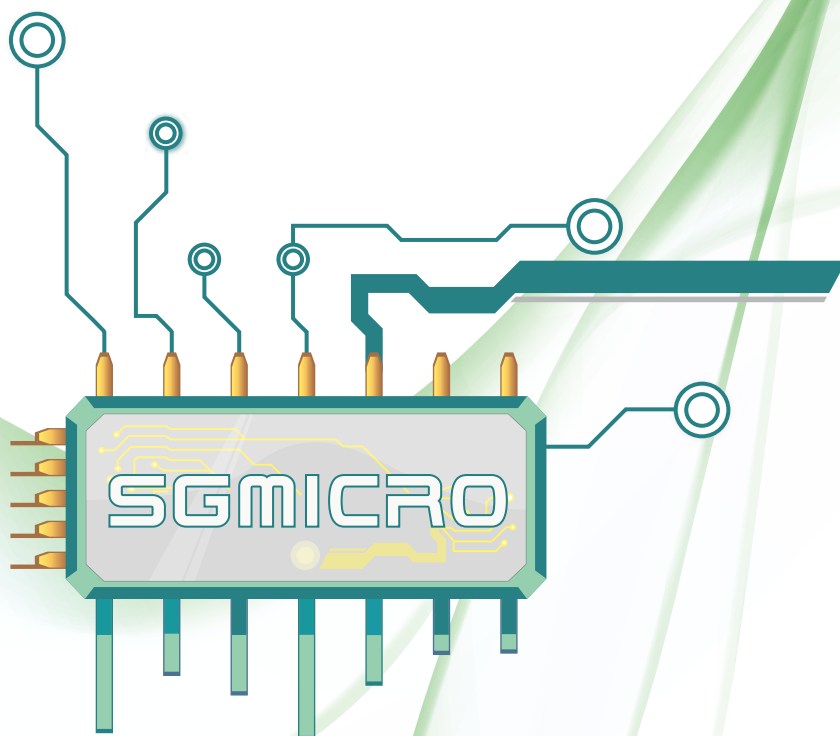
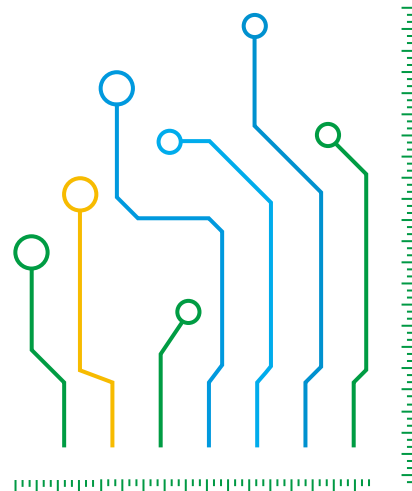



# Product Selection Guide

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  
 $\mu$ 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 and 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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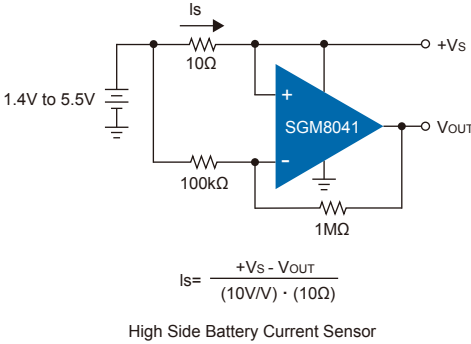
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Small Logic Series

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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	I <sub>o</sub> /Amp Typ (μA)	Shut- down	V <sub>CC</sub> (V)	GBP Typ (kHz)	Slew Rate Typ (V/ms)	E <sub>NOISE</sub> 0.1Hz ~ 10Hz (μV <sub>PP</sub> )	E <sub>NOISE</sub> Typ @1kHz (nV/√Hz)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>B</sub> Typ (pA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to -Rail Input	Rail-to -Rail Output	Package	Features
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
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-3×3-16L	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 <sub>Q</sub> , RRIO
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 <sub>Q</sub> , 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 <sub>Q</sub> , RRIO
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	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

# 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	I <sub>o</sub> /Amp Typ (μA)	Shut- down	V <sub>CC</sub> (V)	GBP Typ (MHz)	Slew Rate Typ (V/ms)	E <sub>NOISE</sub> 0.1Hz ~ 10Hz (μV <sub>PP</sub> )	E <sub>NOISE</sub> Typ @1kHz (nV/√Hz)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>B</sub> Typ (pA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to -Rail Input	Rail-to -Rail Output	Package	Features
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	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-2×2-6L	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	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
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	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-2×3-8L,SOIC-8,MSOP-8	High Voltage, Micro Power, Precision
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
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

Note: † Typical Values @25°C

# Micro Power Operational Amplifiers

Operational Amplifier, Comparator	Amplifiers per Package	Part Number	I <sub>Q</sub> /Amp Typ (μA)	Shut- down	V <sub>CC</sub> (V)	GBP Typ (MHz)	Slew Rate Typ (V/ms)	E <sub>NOISE</sub> 0.1Hz ~ 10Hz (μV <sub>PP</sub> )	E <sub>NOISE</sub> Typ @1kHz (nV/√Hz)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>B</sub> Typ (pA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to -Rail Input	Rail-to -Rail Output	Package	Features
	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	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	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
	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
Audio/Video Driver	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	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

# High Speed Operational Amplifiers

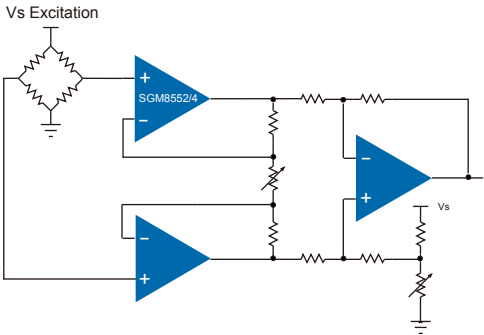
Analog Switch	Amplifiers per Package	Part Number	GBP Typ (MHz)	Bandwidth @-3dB (MHz)	Shut- down	V <sub>CC</sub> (V)	Slew Rate Typ (V/μs)	E <sub>NOISE</sub> Typ @1MHz (nV/√Hz)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>B</sub> Typ (pA)	I <sub>Q</sub> /Amp Typ (mA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to -Rail Input	Rail-to -Rail Output	Package	Features
	1	SGM8051		250	No	2.5 ~ 5.5	130	8.1	8	4.4	6	2.3	104	80	No	Yes	SOT-23-5,SOIC-8	250MHz Rail-to-Rail Output Amp
	2	SGM8052		250	No	2.5 ~ 5.5	130	8.1	8	4.4	6	2.3	104	80	No	Yes	SOIC-8,MSOP-8	250MHz Rail-to-Rail Output Amp
	1	SGM8053		250	Yes	2.5 ~ 5.5	130	8.1	8	4.4	6	2.3	104	80	No	Yes	SOT-23-6,SOIC-8	250MHz Rail-to-Rail Output Amp with Shutdown
	4	SGM8054		250	No	2.5 ~ 5.5	130	8.1	8	4.4	6	2.3	104	80	No	Yes	SOIC-14,TSSOP-14	250MHz Rail-to-Rail Output Amp
	2	SGM8055		250	Yes	2.5 ~ 5.5	130	8.1	8	4.4	6	2.3	104	80	No	Yes	MSOP-10	250MHz Rail-to-Rail Output Amp with Shutdown
	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
	1	SGM8061		500	No	2.5 ~ 5.5	420	5.6	8	3	6	8.2	104	80	No	Yes	SOT-23-5,SOIC-8	500MHz Rail-to-Rail Output Amp
Power Management IC	2	SGM8062		500	No	2.5 ~ 5.5	420	5.6	8	3	6	8.2	104	80	No	Yes	SOIC-8	500MHz Rail-to-Rail Output Amp
	1	SGM8063		500	Yes	2.5 ~ 5.5	420	5.6	8	3	6	8.2	104	80	No	Yes	SOT-23-6,SOIC-8	500MHz Rail-to-Rail Output Amp with Shutdown
	1	SGM8091		350	No	2.5 ~ 5.5	265	5.9	8	3.7	6	4.3	104	80	No	Yes	SOT-23-5,SOIC-8	350MHz Rail-to-Rail Output Amp
	2	SGM8092		350	No	2.5 ~ 5.5	265	5.9	8	3.7	6	4.3	104	80	No	Yes	SOIC-8,MSOP-8	350MHz Rail-to-Rail Output Amp
	1	SGM8093		350	Yes	2.5 ~ 5.5	265	5.9	8	3.7	6	4.3	104	80	No	Yes	SOT-23-6,SOIC-8	350MHz Rail-to-Rail Output Amp with Shutdown
	4	SGM8094		350	No	2.5 ~ 5.5	265	5.9	8	3.7	6	4.3	104	80	No	Yes	SOIC-14,TSSOP-14	350MHz Rail-to-Rail Output 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	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
Logic IC	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

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.

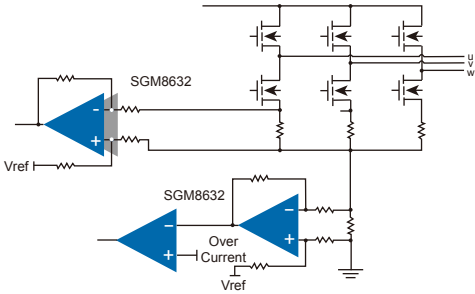


Amplifiers per Package	Part Number	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>b</sub> Typ (pA)	Shut-down	V <sub>CC</sub> (V)	GBP Typ (MHz)	Slew Rate Typ (V/μs)	E <sub>NOISE</sub> 0.1Hz ~ 10Hz (μV <sub>PP</sub> )	E <sub>NOISE</sub> Typ @1kHz (nV/√Hz)	I <sub>o</sub> /Amp Typ (μA)	A <sub>vo</sub> Typ (dB)	CMRR Typ (dB)	Rail-to-Rail Input	Rail-to-Rail Output	Package	Features
Operational Amplifier, Comparator	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
Audio/Video Driver	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
Analog Switch	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
Power Management IC	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
Logic IC	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
Power Management IC	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
	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
Logic IC	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 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
	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
Power Management IC	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 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
Logic IC	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
	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
Power Management IC	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 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
Logic IC	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

Note: † Typical Values @25°C

# 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.

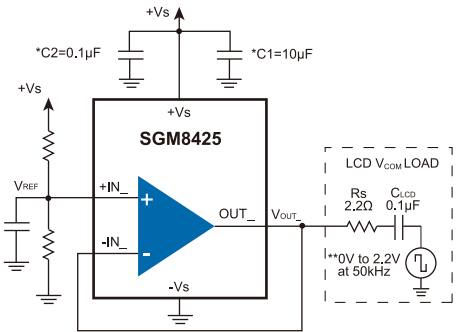


Amplifiers per Package	Part Number	E <sub>NOISE</sub> 1kHz (nV/√Hz)	I <sub>NOISE</sub> Typ @1kHz (pA/√Hz)	GBP Typ (MHz)	Slew Rate Typ (V/μs)	I <sub>OUT</sub> Min @25°C (mA)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>s</sub> Typ (pA)	V <sub>CC</sub> (V)	I <sub>Q</sub> /Amp Typ (mA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to- -Rail I/O	Package	Features
Operational Amplifier, Comparator	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
	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
	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
	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
Audio/Video Driver	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 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
Analog Switch	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
	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
	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
	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
Power Management IC	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
	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
	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
	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
Logic IC	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
	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 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
	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 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
	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
	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
	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
	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

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

# Application-Specific Operational Amplifiers

The Application-Specific Operational Amplifier family provides the improved V<sub>COM</sub> buffer IC featuring up to 3A transient output peak current with single/dual/quad amplifiers per package; industry standard crossover distortion-free operational amplifiers are extremely suitable for data acquisition systems requiring high linearity; dual channel OPAs with positive offset in tiny DFN packages make them best choice for portable applications.

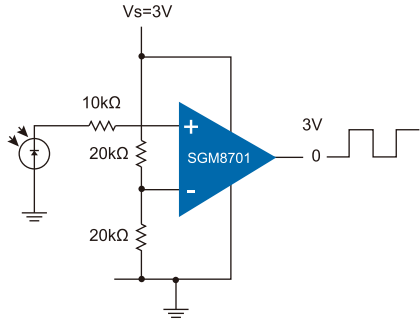


Amplifiers per Package	Part Number	Transient Output Peak Current (mA)	Settling Time to 0.1% (μs)	GBP Typ (MHz)	Slew Rate Typ (V/μs)	I <sub>OUT</sub> Typ (mA)	V <sub>OS</sub> Max @25°C (mV)	TC of V <sub>OS</sub> Typ (μV/°C)	I <sub>B</sub> Typ (pA)	V <sub>CC</sub> (V)	I <sub>O</sub> /Amp Typ (μA)	A <sub>VO</sub> Typ (dB)	CMRR Typ (dB)	Rail-to -Rail I/O	Package	Features	Pin 1	
																	Pin 1	Pin 2
1	SGM8416-1	800	0.16	25	65	300	8		1000	4.5 ~ 26.5	2500	120	72	Yes	TDFN-3×3-8L	0.8A Peak Output Current, 65V/μs, 26.5V <sub>CC</sub> , Single V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Dual V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Quad V <sub>COM</sub> Buffer	1	2
1	SGM8417-1	1500	0.135	27	65	400	8		1000	4.5 ~ 26.5	3300	120	72	Yes	TDFN-3×3-8L	1.5A Peak Output Current, 65V/μs, 26.5V <sub>CC</sub> , Single V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Dual V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Quad V <sub>COM</sub> Buffer	1	2
1	SGM8418-1	3000	0.13	25	65	400	8		1000	4.5 ~ 26.5	4500	120	72	Yes	TDFN-3×3-8L	3A Peak Output Current, 65V/μs, 26.5V <sub>CC</sub> , Single V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Dual V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Quad V <sub>COM</sub> Buffer	1	2
2	SGM8422			2.4	2	80	5.9		10	4.5 ~ 30	660	113	73	Yes	SOIC-8,MSOP-8	Low Power, 30V <sub>CC</sub> , Dual V <sub>COM</sub> Buffer for Small Panel	1	2
4	SGM8424			2.4	2	80	5.9		10	4.5 ~ 30	660	113	73	Yes	SOIC-14,TSSOP-14	Low Power, 30V <sub>CC</sub> , Quad V <sub>COM</sub> Buffer for Small Panel	1	2
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 <sub>CC</sub> , Single V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Dual V <sub>COM</sub> Buffer	1	2
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 <sub>CC</sub> , Quad V <sub>COM</sub> Buffer	1	2
1	SGM8481			5.3	8	20	2			3 ~ 5.5	12000	120	90		MSOP-10	Single Power Supply, True Negative Signal Amp	1	2
2	SGM8482			5.3	8	20	2			3 ~ 5.5	12000	120	90		TSSOP-14	Single Power Supply, True Negative Signal Amp	1	2
2	SGM8600		0.21	11	8.5	63	4	8.7	1	2.1 ~ 5.5	1100	92	82	Yes	TDFN-2×2-8L,SOIC-8	Tiny Package, Positive Offset, Low Noise	1	2
1	SGM8601		0.21	11	8.5	63	4	8.7	1	2.1 ~ 5.5	1100	92	82	Yes	TDFN-2×2-8L	Tiny Package, Low Noise	1	2
2	SGM8602		0.2	12	9	65	5.1	4.7	1	2.1 ~ 5.5	1100	92	75	Yes	SOT-23-8,TDFN-2×3-8L	Tiny Package, Low Noise	1	2
1	SGM8603		0.21	11	8.5	64	4.9	2.7	1	2.1 ~ 5.5	1100	91	83	Yes	TDFN-2×2-6L	Tiny Package, Low Noise	1	2
1	SGM8605-1		0.36	12.5	8.5	77	5	6	1	2.1 ~ 5.5	1200	88	78	Yes	UTDFN-1.45×1-6L	Ultra Tiny Package, Low Noise	1	2
2	SGM8606			0.35	0.18	18	0.05	0.08	130	1.8 ~ 5.5	20	121	100	Yes	TDFN-3×3-10L	Current Sensing AFE	1	2
1	SGM8941		2	1.5	0.8		0.9	3	3	1.8 ~ 5.5	120	90	90	Yes	SOT-23-5,SOIC-8	Crossover Distortion Free, 0.9mV V <sub>OS</sub> , Low Bias Current	1	2
2	SGM8942		2	1.5	0.8		0.9	3	3	1.8 ~ 5.5	120	90	90	Yes	SOIC-8,MSOP-8	Crossover Distortion Free, 0.9mV V <sub>OS</sub> , Low Bias Current	1	2



# Nano Power Comparators

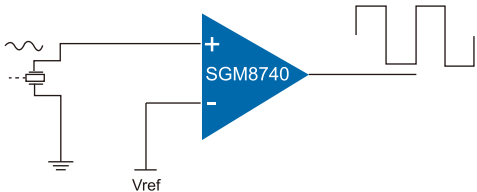
The Nano Power Comparator family provides a typical power supply current as low as 350nA. They have the best-in-class power supply current versus propagation delay performance. The propagation delay is as low as 6μs with 100mV overdrive at 1.4V supply. The Nano Power Comparator family also provides different 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 <sub>o</sub> /Comp Typ (nA)	Latch Enable	V <sub>cc</sub> (V)	V <sub>os</sub> Max @25°C (mV)	t <sub>PD</sub> , H to L @V <sub>CC</sub> = 5V (μs)	t <sub>PD</sub> , L to H @V <sub>CC</sub> = 5V (μs)	Logic Output	Reference Output (V)	Rise Time @V <sub>CC</sub> = 5V (ns)	Fall Time @V <sub>CC</sub> = 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	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	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	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	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	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 <sub>PD</sub> , H to L @V <sub>CC</sub> = 5V (ns)	t <sub>PD</sub> , L to H @V <sub>CC</sub> = 5V (ns)	Rise Time @V <sub>CC</sub> = 5V (ns)	Fall Time @V <sub>CC</sub> = 5V (ns)	V <sub>os</sub> Max @25°C (mV)	V <sub>cc</sub> (V)	Input Common Mode Voltage Range (V)	I <sub>o</sub> /Comp Typ (μA)	Logic Output	Rail-to-Rail Output	Package	Features
1	SGM8740	20	25	8	5	5	2.7 ~ 5.5	-0.1 ~ Vs+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 ~ Vs+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 ~ Vs+0.1	155	Push-Pull	Yes	SOIC-8,MSOP-8	High Speed, Small Package, Dual, Rail-to-Rail Input
1	SGM8743	6	6	8	6	5	2.7 ~ 5.5	-0.1 ~ Vs+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 ~ Vs+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 ~ Vs+0.1	1300	Push-Pull	Yes	SOIC-8,MSOP-8	Ultra High Speed, Small Package, Dual, Rail-to-Rail Input
1	SGM8746	95	120	8	6	5	2.7 ~ 5.5	-0.1 ~ Vs+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 ~ Vs+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 ~ Vs+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 ~ Vs+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 ~ Vs+0.1	22	Open-Drain	No	SOIC-8,MSOP-8	Low Power, Small Package, Dual, Open-Drain Output
1	SGM8751	30	22	11	8	5	2.7 ~ 5.5	-0.1 ~ Vs-1.2	150	Push-Pull	Yes	SOT-23-5	Low Power, Small Package, Single, Rail-to-Rail Output

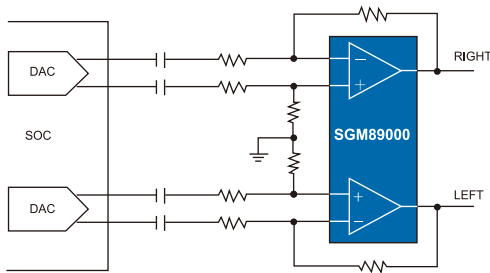
# High Performance Video Buffers

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 <sub>CC</sub> (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
Operational Amplifier, Comparator	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
Audio/Video Driver	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
Analog Switch	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
Power Management IC	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
Logic IC	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
	SGM9140	1			Yes	2.8 ~ 5.5	12/6	26/23	18/16	Yes	No	9			MSOP-8	Quad Channels, Standard Definition
	SGM9141	1			No	4.5 ~ 13.2	6	25	17	Yes	No	9			SOIC-8,TSSOP-8	Triple Channels, Standard Definition
	SGM9144	1			Yes	2.5 ~ 4.0	6/12	14/14		Yes	Yes	11.8	60		MSOP-8,TDFN-2×2-8L	Single SD Channel, Capless Output Coupling
	SGM9146	1	3	Yes	No	3.1 ~ 5.5	6	8.5/46/98	6.4/32/78	Yes	Yes	9.5/58/78	34/190/340	35/3.5/5.3	TSSOP-14	Single SD Channel, Triple HD Channels, 1080i/1080p Supported
	SGM9147	1			No	3.0 ~ 5.5	6	13	10	Yes	Yes	5	60	6	SC70-5	Single Channel, Standard Definition, Small Package
	SGM9148	1			Yes	3.0 ~ 5.5	6	13	10	Yes	Yes	5	60	6	SOT-23-6	Single Channel, Standard Definition, Small Package with Shutdown
	SGM9149	3			No	3.0 ~ 5.5	6	13	10.7	Yes	Yes	21	61	5.2	SOIC-8,MSOP-8	Triple Channels, Standard Definition
	SGM9150	1	3	Yes	Yes	3.1 ~ 5.5	6	8.5/98	6.4/78	Yes	Yes	9.5/65	34/340	35/5.3	TSSOP-14	Single SD Channel, Triple HD Channels, 1080p Supported with Shutdown
	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-3×3-10L	Single HD Channel, 1080p Supported, Capless Output Coupling
	SGM9154		1	Yes	Yes	3.1 ~ 5.5	6	79	64	Yes	Yes	15	300	3.5	TSSOP-8,SOT-23-6,SC70-5	Single HD Channel, 1080p Supported
	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.



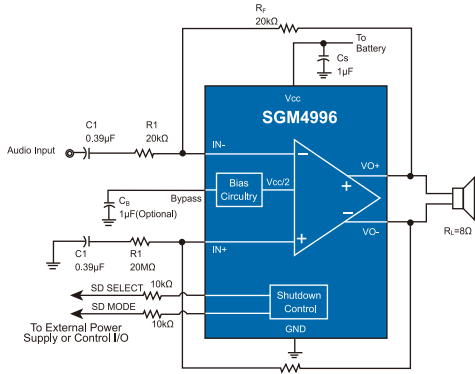
Part Number	Output Voltage R <sub>L</sub> = 600Ω	Output Power R <sub>L</sub> = 32Ω	Stereo or Mono	V <sub>CC</sub> (V)	Differential Input	Shutdown Logic	Shutdown Current Typ (μA)	Pop & Click Suppression	Package	Features
	THD ≤ 0.1%, V <sub>CC</sub> = 5.0V	THD ≤ 0.1%, V <sub>CC</sub> = 5.0V								
SGM4809		87mW/CH	Stereo	2.5 ~ 5.5	No	Active Low	0.6	Yes	MSOP-8	Headphone Driver with Active Low Shutdown Mode
SGM4810		87mW/CH	Stereo	2.5 ~ 5.5	No	Active High	0.5	Yes	MSOP-8	Headphone Driver with Active High Shutdown Mode
SGM4812		82mW/CH	Stereo	2.7 ~ 5.5	Yes	Active High	0.36	Yes	MSOP-10	Headphone Driver with Differential Input
SGM4914		95mW/CH	Stereo	2.7 ~ 5.5	No	Active Low	0.02	Yes	TQFN-4×4-20L	Headphone Driver with Active Low Shutdown Mode
SGM4915		85mW/CH	Stereo	2.5 ~ 5.5	No	Active Low	0.02	Yes	TDFN-2×2-8L	Headphone Driver with Small Package
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
SGM8902	3.05Vrms		Stereo	3.0 ~ 5.5	Yes	Active Low	100	Yes	TSSOP-14	600Ω Audio Line 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 <sub>CC</sub> = 3.3V		Stereo	3.0 ~ 3.6	Yes	Active Low	100	Yes	TSSOP-14	600Ω Audio Line Driver with UVP Function
SGM89111	3.05Vrms		Stereo	3.0 ~ 5.5	Yes	Active Low		Yes	TSSOP-20	Audio Line Driver with Video Driver
SGM89112	3.05Vrms		Stereo	3.0 ~ 5.5	No	Active Low		Yes	TSSOP-16	Audio Line Driver with Video Driver

# 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 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.

Part Number	Output Power R <sub>L</sub> = 8Ω		Stereo or Mono	V <sub>CC</sub> (V)	Differential Input	Shutdown Current		Package	Features
	THD ≤ 1%, V <sub>CC</sub> = 3.6V	THD ≤ 1%, V <sub>CC</sub> = 5.0V				Shutdown Logic	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	Class AB, BTL Output with Headphone Driver
SGM4865	0.7W/CH	1.3W/CH	Stereo	2.6 ~ 5.5	No	Active Low	0.03	TQFN-4×4-16L	Class AB, BTL Output
SGM4871		1.2W/CH	Mono	2.5 ~ 5.5	No	Active High	0.07	SOIC-8,SOIC-8 (Exposed Pad)	Class AB, BTL Output
SGM4888	0.7W/CH	1.3W/CH	Stereo	2.8 ~ 5.5	No	Active Low	0.02	TQFN-4×4-24L	Class AB, BTL Output with 3D Enhance and Headphone Driver
SGM4891	0.6W/CH	1.2W/CH	Mono	2.5 ~ 5.5	No	Active Low	0.02	TDFN2×2-8L	Class AB, BTL Output
SGM4895	0.65W/CH	1.3W/CH	Mono	2.5 ~ 5.5	Yes	Active Low	0.01	TDFN-3×3-8L,MSOP-8 (Exposed Pad)	Class AB, Fully Differential Input, BTL Output
SGM4995	0.65W/CH	1.3W/CH	Mono	2.5 ~ 5.5	Yes	Active Low	0.02	TDFN-2×2-8L	Class AB, 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	Class AB, Fully Differential Input, BTL Output

Shutdown Control		
SD Mode	SD Select	Status
0	0	Shutdown
0	1	On
1	0	On
1	1	Shutdown



# 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 <sub>CC</sub> (V)	Quiescent Current (μA)	R <sub>ON</sub> (Ω)	Bandwidth @-3dB (MHz)	Digital I/O V <sub>INH</sub> Min (V)	Digital I/O V <sub>INL</sub> Max (V)	t <sub>ON</sub> (ns)	t <sub>OFF</sub> (ns)	Package	Features
Operational Amplifier, Comparator	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	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 <sub>ON</sub> , 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 <sub>ON</sub> , Tiny Package, Dual 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
	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
	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
Audio/Video Driver	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
	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
	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
	1	SGM3167	1:2	1.8 ~ 5.5	<5	9	600	1.5	0.6	20	15	SC70-6	600MHz, Small Package, Single SPDT
	4	SGM330A	1:2	5	<20	12	500	2	0.6	25	13	SOIC-16,TSSOP-16,SSOP-16	Quad, SPDT Video Analog Switch
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
	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 <sub>Q</sub> , Ultra Low R <sub>ON</sub> , 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
	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	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
	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
	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 <sub>Q</sub> , Ultra Low R <sub>ON</sub> , Quad SPDT
Power Management IC	1	SGM4157YC	1:2	1.8 ~ 5.5	0.1	0.8	90	1.6	0.4	56	32	SC70-6	Low R <sub>ON</sub> , Small Package, Single 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
Logic IC	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
	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
	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
	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
	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
	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
	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 <sub>ON</sub> , Tiny Package, Dual SPDT
	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	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 <sub>ON</sub> , Dual, SPQT
	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
	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
	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	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
	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

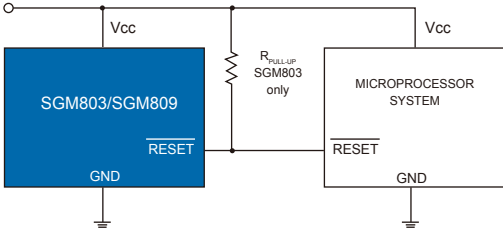
Channels per Package	Part Number	Type	V <sub>CC</sub> (V)	Quiescent Current (μA)	R <sub>ON</sub> (Ω)	Bandwidth @-3dB (MHz)	Digital I/O V <sub>INH</sub> Min (V)	Digital I/O V <sub>INL</sub> Max (V)	t <sub>ON</sub> (ns)	t <sub>OFF</sub> (ns)	Package	Features
1	SGM48780	1:4	1.8 ~ 4.2	<1	4	150	1.4	0.3	35	9	TDFN-3×3-10L,MSOP-10	Single SPQT
4	SGM5018	1:2	1.8 ~ 5.5	<1	4.5	300	1.6	0.5	40	30	TSSOP-16	300MHz, Quad 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 <sub>ON</sub> , 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	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	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	SGM84782	1:4	1.8 ~ 4.2	<1	4	150	1.6	0.5	17	9	TQFN-3×3-16L,TSSOP-16	Dual SPQT

Switch Complexes

Part Number	Type	V <sub>CC</sub> (V)	Bandwidth @-3dB (MHz)	Control Interface	R <sub>ON</sub> (Ω)	R <sub>ON</sub> Flatness (Ω)	C <sub>ON</sub> (pF)	C <sub>OFF</sub> C <sub>S</sub> /C <sub>D</sub> (pF)	Crosstalk Typ (dB)	Charge Injection Typ (pC)	Package	Features
SGM6501	12×9	3.1 ~ 5.5	84	I <sup>2</sup> C					-74		SSOP-28,TSSOP-28	12×9, Buffered
SGM6502	8×6	3.1 ~ 5.5	88	I <sup>2</sup> C					-77		TSSOP-24	8×6, Buffered
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
SGM6510	16×4	2.7 ~ 5.5	120	I <sup>2</sup> C	30	8	40		-110	7	TSSOP-28,TQFN-4×4-28L	16×4, Passive
SGM6511	16×8	2.7 ~ 5.5	120	I <sup>2</sup> C	30	8	50		-110	7	TQFN-5×5-32L,LQFP-7×7-32L	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
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 <sup>2</sup> C	30	8	50		-110	7	LQFP-7×7-32L	High Speed, 16×8, Passive, I <sup>2</sup> C Interface
SGM6515	1:8	3.3 ~ 13.2	80	I/O	24	12	75	8/70	-70	25	TSSOP-16	1:8, Multiplexer
SGM6516	16×8	4.5 ~ 13.2	45	I/O	40		65	25	-47		LQFP-10×10-44L,PLCC-44L	16×8, Passive
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
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

# 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 <sub>CC</sub> (V)	Reset Threshold (V)	Watchdog Timer	V <sub>CC</sub> 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

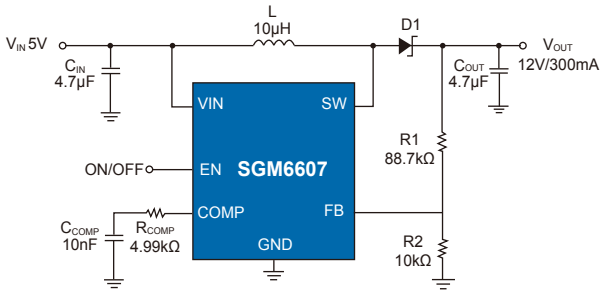
Part Number	Input Over-Voltage Protection Threshold (V)	Input Voltage Max (V)	Battery Over-Voltage Protection Threshold (V)	Maximum Start-Up Output Current (mA)	Shutdown Current (μA)	Soft-Start	Soft-Stop	LDO Mode Output Voltage (V)	Package	Features
SGM4062	6.8	18	4.35	1500	<2	Yes	Yes	5.1	TDFN-2×2-8L,MSOP-8 (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
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
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 <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	Programmable Current (mA)	Shutdown Current From V <sub>IN</sub> (μA)	Status Indication	Foldback Current From Battery (μA)	Package	Features
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
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
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
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

DC/DC Converters

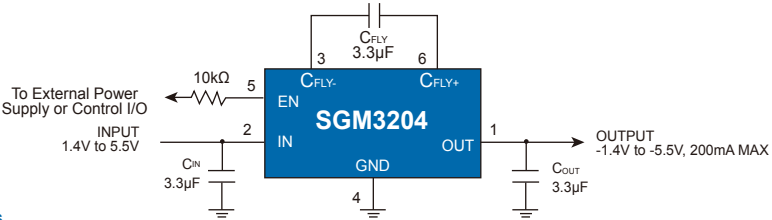
The DC/DC Converter family provides various DC/DC converters with high efficiency, high reliability in five different topologies, featuring high input voltage, low shutdown current, tiny DFN package, and SOIC-8 with exposed pad. All these features make the family extremely suitable for portable and industrial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



DC/DC Topology	Part Number	Output Current Max (mA)	VIN Min (V)	VIN 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	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 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 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
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	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
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	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 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 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
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
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	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
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

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

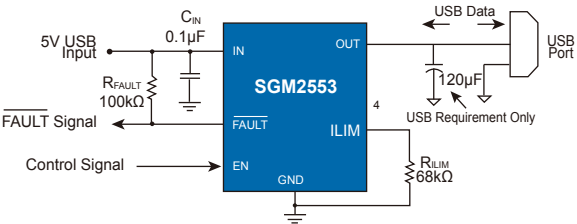
Charge Pump DC/DC Converters



Converters per Package	Part Number	Output Current Max (mA)	Shut-down	VIN Min (V)	VIN Max (V)	Output Voltage (V)	Switching Frequency (kHz)	Quiescent Current (µA)	Shutdown Current (µA)	Output Type	Package	Features
1	SGM3110	100	Yes	2.7	5	5	750	60	<1	Regulated	SOT-23-6	Low Noise, Doubler/White LED Driver
2	SGM3200	500	Yes	2.7	5	5	1700	70	<2	Regulated	TDFN-3×3-8L	Low Noise, Doubler/White LED Driver
1	SGM3204	200	Yes	1.4	5.5	-VIN	950	1500	<1	Unregulated	SOT-23-6	Unregulated Inverter, 950kHz, 200mA
1	SGM3206	60	No	1.4	5.5	-VIN	47	115	NA	Unregulated	SOT-23-5	Unregulated Inverter, 47kHz, 60mA
1	SGM3207	60	No	1.4	5.5	-VIN	19	72	NA	Unregulated	SOT-23-5	Unregulated Inverter, 19kHz, 60mA
1	SGM3209	100	Yes	4	18	-VIN	120 ~ 1280	1200	0.5	Unregulated	SOIC-8,TDFN-2×2-8L	Unregulated Inverter, Programmable Frequency, 100mA

# 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 <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	Enable Logic	Continuous Output Current (mA)	Shutdown Current (μA)	Current Limit (mA)	Soft- Start	Fault Flag	Package	Features
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	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
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
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
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	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	SGM2581E	23	2.5	5.5	Active High	2500	<1	2600	Yes	Yes	SOT-23-5	2.5A <sup>†</sup> Output Current, 2.6A 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	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	SGM2588E	23	2.5	5.5	Active High	2500	<1	2600	Yes	Yes	SOT-23-5	2.5A <sup>†</sup> Output Current, 2.6A 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	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	SGM2588K	23	2.5	5.5	Active High	2500	<1	2600	Yes	Yes	SOT-23-5	2.5A <sup>†</sup> 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

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

# Isolated Power

Drivers per Package	Part Number	Output Power (W)	V <sub>CC</sub> Range (V)	External Resistance (kΩ)	Input Frequency (kHz)	Logic Low Input Voltage (V)	Logic High Input Voltage (V)	I <sub>CC</sub> Typ (mA)	Package	Features
1	SGM46000	3	2.5 ~ 5.5	5 ~ 390	200 ~ 2000	0.3	2	0.6	SOIC-8 (Exposed Pad)	3W Output Power, Programmable Oscillator Frequency Isolated Power Supplies



# High Voltage Linear Regulators

Part Number	V <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	Output Current (mA)	Ground Current (No Load) (μA)	Dropout Voltage @I <sub>OUT</sub> = 1mA (mV)	PSRR @1kHz (dB)	Reference Voltage (V)	V <sub>OUT</sub> (V)	Package	Features
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 <sub>Q</sub> , 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 <sub>Q</sub> , Small Package, Single
SGM2201	2.7	36	150	4.5	8	40	0.8	Adj	TSOT-23-5,TDFN-2×3-8L	High Voltage, Low I <sub>Q</sub> , 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 <sub>Q</sub> , 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 <sub>Q</sub> , 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 <sub>Q</sub> , Small Package, Single
SGM71XX	2.7	36	60	2.2				3.0,3.3,3.6,4.4,5.0	SOT-89-3	High Voltage, Low I <sub>Q</sub> , Small Package, Single

# High Accuracy, Low Noise, Low Power LDOs

Part Number	V <sub>OUT</sub> (V)	V <sub>IN</sub> (V)	Output Current (mA)	Dropout Voltage (mV)	Ground Current (No Load) (μA)	Output Voltage Noise (μV <sub>RMS</sub> )	PSRR @1kHz (dB)	Package	Features
SGM2013	1.2,1.5,1.8,2.5,2.6,2.8,2.85,3.0,3.3	2.5 ~ 5.5	300	270	110	140	52	SO-89-3	Low Power, Low Noise, 3-Terminal LDO
SGM2019	1.2,1.5,1.8,2.5,2.6,2.8,2.85,3.0,3.3,Adj	2.5 ~ 5.5	300	270	100	30	74	SOT-23-5,SC70-5	Low Power, Low Noise, High PSRR LDO
SGM2020	1.2,1.5,1.8,2.5,2.8,2.85,3.0,3.3	2.5 ~ 5.5	300	270	110	30	67	SOT-23-5,SC70-5	Low Power, Low Noise, High PSRR LDO
SGM2021	0.9,1.2,1.3,1.5,1.8,2.1,2.5,2.8,3.0,3.3,...5.0	2.5 ~ 5.5	300	270	120	120	48	SOT-23-3	Low Power, Low Noise, 3-Terminal LDO
SGM2028	2.8,3.3,Adj	2.5 ~ 5.5	500	270	115	30	73	SOT-23-5	500mA, Low Power, Low Noise, High PSRR LDO
SGM2030	1.2,1.5,1.8,2.5,2.6,2.8,2.85,3.0,3.3	2.5 ~ 5.5	300	270	95	140	71	UTDFN-1.2×1.6-4L	Mini Package, Low Power, High PSRR LDO
SGM2031	1.2,1.5,1.8,2.5,2.6,2.8,2.85,3.0,3.3	2.5 ~ 5.5	250	230	95	140	72	UTDFN-1×1-4L	Mini Package, Low Power, High PSRR LDO
SGM2032	0.9,1.3,2.1,2.7,2.9,3.1,3.2,3.6,4.2,5.0,Adj	2.5 ~ 5.5	300	270	120	30	75	SOT-23-5,SC70-5	Low Power, Low Noise, High PSRR LDO
SGM2035C	2.8,3.0,3.3,Adj	2.5 ~ 5.5	500	250	115	30	73	TDFN-2×2-6L,UTDFN-1.6×1.6-6L	500mA, Mini Package, Low Power, Low Noise, High PSRR LDO
SGM2036	0.8,0.9,1.0,1.05,1.1,1.2,1.3,1.5,1.8,1.85,2.1,2.2,2.3,2.5,2.6,2.7,2.8,...Adj	1.6 ~ 5.5	300	185	20	30	66	UTDFN-1×1-4L,SOT-23-5,SC70-5	Mini Package, Low I <sub>Q</sub> , Low Noise, High PSRR LDO
SGM2043	2.8,3.3	2.5 ~ 5.5	250	230	95	140	72	UTDFN-1×1-4L	Mini Package, Low Power, High PSRR LDO

# Multi-Channel, High Accuracy, Low Noise, Low Power LDOs

Part Number	V <sub>OUT</sub> (V)	V <sub>IN</sub> (V)	Output Current (mA)	Dropout Voltage (mV)	Ground Current (No Load) (μA)	Output Voltage Noise (μV <sub>RMS</sub> )	PSRR @1kHz (dB)	Package	Features
SGM2022	2 Channels, 2.8/1.8,2.8/1.3,2.8/1.2,2.8/1.5,2.8/2.8,1.5/3.3,2.5/1.8,...	2.5 ~ 5.5	250	250	190	120	54	SOT-23-6	2 Channels, Low Power, High Accuracy
SGM2027	2 Channels, 3.0/3.0,1.2/1.8,1.8/3.0,1.5/2.8,1.8/3.3,1.2/2.8,1.8/2.8,2.8/3.3	2.5 ~ 5.5	250	250	190	120	54	TSOT-23-6	2 Channels, Low Power, High Accuracy



# MOSFET Drivers

Drivers per Package	Part Number	Output Peak Current (A)	V <sub>CC</sub> (V)	Rise Time (ns)	Fall Time (ns)	Logic Low Input Voltage (V)	Logic High Input Voltage (V)	Input Hysteresis (V)	I <sub>CC</sub> 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 <sub>IN</sub> Min (V)	V <sub>IN</sub> 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 I²C Bus
2	SGM37898	750/1000/1500/2000	2.7	5.5			0.05	UTQFN-2.6×1.8-10AL	Inductor Free, Support I²C 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.

Operational Amplifier,  
Comparator

Audio/Video  
Driver

Analog Switch

Power  
Management IC

Logic IC

Channels per Package	Part Number	V <sub>IN</sub> Min (V)	V <sub>IN</sub> Max (V)	LEDs per String	Shutdown Current (μA)	Switching Frequency (MHz)	LED Connection Type	Quiescent Current (mA)	Dimming Method	Package	Features
1	SGM3110	2.7	5	1	<1	0.75	Common Anode	0.06	PWM	SOT-23-6	1P Charge Pump LED Driver
4	SGM3122	2.7	5.5	1	<1	1	Common Anode	0.1	PWM	TQFN-3×3-16L	4P Charge Pump LED Driver
3	SGM3124	2.7	5.5	1	<1	1	Common Anode	0.1	PWM	TQFN-3×3-16L	3P Charge Pump LED Driver
4	SGM3127	2.5	5.5	1	<1		Common Anode	0.24	PWM	SOT-23-6	4P Low Dropout LED Driver
4	SGM3131	2.7	5.5	1	<1	1	Common Anode	0.1	One-Wire	TQFN-3×3-16L	4P Charge Pump LED Driver
4	SGM3132	2.5	5	1	<5		Common Anode	0.55	One-Wire	TQFN-3×3-16L,TDFN-2×2-8L,MSOP-8	4P Ultra Low Dropout LED Driver
4	SGM3133	2.7	5.5	1	<10	1	Common Cathode	0.3	One-Wire	TQFN-3×3-16L	4P Charge Pump LED Driver
6	SGM3138	2.7	5.5	1	<1	1	Common Anode	0.21	One-Wire	TQFN-3×3-16L	6P Charge Pump LED Driver
6	SGM3139B	2.5	5	1	<5		Common Anode	0.72	One-Wire	TQFN-3×3-16L	6P Ultra Low Dropout LED Driver
6	SGM3142	2.7	5.5	1	<10	1	Common Cathode	0.3	One-Wire	TQFN-4×4-16L	6P Charge Pump LED Driver
6	SGM3144	2.7	5.5	1	<2.5 @ V <sub>IN</sub> = 4.2V	0.93	Common Anode	0.155	PWM	TQFN-3×3-16L	6P Charge Pump LED Driver
8	SGM3145	2.7	5.5	1	<2.5 @ V <sub>IN</sub> = 4.2V	0.93	Common Anode	0.155	PWM	TQFN-3×3-20L	8P Charge Pump LED Driver
8	SGM3146	2.7	5.5	1	<2.5 @ V <sub>IN</sub> = 4.2V	0.93	Common Anode	0.155	One-Wire	TQFN-3×3-20L	8P Charge Pump LED Driver
1	SGM3720	2.7	5.5	10	<1	0.6	Common Anode	0.2	PWM	TSOT-23-6	600kHz, 10 LEDs per String
1	SGM3725	2.7	5.5	10	<1	1.1	Common Anode	0.2	One-Wire	TSOT-23-6	1.1MHz, 10 LEDs per String
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	SGM3727	2.8	5	10	<1		Common Anode	0.045	One-Wire	TDFN-2×2-8L	10 LEDs per String
1	SGM3732	2.7	5.5	10	<1	1.1	Common Anode	0.2	PWM	TSOT-23-6	10 LEDs per String
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	SGM3735	2.7	5.5	10	<1	1	Common Anode	0.2	One-Wire	TDFN-2×2-8L	10 LEDs per String
1	SGM3736	2.7	5.5	10	<1	1.1	Common Anode	0.2	PWM	TDFN-2×2-8L	10 LEDs per String
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
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
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
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	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
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
1	SGM3747	2.7	5.5	10	<1	1.1	Common Anode	0.2	PWM	TSOT-23-6	1:500 High Performance 10 LEDs per String
1	SGM3748	2.7	5.5	10	<1	1.1	Common Anode	0.2	PWM	TDFN-2×2-8L	1:500 High Performance 10 LEDs per String
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
1	SGM3752	2.7	5.5	10	<1	1.2	Common Anode	0.2	PWM	TSOT-23-6	1:250 High Performance 10 LEDs per String
1	SGM3753	2.7	5.5	10	<1	0.6	Common Anode	0.2	PWM	TDFN-2×2-6L	1:250 High Performance 10 LEDs per String
1	SGM3755	2.7	5.5	10	<1	0.6	Common Anode	0.2	PWM	TSOT-23-6	1:250 High Performance 10 LEDs per String
1	SGM3756	2.7	5.5	10	<1	1.2	Common Anode	0.2	PWM	TDFN-2×2-6L	1:250 High Performance 10 LEDs per String
1	SGM3757	2.7	5.5	10	<1	1.2	Common Anode	0.2	PWM	TDFN-2×2-8L	1:250 High Performance 10 LEDs per String

# Level Translators

Translators per Package	Part Number	Data Rate (Mbps)	V <sub>CC</sub> (V)	V <sub>L</sub> Range (V)	V <sub>CCA</sub> Range (V)	V <sub>CCB</sub> Range (V)	Bidirectional	V <sub>CC</sub> Shutdown I/O State	Shutdown I <sub>CC</sub> Max (μA)	Logic Output	Package	Features
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 <sup>2</sup> C Level Shifter
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
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
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
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
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
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

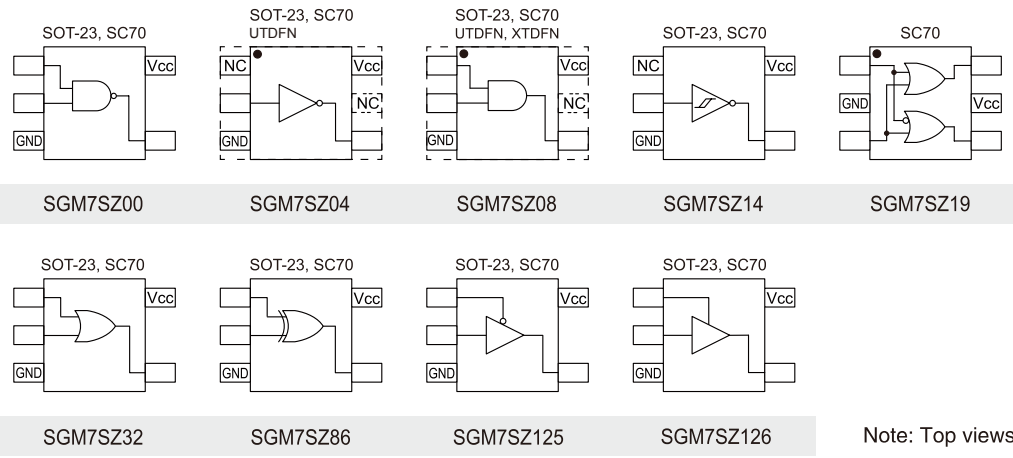
# Level Shifters and Drivers

Channels per Package	Part Number	V <sub>CC</sub> Range (V)	Logic Low Input Voltage (V)	Logic High Input Voltage (V)	Enable Voltage Range (V)	EN High Threshold (V <sub>ENH</sub> ) (V)	EN Low Threshold (V <sub>ENL</sub> ) (V)	Output Peak Current (A)	Rise Time (ns)	Fall Time (ns)	Shutdown I <sub>CC</sub> Max (mA)	V <sub>CC</sub> 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

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

Symbols and Pins

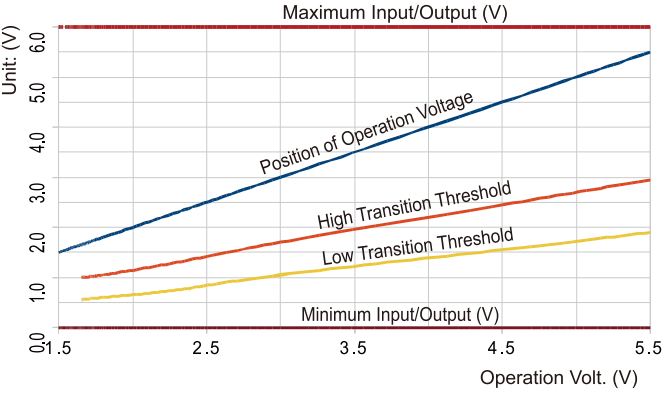


Note: Top views

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	0.25Vcc (V)
High Level Input Threshold	0.75Vcc (V)
Output Driving, at Vcc=3V	±24 (mA)
Propagation Delay (varied with different devices and supply voltages)	2.3 ~ 10.3 (ns)

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](http://www.sg-micro.com)

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**SG Micro Corp**

No.87 North Xisanhuan Road, IFEC, Suite C-1306,  
Haidian District, Beijing, 100089  
China  
Tel: 86-10-88825716/17  
Fax: 86-10-88825736

**Shanghai Office**

1905, Charity Building, No.88 Caoxi North Road,  
Xuhui District, Shanghai, 200030  
China  
Tel: 86-21-64396434  
Fax: 86-21-64396434-804

**Shenzhen Office**

818, Jiuzhou Electric Building B, Southern No.12 Road,  
High-tech Industrial Park, Nanshan District, Shenzhen, 518057  
China  
Tel: 86-755-26715323/26715619  
Fax: 86-755-26748460

**Taiwan Office**

Address: 5F-2, No.7, Section 2, Keelung Road,  
Xinyi District, Taipei City,  
Taiwan  
Tel: 886-2-27583383