GPIO Level Shifter |
| 6 | SGM4566 | 100 | | | 1.2 ~ 5.5 | 1.65 ~ 5.5 | Yes | Hi-Z | 12/9 | Push-Pull | TSSOP-16,TQFN-2.6×1.8-16L | GPIO Level Shifter |
| 8 | SGM4568 | 100 | | | 1.2 ~ 5.5 | 1.65 ~ 5.5 | Yes | Hi-Z | 12/9 | Push-Pull | TSSOP-20,TQFN-3×3-20L | GPIO Level Shifter |

Level Shifters and Drivers

1[▲]

| Channels per Package | Part Number | V _{CC} Range (V) | Logic Low Input Voltage (V) | Logic High Input Voltage (V) | Enable Voltage Range (V) | EN High Threshold (V _{ENH}) (V) | EN Low Threshold (V _{ENL}) (V) | Output Peak Current (A) | Rise Time (ns) | Fall Time (ns) | Shutdown I _{CC} Max (mA) | V _{CC} Shutdown I/O State | Package | Features |
|----------------------|-------------|---------------------------|-----------------------------|------------------------------|--------------------------|-------------------------------------------|------------------------------------------|-------------------------|----------------|----------------|-----------------------------------|------------------------------------|--------------------|---------------------------------------------|
| 2 | SGM4548 | 4.5 ~ 26.5 | 0.7 | 1.6 | 0 ~ 5.5 | 2.1 | 0.6 | 2 | 12 | 13 | 0.24 | Low | SOIC-8,TDFN-2×2-8L | High Speed, Dual Level Shifters and Drivers |
| 2 | SGM4549 | 4.5 ~ 26.5 | 0.7 | 1.6 | 0 ~ 5.5 | 2.1 | 0.6 | 2 | 12 | 13 | 0.24 | Low | SOIC-8,TDFN-2×2-8L | High Speed, Dual Level Shifters and Drivers |
| 2 | SGM4550 | 4.5 ~ 26.5 | 0.7 | 1.6 | 0 ~ 5.5 | 2.1 | 0.6 | 2 | 12 | 13 | 0.24 | Low | SOIC-8,TDFN-2×2-8L | High Speed, Dual Level Shifters and Drivers |

Small Logic Series

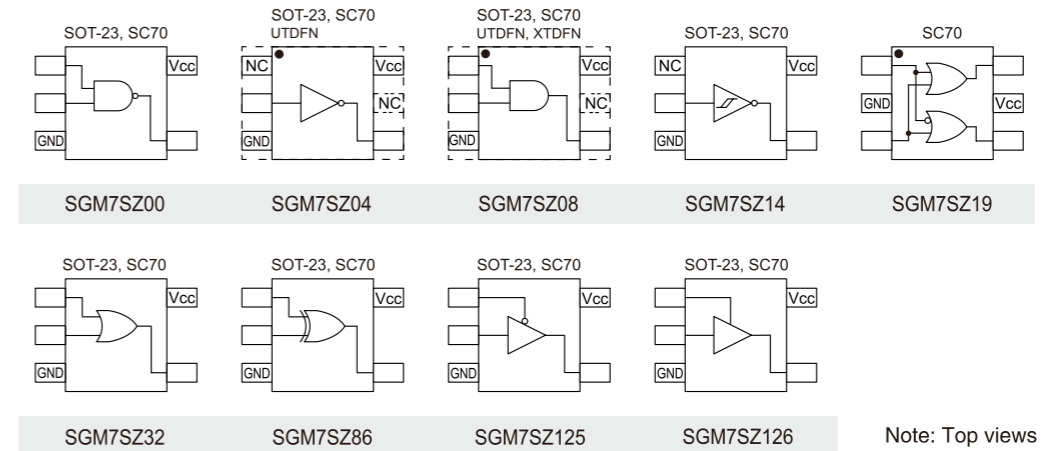
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| Part Number | Package | Features |
|-------------|----------------------------------------------|--------------------------------------------|
| SGM7SZ00 | SOT-23-5,SC70-5 | Single 2-Input NAND Gate |
| SGM7SZ04 | SOT-23-5,SC70-5,UTDFN-1.45×1-6L | Single Inverter |
| SGM7SZ08 | XTDFN-1×1-6L,SOT-23-5,SC70-5,UTDFN-1.45×1-6L | Single 2-Input AND Gate |
| SGM7SZ14 | SOT-23-5,SC70-5 | Single Inverter with Schmitt Trigger Input |
| SGM7SZ19 | SC70-6 | Single 1-of-2 Decoder/Demultiplexer |
| SGM7SZ32 | SOT-23-5,SC70-5 | Single 2-Input OR Gate |
| SGM7SZ86 | SOT-23-5,SC70-5 | Single 2-Input Exclusive-OR Gate |
| SGM7SZ125 | SOT-23-5,SC70-5 | Single Active-Low Tri-State Logic Buffer |
| SGM7SZ126 | SOT-23-5,SC70-5 | Single Active-High Tri-State Logic Buffer |

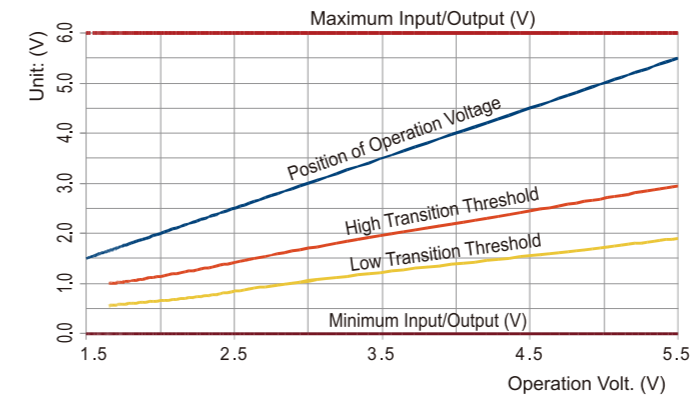
Specifications

| | |
|-----------------------------------------------------------------------|-------------------------|
| Operation Supply Range | 1.65 ~ 5.5 (V) |
| Data Retention Supply Range | 1.5 ~ 5.5 (V) |
| Input/Output Voltage Range | 0 ~ 5.5 (V) |
| Input/Output Leakage Current and Quiescent Supply Current | ±0.1 (µA) |
| Low Level Input Threshold | 0.25V _{CC} (V) |
| High Level Input Threshold | 0.75V _{CC} (V) |
| Output Driving, at V _{CC} =3V | ±24 (mA) |
| Propagation Delay (varied with different devices and supply voltages) | 2.3 ~ 10.3 (ns) |

Symbols and Pins



The relationship between DC threshold of other parameters and operating voltage.



Except devices with Schmitt trigger on the input, logic state is defined only when input level is above or below the threshold; logic state under any other input condition is undefined and not guaranteed. For devices with Schmitt trigger input, logic state is stable at any input level, and is determined by the last effective triggering.



www.sg-micro.com

SG Micro Corp

No.87 North Xisanhuan Road, IFEC, Suite C-1301,
Haidian District, Beijing, 100089
China
Tel: +86-10-8882 5716/17
Fax: +86-10-8882 5736