



ICs

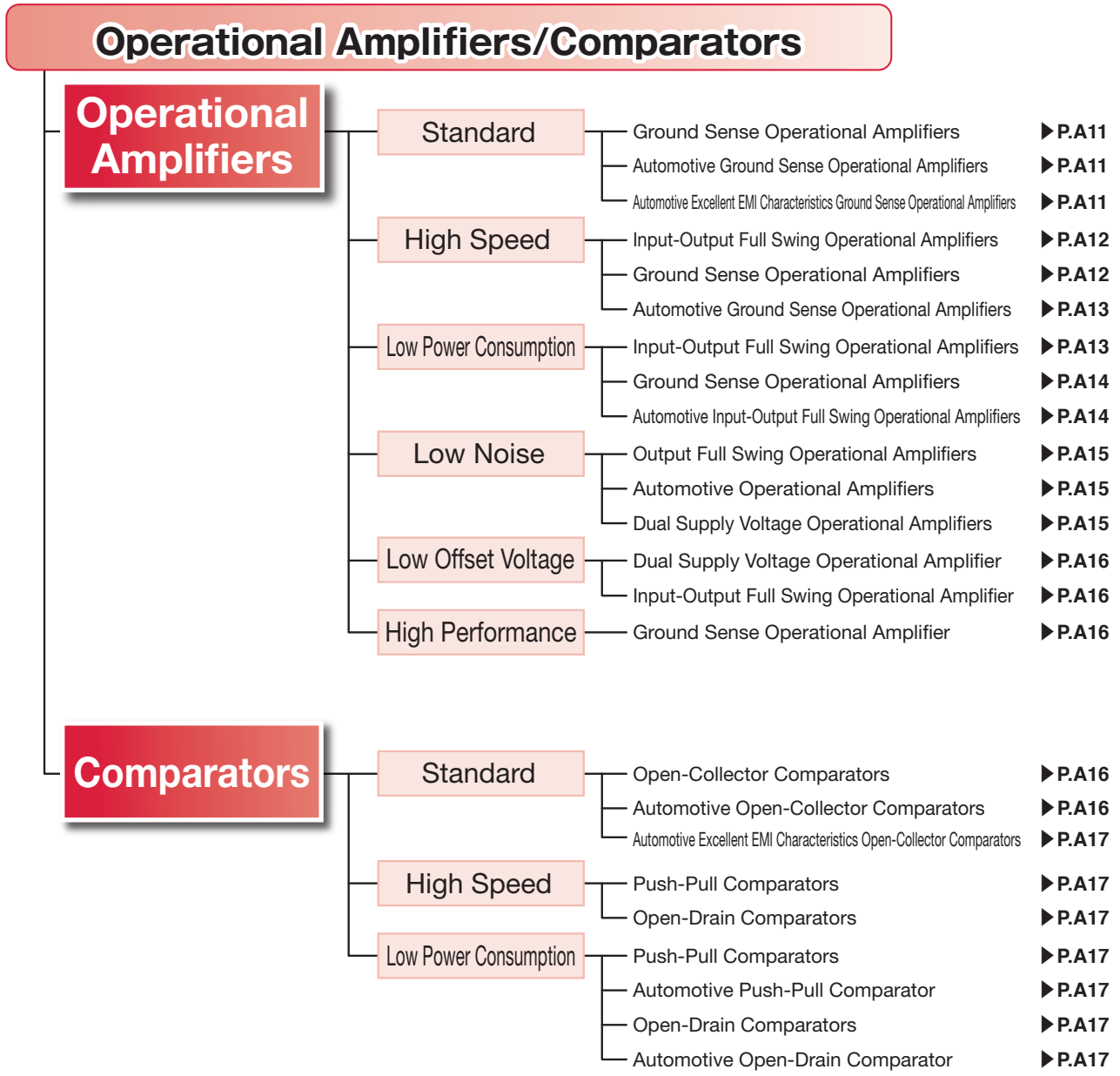
# Amplifiers & Linear

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# Operational Amplifiers/ Comparators

A  
Amplifiers & Linear



## Operational Amplifiers

## Standard

Ground Sense Operational Amplifiers																
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BA2904F	○	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP8
BA2904FV	○															SSOP-B8
BA2904FVM	○															MSOP8
BA2904SF	○	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +105	SOP8
BA2904SFV	○															SSOP-B8
BA2904SFVM	○															MSOP8
BA2904YF-LB	○	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP8
BA2902F	○	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP14
BA2902FV	○															SSOP-B14
BA2902SF	○															SOP14
BA2902SFV	○	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +105	SSOP-B14
BA2902YF-LB	○	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP14
BA3404F	—	2	4 to 36	2.0	2.0	70	30	VEE to VCC-2.0	VEE to VCC-2.0	100	90	94	1.2	1.2	-40 to +85	SOP8
BA3404FJ	—															SOP-J8
BA3404FVM	—															MSOP8
LM2902F	○	4	3 to 32	1.0	1.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.3	0.8	-40 to +125	SOP14
LM2902FJ	○															SOP-J14
LM2902FV	○															SSOP-B14
LM2902FVJ	○	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B14J	
LM2904F	○	2	3 to 32	0.6	1.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.3	0.8	-40 to +125	SOP8
LM2904FJ	○															SOP-J8
LM2904FV	○															SSOP-B8
LM2904FVJ	○	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8J	
LM2904FVM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	MSOP8
LM2904FVT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8
LM324F	—	4	3.0 to 32.0	1,000	1.0	20	30	VEE to VCC-1.5	VEE+0.01 to VCC-1.5	100	80	100	0.3	0.8	-40 to +85	SOP14
LM324FJ	—															SOP-J14
LM324FV	—															SSOP-B14
LM324FVJ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B14J
LM358F	—	2	3.0 to 32.0	600	1.0	20	30	VEE to VCC-1.5	VEE+0.01 to VCC-1.5	100	80	100	0.3	0.8	-40 to +85	SOP8
LM358FJ	—															SOP-J8
LM358FV	—															SSOP-B8
LM358FVJ	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8J
LM358FVM	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	MSOP8
LM358FVT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8

Product Grade : —Standard ○High Grade

Automotive Ground Sense Operational Amplifiers																	
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BA2904YF-C	●	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP8	YES
BA2904YFV-C	●															SSOP-B8	YES
BA2904YFVM-C	●															MSOP8	YES
BA2902YF-C	●	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP14	YES
BA2902YFV-C	●															SSOP-B14	YES
BA2904YF-M	●															SOP8	YES
BA2904YFV-M	●	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SSOP-B8	YES
BA2904YFVM-M	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	MSOP8	YES
BA2902YF-M	●	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP14	YES
BA2902YFV-M	●															SSOP-B14	YES
Automotive Excellent EMI Characteristics Ground Sense Operational Amplifiers																	
New BA82904YF-C	●	2	3 to 36	0.5	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP8	YES
New BA82904YFVM-C	●															MSOP8	YES
New BA82902YF-C	●	4	3 to 36	0.7	2.0	20	30	VEE to VCC-1.5	VEE to VCC-1.5	100	80	100	0.2	0.5	-40 to +125	SOP14	YES
New BA82902YFJ-C	●															SOP-J14	YES
New BA82902YFV-C	●															SSOP-B14	YES
New BA82902YFVJ-C	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B14J	YES

Product Grade : ●Automotive Grade

**High Speed**
**Amplifiers & Linear**

Input-Output Full Swing Operational Amplifiers																
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BU7261G	—	1	1.8 to 5.5	250	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.1	2.0	-40 to +85	SSOP5
BU7261SG	○														-40 to +105	SSOP5
BU7262F	—	2	1.8 to 5.5	550	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.1	2.0	-40 to +85	SOP8
BU7262FVM	—														MSOP8	
BU7262NUX	—															VSON008X2030
BU7262SF	○															SOP8
BU7262SFVM	○	2	1.8 to 5.5	550	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.1	2.0	-40 to +105	MSOP8
BU7262SNUX	○															VSON008X2030
BU7264F	—	4	1.8 to 5.5	1,100	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.1	2.0	-40 to +85	SOP14
BU7264FV	—														SSOP-B14	
BU7264SF	○														-40 to +105	SOP14
BU7264SFV	○														SSOP-B14	
BU7291G	—	1	2.4 to 5.5	470	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	3.0	2.8	-40 to +85	SSOP5
BU7291SG	○														-40 to +105	SSOP5
BU7294F	—	4	2.4 to 5.5	2,000	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	3.0	2.8	-40 to +85	SOP14
BU7294FV	—														SSOP-B14	
BU7294SF	○														-40 to +105	SOP14
BU7294SFV	○														SSOP-B14	
BU7295HFV	—	1	1.8 to 5.5	150	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.0	1.0	-40 to +85	HVSOF5
BU7295SHFV	○														-40 to +105	HVSOF5
BU7255HFV	—	1	2.4 to 5.5	540	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	3.4	4.0	-40 to +85	HVSOF5
BU7255SHFV	○														-40 to +105	HVSOF5
BD7561G	—	1	5.0 to 14.5	440	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.9	1.0	-40 to +85	SSOP5
BD7561SG	○														-40 to +105	SSOP5
BD7562F	—	2	5.0 to 14.5	900	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.9	1.0	-40 to +85	SOP8
BD7562FVM	—														MSOP8	
BD7562SF	○	2	5.0 to 14.5	900	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.9	1.0	-40 to +105	SOP8
BD7562SFVM	○														MSOP8	

Ground Sense Operational Amplifiers																
BA3472F	—	2	3 to 36	4.0	1.0	100	30	V <sub>EE</sub> to V <sub>CC</sub> -2.0	V <sub>EE</sub> +0.3 to V <sub>CC</sub> -1.0	100	97	97	10.0	4.0	-40 to +85	SOP8
BA3472FV	—														SSOP-B8	
BA3472FJ	—														SOP-J8	
BA3472FVM	—														MSOP8	
BA3472FVT	—														TSSOP-B8	
BA3472YF-LB	○	-40 to +125	SOP8													
BA3472RFVM	○	-40 to +105	MSOP8													
BA3474F	—	4	3 to 36	8.0	1.0	100	30	V <sub>EE</sub> to V <sub>CC</sub> -2.0	V <sub>EE</sub> +0.3 to V <sub>CC</sub> -1.0	100	97	97	10.0	4.0	-40 to +75	SOP14
BA3474FV	—														SSOP-B14	
BA3474FVJ	—														TSSOP-B14J	
BA3474RFV	○														-40 to +105	SSOP-B14
BU7461G	—	1	1.7 to 5.5	0.15	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.0	1.0	-40 to +85	SSOP5
BU7461SG	○														-40 to +105	SSOP5
BU7462F	—	2	1.7 to 5.5	0.3	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.0	1.0	-40 to +85	SOP8
BU7462FVM	—														MSOP8	
BU7462NUX	—															VSON008X2030
BU7462SF	○	2	1.7 to 5.5	0.3	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.0	1.0	-40 to +105	SOP8
BU7462SFVM	○														MSOP8	
BU7462SNUX	○															VSON008X2030
BU7464F	—	4	1.7 to 5.5	0.6	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	1.0	1.0	-40 to +85	SOP14
BU7464SF	○														-40 to +105	SOP14
BU7465HFV	—	1	1.7 to 5.5	0.12	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	1.0	1.2	-40 to +85	HVSOF5
BU7465SHFV	○														-40 to +105	HVSOF5
BU7481G	—	1	1.8 to 5.5	0.42	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	3.2	2.8	-40 to +85	SSOP5
BU7481SG	○														-40 to +105	SSOP5
BU7485G	—	1	3.0 to 5.5	1.5	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.4	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	10.0	10.0	-40 to +85	SSOP5
BU7485SG	○														-40 to +105	SSOP5
BU7486F	—	2	3.0 to 5.5	3.0	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.4	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	10.0	10.0	-40 to +85	SOP8
BU7486FV	—														SSOP-B8	
BU7486FVM	—														MSOP8	
BU7486SF	○														-40 to +105	SOP8
BU7486SFV	○														SSOP-B8	
BU7486SFVM	○	MSOP8														
BU7487F	—	4	3.0 to 5.5	6.0	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.4	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	105	60	80	10.0	10.0	-40 to +85	SOP14
BU7487FV	—														SSOP-B14	
BU7487SF	○														-40 to +105	SOP14
BU7487SFV	○														SSOP-B14	
BU7495HFV	—	1	1.8 to 5.5	0.65	1.0	0.001	7	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	5.0	4.0	-40 to +85	HVSOF5
BU7495SHFV	○														-40 to +105	HVSOF5

Product Grade : — Standard ○ High Grade

**High Speed**

Automotive Ground Sense Operational Amplifiers																		
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100	
BA3472YF-C	●	2	3 to 36	4.0	1.0	100	30	V <sub>EE</sub> to V <sub>CC</sub> -2.0	V <sub>EE</sub> +0.3 to V <sub>CC</sub> -1.0	100	97	97	10	4.0	-40 to +125	SOP8	YES	
BA3472YFV-C	●															SSOP-B8	YES	
BA3472YFVM-C	●															MSOP8	YES	
BA3472WVF-C	●															SSOP-B8	YES	
BA3474WVF-C	●	4	3 to 36	8.0	1.0	100	30	V <sub>EE</sub> to V <sub>CC</sub> -2.0	V <sub>EE</sub> +0.3 to V <sub>CC</sub> -1.0	100	97	97	10	4.0	-40 to +125	SSOP-B14	YES	
BA3474YFV-C	●															SSOP-B14	YES	

Product Grade : ●:Automotive Grade

**Low Power Consumption**

Input-Output Full Swing Operational Amplifiers																													
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package													
BU7205HFV	○	1	1.8 to 5.5	0.4	1.0	0.001	1.2	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.0025	0.0025	-40 to +85	HVSO5F5													
BU7205SHFV	○														-40 to +105	HVSO5F5													
BU7241G	○	1	1.8 to 5.5	70	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.4	0.9	-40 to +85	SSOP5													
BU7241SG	○														-40 to +105	SSOP5													
BU7242F	○	2	1.8 to 5.5	180	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.4	0.9	-40 to +85	SOP8													
BU7242FVM	○															MSOP8													
BU7242NUX	○															VSON008X2030													
BU7242SF	○															SOP8													
BU7242SFVM	○	2	1.8 to 5.5	180	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.4	0.9	-40 to +105	MSOP8													
BU7242SNUX	○														VSON008X2030														
BU7244F	○	4	1.8 to 5.5	360	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.4	0.9	-40 to +85	SOP14													
BU7244FV	○														SSOP-B14														
BU7244SF	○														-40 to +105	SOP14													
BU7244SFV	○														SSOP-B14														
BU7245HFV	○	1	1.8 to 5.5	5	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.035	0.09	-40 to +85	HVSO5F5													
BU7245SHFV	○														-40 to +105	HVSO5F5													
BU7265G	○	1	1.8 to 5.5	0.35	1.0	0.001	2.4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.0024	0.004	-40 to +85	SSOP5													
BU7265SG	○														-40 to +105	SSOP5													
BU7266F	○	2	1.8 to 5.5	0.7	1.0	0.001	2.4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.0024	0.004	-40 to +85	SOP8													
BU7266FV	○															SSOP-B8													
BU7266FVM	○															MSOP8													
BU7266SF	○															SOP8													
BU7266SFV	○	2	1.8 to 5.5	0.7	1.0	0.001	2.4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.0024	0.004	-40 to +105	SSOP-B8													
BU7266SFVM	○														MSOP8														
BU7271G	○	1	1.8 to 5.5	8.6	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	0.05	0.09	-40 to +85	SSOP5													
BU7271SG	○														-40 to +105	SSOP5													
BU7275HFV	○	1	1.8 to 5.5	40	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	HVSO5F5													
BU7275SHFV	○														-40 to +105	HVSO5F5													
BD12730G	○	1	1.8 to 5.5	320	1.0	50	5	GND to V+	0.1 to V+ -0.1	85	70	85	0.4	1.0	-40 to +85	SSOP5													
BD12732F	○	2	1.8 to 5.5	580	1.0	50	5	GND to V+	0.1 to V+ -0.1	85	70	85	0.4	1.0	-40 to +85	SOP8													
BD12732FJ	○														SOP-J8														
BD12732FV	○														SSOP-B8														
BD12732FVJ	○														TSSOP-B8J														
BD12732FVM	○														MSOP8														
BD12732FVT	○														TSSOP-B8														
BD12734F	○	4	1.8 to 5.5	1,200	1.0	50	5	GND to V+	0.1 to V+ -0.1	85	70	85	0.4	1.0	-40 to +85	SOP14													
BD12734FJ	○														SOP-J14														
BD12734FV	○														SSOP-B14														
BD12734FVJ	○														TSSOP-B14J														
BD7541G	○														1	5.0 to 14.5	180	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	SSOP5
BD7541SG	○																											-40 to +105	SSOP5
BD7542F	○	2	5.0 to 14.5	400	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	SOP8													
BD7542FVM	○														MSOP8														
BD7542SF	○														-40 to +105	SOP8													
BD7542SFVM	○														MSOP8														
LMR931G	○	1	1.8 to 5.0	80	1.0	5	28	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.04 to V <sub>DD</sub> -0.05	100	94	85	0.4	1.4	-40 to +85	SSOP5													
LMR932F	○	2	1.8 to 5.0	135	1.0	5	28	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.04 to V <sub>DD</sub> -0.05	100	94	85	0.4	1.4	-40 to +85	SOP8													
LMR932FJ	○														SOP-J8														
LMR932FV	○														SSOP-B8														
LMR932FVJ	○														TSSOP-B8J														
LMR932FVM	○														MSOP8														
LMR932FVT	○														TSSOP-B8														
LMR934F	○	4	1.8 to 5.0	250	1.0	5	28	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.04 to V <sub>DD</sub> -0.05	100	94	85	0.4	1.4	-40 to +85	SOP14													
LMR934FJ	○														SOP-J14														
LMR934FV	○														SSOP-B14														
LMR934FVJ	○														TSSOP-B14J														
LMR981G	○														1	1.8 to 5.0	80	1.0	5	28	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.04 to V <sub>DD</sub> -0.05	100	94	85	0.4	1.4	-40 to +85	SSOP6
LMR982FVM	○														2	1.8 to 5.0	135	1.0	5	28	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.04 to V <sub>DD</sub> -0.05	100	94	85	0.4	1.4	-40 to +85	MSOP8

Product Grade : ○:Standard ○:High Grade

**Low Power Consumption**
**A Amplifiers & Linear**

Ground Sense Operational Amplifiers																
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BU7411G	—	1	1.6 to 5.5	0.35	1.0	0.001	2.4	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.0024	0.004	-40 to +85	SSOP5
BU7411SG	○															-40 to +105
BU7421G	—	1	1.7 to 5.5	8.5	1.0	0.001	4	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	0.05	0.09	-40 to +85	SSOP5
BU7421SG	○															-40 to +105
BU7441G	—	1	1.7 to 5.5	50	1.0	0.001	6	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	SSOP5
BU7441SG	○															-40 to +105
BU7442F	—	2	1.7 to 5.5	100	1.0	0.001	6	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	SOP8
BU7442FVM	—															MSOP8
BU7442NUX	—															VSON008X2030
BU7442SF	○	2	1.7 to 5.5	100	1.0	0.001	6	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +105	SOP8
BU7442SFVM	○															MSOP8
BU7442SNUX	○															VSON008X2030
BU7444F	—	4	1.7 to 5.5	200	1.0	0.001	6	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	95	60	80	0.3	0.6	-40 to +85	SOP14
BU7444SF	○															-40 to +105
BU7445HFV	—	1	1.7 to 5.5	40	1.0	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	0.25	0.4	-40 to +85	HVSOP5
BU7445SHFV	○															-40 to +105
BU7475HFV	—	1	1.7 to 5.5	9	1.0	0.001	7	V <sub>SS</sub> to V <sub>DD</sub> -1.2	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	100	60	80	0.05	0.1	-40 to +85	HVSOP5
BU7475SHFV	○															-40 to +105
BD1321G	—	1	2.7 to 5.5	130	0.1	15	70	V <sub>EE</sub> to V <sub>CC</sub> -0.8	V <sub>EE</sub> +0.08 to V <sub>CC</sub> -0.04	110	90	90	1.0	3.0	-40 to +85	SSOP5
LMR321G	—	1	2.7 to 5.5	130	0.1	15	70	V <sub>EE</sub> to V <sub>CC</sub> -0.8	V <sub>EE</sub> +0.08 to V <sub>CC</sub> -0.04	110	90	90	1.0	3.0	-40 to +85	SSOP5
LMR324F	—	4	2.7 to 5.5	410	1.0	15	70	V <sub>EE</sub> to V <sub>CC</sub> -0.8	V <sub>EE</sub> +0.08 to V <sub>CC</sub> -0.04	110	90	90	1.0	3.0	-40 to +85	SOP14
LMR324FJ	—															SOP-J14
LMR324FV	—															SSOP-B14
LMR324FVJ	—															TSSOP-B14J
LMR341G	—	1	2.7 to 5.5	100	0.25	0.001	24	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.06 to V <sub>DD</sub> -0.06	103	80	85	1.0	2.0	-40 to +85	SSOP6
LMR342F	—	2	2.7 to 5.5	200	0.25	0.001	24	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.06 to V <sub>DD</sub> -0.06	103	80	85	1.0	2.0	-40 to +85	SOP8
LMR342FJ	—															SOP-J8
LMR342FV	—															SSOP-B8
LMR342FVJ	—															TSSOP-B8J
LMR342FVM	—															MSOP8
LMR342FVT	—															TSSOP-B8
LMR344F	—	4	2.7 to 5.5	400	0.25	0.001	24	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.06 to V <sub>DD</sub> -0.06	103	80	85	1.0	2.0	-40 to +85	SOP14
LMR344FJ	—															SOP-J14
LMR344FVJ	—															TSSOP-B14J
LMR358F	—															2
LMR358FJ	—	SOP-J8														
LMR358FV	—	SSOP-B8														
LMR358FVJ	—	TSSOP-B8J														
LMR358FVM	—	MSOP8														
LMR358FVT	—	TSSOP-B8														
LMR821G	—	1	2.5 to 5.5	280	1.0	30	16	V <sub>SS</sub> to V <sub>DD</sub> -0.9	V <sub>SS</sub> +0.12 to V <sub>DD</sub> -0.1	100	85	85	2.0	5.0	-40 to +85	SSOP5
LMR822F	—	2	2.5 to 5.5	560	1.0	30	16	V <sub>SS</sub> to V <sub>DD</sub> -0.9	V <sub>SS</sub> +0.12 to V <sub>DD</sub> -0.1	100	85	85	2.0	5.0	-40 to +85	SOP8
LMR822FJ	—															SOP-J8
LMR822FV	—															SSOP-B8
LMR822FVJ	—															TSSOP-B8J
LMR822FVM	—															MSOP8
LMR822FVT	—															TSSOP-B8
LMR824F	—	4	2.5 to 5.5	1,120	1.0	30	16	V <sub>SS</sub> to V <sub>DD</sub> -0.9	V <sub>SS</sub> +0.12 to V <sub>DD</sub> -0.1	100	85	85	2.0	5.0	-40 to +85	SOP14
LMR824FJ	—															SOP-J14
LMR824FVJ	—															TSSOP-B14J
TLR341G	—	1	1.8 to 5.5	70	0.3	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.055 to V <sub>DD</sub> -0.05	100	90	95	1.2	2.2	-40 to +85	SSOP6
TLR342F	—	2	1.8 to 5.5	150	0.3	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.055 to V <sub>DD</sub> -0.05	100	85	95	1.0	1.2	-40 to +85	SOP8
TLR342FJ	—															SOP-J8
TLR342FVJ	—															TSSOP-B8J
TLR342FVT	—															TSSOP-B8
TLR344F	—	4	1.8 to 5.5	300	0.3	0.001	8	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.055 to V <sub>DD</sub> -0.05	100	90	95	1.2	2.2	-40 to +85	SOP14
TLR344FJ	—															SOP-J14
TLR344FVJ	—															TSSOP-B14J

Automotive Input-Output Full Swing Operational Amplifiers																	
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BU7241YG-C	●	1	1.8 to 5.5	70	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.05 to V <sub>DD</sub> -0.05	100	70	80	0.4	1.0	-40 to +125	SSOP5	YES
BU7242YFVM-C	●	2	1.8 to 5.5	180	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.05 to V <sub>DD</sub> -0.05	100	70	80	0.4	1.0	-40 to +125	MSOP8	YES
BU7244YFV-C	●	4	1.8 to 5.5	360	1.0	0.001	10	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.05 to V <sub>DD</sub> -0.05	100	70	80	0.4	1.0	-40 to +125	SSOP-B14	YES

Product Grade : —Standard ○High Grade ●Automotive Grade

**Low Noise**

Output Full Swing Operational Amplifiers																
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Input Referred Noise Voltage ( $\mu$ Vrms)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/ $\mu$ s)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BA4510F	—	2	$\pm 1$ to $\pm 3.5$	5.0	1.0	80	0.7	VEE+1.5 to VCC-1.5	VEE+0.1 to VCC-0.1	90	80	80	5.0	10.0	-20 to +75	SOP8
BA4510FV	—															SSOP-B8
BA4510FVM	—															MSOP8
BA4510FVT	—															TSSOP-B8
BA2107G	—	1	$\pm 1$ to $\pm 7$	1.8	1.0	150	0.9	VEE+1.5 to VCC-1.5	VEE+0.1 to VCC-0.1	80	74	80	4.0	12.0	-40 to +85	SSOP5
BA2115F	—	2	$\pm 1$ to $\pm 7$	3.5	1.0	150	0.9	VEE+1.5 to VCC-1.5	VEE+0.1 to VCC-0.1	80	74	80	4.0	12.0	-40 to +85	SOP8
BA2115FJ	—															SOP-J8
BA2115FVM	—															MSOP8
BA2115FVT	—															MSOP8

Automotive Operational Amplifiers																	
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Input Referred Noise Voltage ( $\mu$ Vrms)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/ $\mu$ s)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BA4558YF-M	●	2	$\pm 4$ to $\pm 15$	3.0	0.5	60	1.8	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	1.0	2.0	-40 to +105	SOP8	YES
BA4558YFV-M	●															SSOP-B8	YES
BA4558YFVM-M	●															MSOP8	YES
BA4560YF-M	●															SOP8	YES
BA4560YFV-M	●	2	$\pm 4$ to $\pm 15$	3.0	0.5	50	1.0	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	4.0	4.0	-40 to +105	SSOP-B8	YES
BA4560YFVM-M	●															MSOP8	YES
BA4580YF-M	●															SOP8	YES
BA4580YFV-M	●															MSOP8	YES
BA4584YFV-M	●	4	$\pm 2$ to $\pm 16$	11.0	0.3	100	0.8	VEE+1.5 to VCC-1.5	VEE+1.5 to VCC-1.5	110	110	110	5.0	10.0	-40 to +105	SSOP-B14	YES

Dual Supply Voltage Operational Amplifiers																
Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Input Referred Noise Voltage ( $\mu$ Vrms)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/ $\mu$ s)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BA4558F	—	2	$\pm 4$ to $\pm 15$	3.0	0.5	60	1.8	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	1.0	2.0	-40 to +85	SOP8
BA4558FJ	—															SOP-J8
BA4558FV	—															SSOP-B8
BA4558FVM	—															MSOP8
BA4558FVT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8
BA4558RF	○	2	$\pm 4$ to $\pm 15$	3.0	0.5	60	1.8	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	1.0	2.0	-40 to +105	SOP8
BA4558RFJ	○															SOP-J8
BA4558RFV	○															SSOP-B8
BA4558RFVM	○															MSOP8
BA4558RFVT	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8
BA4560F	—	2	$\pm 4$ to $\pm 15$	4.0	0.5	50	1.0	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	4.0	10.0	-40 to +85	SOP8
BA4560FJ	—															SOP-J8
BA4560FV	—															SSOP-B8
BA4560FVM	—															MSOP8
BA4560FVT	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8
BA4560RF	○	2	$\pm 4$ to $\pm 15$	3.0	0.5	50	1.0	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	4.0	4.0	-40 to +105	SOP8
BA4560RFJ	○															SOP-J8
BA4560RFV	○															SSOP-B8
BA4560RFVM	○															MSOP8
BA4560RFVT	○	—	—	—	—	—	—	—	—	—	—	—	—	—	—	TSSOP-B8
BA4564RFV	○	4	$\pm 4$ to $\pm 15$	6.0	0.5	50	1.0	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	90	90	4.0	4.0	-40 to +105	SSOP-B14
BA15218F	—	2	$\pm 2$ to $\pm 16$	5.0	0.5	50	1.0	VEE+1.0 to VCC-1.0	VEE+2.0 to VCC-2.0	110	90	90	3.0	10.0	-40 to +85	SOP8
BA14741F	—	4	$\pm 2$ to $\pm 18$	3.0	1.0	60	2.0	VEE+1.5 to VCC-1.5	VEE+2.5 to VCC-2.5	100	100	100	1.0	2.0	-40 to +85	SOP14
BA14741FJ	—															SOP-J14
BA15532F	—	2	$\pm 3$ to $\pm 20$	8.0	0.5	200	1.5	VEE+2.0 to VCC-2.0	VEE+2.0 to VCC-2.0	94	100	100	8.0	20.0	-20 to +75	SOP8
BA4580RF	○	2	$\pm 2$ to $\pm 16$	6.0	0.3	100	0.8	VEE+1.5 to VCC-1.5	VEE+1.5 to VCC-1.5	110	110	110	5.0	5.0	-40 to +105	SOP8
BA4580RFJ	○															SOP-J8
BA4580RFVM	○															MSOP8
BA4580RFVT	○															TSSOP-B8
BA4584FV	—	4	$\pm 2$ to $\pm 16$	12.0	0.3	100	0.8	VEE+1.5 to VCC-1.5	VEE+1.5 to VCC-1.5	110	110	110	5.0	5.0	-40 to +85	SSOP-B14
BA4584RF	○	4	$\pm 2$ to $\pm 9.5$	11.0	0.3	100	0.8	VEE+1.5 to VCC-1.5	VEE+1.5 to VCC-1.5	110	110	110	5.0	5.0	-40 to +105	SOP14
BA4584RFV	○															SSOP-B14
LM4559F	—	2	$\pm 4$ to $\pm 18$	3.3	0.5	40	0.7	VEE+2.0 to VCC-2.0	VEE+1.5 to VCC-1.5	110	100	100	3.5	4.0	-40 to +85	SOP8
LM4559FJ	—															SOP-J8
LM4559FV	—															SSOP-B8
LM4559FVT	—															TSSOP-B8
LM4559FVM	—															MSOP8
LM4559FVJ	—															TSSOP-B8&J
LM4565F	—	2	$\pm 4$ to $\pm 18$	4.5	0.5	70	0.6	VEE+1.0 to VCC-1.0	VEE+1.0 to VCC-1.0	100	100	100	5.0	10.0	-40 to +85	SOP8
LM4565FJ	—															SOP-J8
LM4565FV	—															SSOP-B8
LM4565FVT	—															TSSOP-B8
LM4565FVM	—															MSOP8
LM4565FVJ	—															TSSOP-B8&J

Product Grade : ○—Standard ○—High Grade ●—Automotive Grade



**Low Offset Voltage**
**Dual Supply Voltage Operational Amplifier**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
BA4564WV	○	4	±4 to ±15	6.0	0.5	50	25	V <sub>EE</sub> +1.0 to V <sub>CC</sub> -1.0	V <sub>EE</sub> +1.0 to V <sub>CC</sub> -1.0	100	90	90	4.0	4.0	-40 to +105	SSOP-B14
<b>Input-Output Full Swing Operational Amplifier</b>																
BD5291G	—	1	1.7 to 5.5	0.65	0.1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	V <sub>SS</sub> +0.1 to V <sub>DD</sub> -0.1	110	90	90	2.5	3.2	-40 to +85	SSOP5

Product Grade : —Standard ○High Grade

**High Performance**
**Ground Sense Operational Amplifier**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (μV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Output Voltage (V)	Voltage Gain (dB)	CMRR (dB)	PSRR (dB)	Slew Rate (V/μs)	Gain Bandwidth Product (MHz)	Operating Temperature (°C)	Package
<b>New</b> LMR1802G-LB	○	1	2.5 to 5.5	1.1	5	0.0005	3.5	V <sub>SS</sub> to V <sub>DD</sub> -1.0	V <sub>SS</sub> +0.05 to V <sub>DD</sub> -0.05	140	105	125	1.1	3.0	-40 to +125	SSOP5

Product Grade : ○High Grade

**Comparators**
**Standard**
**Open-Collector Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package
BA2901F	○	4	2 to 36	0.8	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP14
BA2901FV	○											SSOP-B14
BA2901SF	○	4	2 to 36	0.8	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +105	SOP14
BA2901SFV	○											SSOP-B14
BA2901YF-LB	○	4	2 to 36	0.8	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP14
BA2903F	○	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP8
BA2903FV	○											SSOP-B8
BA2903FVM	○											MSOP8
BA2903SF	○	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +105	SOP8
BA2903SFV	○											SSOP-B8
BA2903SFVM	○											MSOP8
BA2903YF-LB	○	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP8
BA8391G	—	1	2 to 36	0.3	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +85	SSOP5
LM2901F	○	4	3 to 32	1.2	1	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	120	1.0	-40 to +125	SOP14
LM2901FJ	○											SOP-J14
LM2901FV	○											SSOP-B14
LM2901FVJ	○											TSSOP-B14J
LM2903F	○	2	3 to 32	0.6	1	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	120	1.0	-40 to +125	SOP8
LM2903FJ	○											SOP-J8
LM2903FV	○											SSOP-B8
LM2903FVJ	○											TSSOP-B8J
LM2903FVM	○											MSOP8
LM2903FVT	○											TSSOP-B8
LM339F	—											4
LM339FJ	—	SOP-J14										
LM339FV	—	SSOP-B14										
LM339FVJ	—	TSSOP-B14J										
LM393F	—	2	3 to 32	0.6	1	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	120	1.0	-40 to +85	SOP8
LM393FJ	—											SOP-J8
LM393FV	—											SSOP-B8
LM393FVJ	—											TSSOP-B8J
LM393FVM	—											MSOP8
LM393FVT	—											TSSOP-B8

**Automotive Open-Collector Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BA2903YF-C	●	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP8	YES
BA2903YFV-C	●											SSOP-B8	YES
BA2903YFVM-C	●											MSOP8	YES
BA2901YF-C	●	4	2 to 36	0.8	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP14	YES
BA2901YFV-C	●											SSOP-B14	YES
BA2903YF-M	●	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP8	YES
BA2903YFV-M	●											SSOP-B8	YES
BA2903YFVM-M	●											MSOP8	YES
BA2901YF-M	●	4	2 to 36	0.8	2	50	16	V <sub>EE</sub> to V <sub>CC</sub> -1.5	100	1.3	-40 to +125	SOP14	YES
BA2901YFV-M	●											SSOP-B14	YES

Product Grade : —Standard ○High Grade ●Automotive Grade



**Standard**

**Automotive Excellent EMI Characteristics Open-Collector Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (mA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
<b>New</b> BA82903YF-C	●	2	2 to 36	0.6	2	50	16	V <sub>EE</sub> - 0.3 to V <sub>CC</sub> + 1.5	100	1.3	-40 to +125	SOP8	YES
<b>New</b> BA82903YFVM-C	●	2		0.6								MSOP8	YES
<b>New</b> BA82901YF-C	●	4		0.8								SOP14	YES
<b>New</b> BA82901YFV-C	●	4		0.8								SSOP-B14	YES

Product Grade : ●...Automotive Grade

**High Speed**

**Push-Pull Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package
BU7251G	—	1	1.8 to 5.5	15	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	0.55	-40 to +85	SSOP5
BU7251SG	○										-40 to +105	SSOP5
BU7252F	—	2	1.8 to 5.5	35	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	0.55	-40 to +85	SOP8
BU7252FVM	—										MSOP8	
BU7252SF	○	2	1.8 to 5.5	35	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	0.55	-40 to +105	SOP8
BU7252SFVM	○										MSOP8	
BU5265HFV	—	1	1.8 to 5.5	22	1	0.001	3.5	V <sub>SS</sub> to V <sub>DD</sub>	90	0.5	-40 to +85	HVSOF5
BU5265SHFV	○										-40 to +105	HVSOF5

**Open-Drain Comparators**

BU7250G	—	1	1.8 to 5.5	15	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	0.75	-40 to +85	SSOP5
BU7250SG	○										-40 to +105	SSOP5
BU7253F	—	2	1.8 to 5.5	35	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	0.75	-40 to +85	SOP8
BU7253SF	○										-40 to +105	SOP8

Product Grade : —...Standard ○...High Grade

**Low Power Consumption**

**Push-Pull Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package
BU7231G	—	1	1.8 to 5.5	5	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	1.7	-40 to +85	SSOP5
BU7231SG	○										-40 to +105	SSOP5
BU7232F	—	2	1.8 to 5.5	10	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	1.7	-40 to +85	SOP8
BU7232FVM	—										MSOP8	
BU7232SF	○	2	1.8 to 5.5	10	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	1.7	-40 to +105	SOP8
BU7232SFVM	○										MSOP8	
BU5255HFV	—	1	1.8 to 5.5	6.5	1	0.001	3.5	V <sub>SS</sub> to V <sub>DD</sub>	90	1.6	-40 to +85	HVSOF5
BU5255SHFV	○										-40 to +105	HVSOF5

**Automotive Push-Pull Comparator**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
☆BU7232YFVM-C	●	2	1.8 to 5.5	10	1	0.001	7	V <sub>SS</sub> to V <sub>DD</sub>	100	1.7	-40 to +125	MSOP8	YES

**Open-Drain Comparators**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package
BU7230G	—	1	1.8 to 5.5	5	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	1.8	-40 to +85	SSOP5
BU7230SG	○										-40 to +105	SSOP5
BU7233F	—	2	1.8 to 5.5	10	1	0.001	6	V <sub>SS</sub> to V <sub>DD</sub>	90	1.8	-40 to +85	SOP8
BU7233SF	○										-40 to +105	SOP8

**Automotive Open-Drain Comparator**

Part No.	Product Grade	ch	Supply Voltage (V)	Circuit Current (μA)	Input Offset Voltage (mV)	Input Bias Current (nA)	Output Current (mA)	Input Voltage (V)	Voltage Gain (dB)	Response Time (μs)	Operating Temperature (°C)	Package	Automotive Grade AEC-Q100
BU7233YF-C	●	2	1.8 to 5.5	10	1	0.001	7	V <sub>SS</sub> to V <sub>DD</sub>	100	1.8	-40 to +125	SOP8	YES

Product Grade : —...Standard ○...High Grade ●...Automotive Grade

☆ : Under Development

# Transistor Arrays

## Darlington Transistor Arrays

### Open Collectors

Part No.	Number of bit	Output Withstand Voltage (V)	Output Saturation Voltage (V)	Output Current (mA)	Input Resistance (k $\Omega$ )	Input/Output Relation	Input Active Level	Output Current Relation	Circuit Construction	Features	Package
<b>BA12003DF-Z</b>	7	60	1.46*	500	2.7	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	SOP-J16A
<b>BA12004DF-Z</b>	7	60	1.46*	500	10.5	Inverting type	H	Sink	Darlington	Built-in surge absorbing diode	SOP-J16A

\* Output Current=350mA