

Operational amplifier/comparator

●Operational amplifier

Part No.	Supply voltage range (V)	Classification	No. of circuits			Common-mode input voltage range (V)	Offset voltage (mV)	Offset current (nA)	Slew rate (V/μS)	Feature	Package
			1	2	4						
BA10324A/AF/AFV	3~30	LOW POWER			○	0~V _{CC} -1.5	2	5	0.2	Ground sense operation	DIP14/SOP14/SSOP-B14
BA10358/F/N	3~30			○		0~V _{CC} -1.5	2	5	0.2	Ground sense operation	DIP8/SOP8/SIP8
BA14741/F	±2~±18	LOW NOISE			○	VEE+1.5~V _{CC} -1.5	1	10	1	Phase compensation circuit	DIP14/SOP14
BA4558/F/N	±4~±18			○		VEE+1~V _{CC} -1	0.5	5	1.0	High stability	DIP8/SOP8/SIP8
BA728/F/N	±1.7~±9	HIGH SLEW RATE		○		VEE+1.5~V _{CC} -1.5	2	1	0.7	Low voltage operation	DIP8/SOP8/SIP8
BA15218/F/N	±2~±16			○		VEE+1~V _{CC} -1	0.5	5	2	High slew rate	DIP8/SOP8/SIP8
BA15532/F/N	±3~±20			○		VEE+2~V _{CC} -2	0.5	10	8	High slew rate	DIP8/SOP8/SIP8
BA4510F	±1~±3.5			○		VEE+1~V _{CC} -1	0.5	5	5	Low voltage operation	SOP8
BA4560/F/N	±4~±18			○		VEE+1~V _{CC} -1	0.5	5	4	High stability	DIP8/SOP8/SIP8

Note: 1. Offset voltage and current are typical value.

●Voltage control operational amplifier

Part No.	Supply voltage range (V)	Classification	No. of circuits			Feature	Package
			1	2	4		
BA6110/FS	±2~±15	Current control type		○		Gain can be controlled by control current. Built-in bias diode for decreasing distortion.	SIP9/SSOP-A16

●Operational amplifier with output select switch

Part No.	Supply voltage range (V)	Function	Number of circuits			Select switch	Synchronous input voltage range (V) VEE=-15V, V _{CC} =15V	Offset voltage (mV)	Offset current (nA)	Slew rate (V/μS)	Package
			1	2	3						
BA3128F/N	5~32	With output select switch	○			2 contacts	VEE+1~V _{CC} -1	0.5	5.0	3.0	SOP8/SIP8
BA3129/F	5~32			○		2 contacts	VEE+1~V _{CC} -1	0.5	5.0	2.4	DIP14/SOP14
New BA3131FS	6~18				○	2 contacts	0~V _{CC} -1	0.5	5.0	2.0	SSOP-A20

●Comparator

Part No.	Supply voltage range (V)	Number of circuits			Common-mode input voltage range (V) V _{CC} =5V	Offset voltage (mV)	Offset current (nA)	Low current consumption	Output circuit type	Package
		1	2	4						
BA10393/F/N	±1~±18		○		0~V _{CC} -1.5	1	5	○	Open collector	DIP8/SOP8/SIP8
BA10339/F/FV	±1.5~±18			○	0~V _{CC} -1.5	2	5	○	Open collector	DIP14/SOP14/SSOP-B14

●Comparator array

Part No.	Supply voltage range (V)	Output current (mA)	Number of circuits	Comparator level(V) Conduction (V _{CC} =3V R _L =560Ω)					Feature	Package
				COMP 1	COMP 2	COMP 3	COMP 4	COMP 5		
BA3818F	1.6~3.6	5	5	1.52	1.74	1.97	2.20	2.42	It is possible to use it as a level meter L of a dot display. 2-wire system of remote control is available. 2-wire system of remote control is available. Auto power-off function enables stand-by with no input.	SOP8
BA3819F	2.0~5.0	5	5	1.52	1.74	1.97	2.20	2.42		SOP8

Voltage regulator

●3 terminal regulator

Part No.	Supply voltage range (V)	Output voltage (V)												Output current (mA)	Feature	Package
		Rated voltage	5	6	7	8	9	10	12	15	18	20	24			
BA704	3.3~10	2.65												10	Wide input voltage range. Good line regulation.	TO-92
BA707	4.3~10	3.3												10		TO-92
BA714	4~7	3.3												0.3	Suitable for LCD driver.	FTR
BA178M○○ Series	-		○	○	○	○	○	○	○	○	○	○	○	500	Built-in short circuit current protection and thermal shut down circuit.	TO-220FP
BA178○○ Series	-		○	○	○	○	○	○	○	○	○	○	○	1000		TO-220FP

●Switching regulator

Part No.	Supply voltage (V)	Function	Feature	Package
BA6122A/AF	8~16	2ch switching regulator	It is available to output 5V power supply only, with 9V stop function.	ZIP16/SOP16
BA6149LS	8~18	6ch switching regulator	Frequency of triangle wave generation circuits is accurate because of using ceramic resonator.	SZIP24
BA6161N/F	4.5~16	DC-DC converter for electronic tuning	Built-in temperature compensation circuit, good output voltage stability	SIP5/SOP8
BA9700A/AF	3.55~24	1ch switching regulator controller	Permits desired output voltage such as Step-up, Step-down, Inverting, etc.	DIP14/SOP14
BA9701/F	2.5~7.5	1ch switching regulator controller for slave	Composed of error amplifier, PWM comparator and output driver.	DIP8/SOP8
BA9702FS	3.6~23	3ch switching regulator controller	Built-in independent short circuit protections for each channel. Power saving pin.	SSOP-A24
BA9703K	3.6~18	3ch switching regulator controller	Output block is push-pull type (pseudo-totem pole type), so value of On and off currents can be set independently.	QFP32
New BA9705AK	3.6~18	3ch switching regulator controller	Compatible with BA9703K. Built-in reference voltage which is highly accurate as ±1%.	QFP32
New BA9706K	3.6~18	3ch switching regulator controller	Same as BA9705AK but enhanced current capacity at output off.	QFP32
☆BA9707KV	3.5~12	4ch switching regulator controller	High switching frequency (1MHz). Synchronizable with 3.58 MHz.	VQFP48

RC timer

Part No.	Supply voltage range (V)	Feature		Package
BA222	4.5~16	Timing range from microseconds to hours		SIP7
BA223	4.5~16	Maximum load current of 200mA.		SIP8
BA225/F	4~16	Timing range from several milliseconds to minutes. Low current consumption. (Icc 0.75mA, pertimer) Two functions can be configured as a delay timer.	Rising edge trigger type	DIP8/SOP8
BA235	4~16			SIP9
BA226/F	4~16		Falling edge trigger type	DIP8/SOP8
BA236	4~16			SIP9
BU2302/F	1.8~6	SET pin: Reset when low; timer on when high		DIP8/SOP8
BU2305/F	1.8~6	SET pin: Triggers timer when low, Built-in chattering prevention circuit.		DIP8/SOP8

D/A converter

Part No.	Supply voltage range(V)		Resolution (Bit)	Settling time (nS)	Reference voltage	Feature	Package
	Vcc	VEE					
BA9201	5	-7	8	500	Built-in	Input data latch. Multiplication type.	DIP18
BA9211/F	5	-12	10	250	Built-in	Multiplying operation is possible.	DIP20/SOP22
BA9221/F	5	-15	12	250		Multiplying operation is possible. Differential current output.	DIP20/SOP22

Transistor array driver

Part No.	Number of CHS	Output Max. voltage (V)	Output current (mA)	Input imp. (kΩ)	Input/output type	Input active level	Output current type	Circuit construction	Feature	Package
BA612	5	24	450	25	Invert	H	Sink	Darlington		DIP14
BA614	6	24	100	25	Invert	H	Sink	Darlington		DIP14
BA6256		11	450	25	Invert	H	Sink	Single	With strobe terminal.	DIP16
BA664		27	100	25	Invert	H	Sink	Darlington	Built-in clamp diode.	DIP14
BA13001F		10	320	20	Invert	H	Sink	Single	Built-in diode to absorb surge.	SOP16
BA13002F		10	320	1.6	Invert	H	Sink	Single	With strobe terminal.	SOP16
BA12001	7	50	500	-	Invert	H	Sink	Darlington	Built-in diode to absorb surge.	DIP16
BA12002		50	500	10.5(7VTzDi)	Invert	H	Sink	Darlington		DIP16
BA12003		50	500	2.7	Invert	H	Sink	Darlington		DIP16
BA12004		50	500	10.5	Invert	H	Sink	Darlington		DIP16
BA618		16	100	12	Buffer	H	Source	Darlington		DIP16
BA6139L		35	15	-	Invert	L	Source	Darlington		ZIP16
BA6250/F		30	30	28	Invert	H	Sink	Darlington		DIP16/SOP16
BA6251/F		30	30	28	Invert	H	Sink	Single		DIP16/SOP16
BA6257		24	100	25	Invert	H	Sink	Darlington	Built-in clamp diode.	DIP16
BA6212	8	7	400	6.6	Buffer	L	Sink	Single	With strobe terminal.	DIP20

Driver

●LCD driver

Part No.	Supply voltage range (V)	LCD drive voltage (V)	Type	No. of outputs	Duty ratio	Data transfer	Data transfer rate (MHz)	Bi-directional Shift register	Package
BU9706KS	3.5~6.5	3~6	STN segment	40	—	Serial	3.3	—	SQFP56
☆BU9732KS	3.5~6.5	32	STN common	80	1/240	Serial	1.0	○	SQFP100
☆BU9742KS	3.5~6.5	32	STN segment	80	1/240	4bit parallel	8.0	—	SQFP100
☆BU9745ST	2.7~6.5	30	STN segment	80	1/240	4bit parallel	8.0	○	TAB

Notes : 1. ☆: Under development

Standard ICs

Driver

●Serial in/parallel out driver

Part No.	Power supply (V)	Output current (mA)	Output	Output bits	Strobe pin	Feature	Package
BU2040/F	5	20	open drain	12		Output is high Z at power-on.	DIP16/SOP16
BU2042/F	5	20		12		Output is high Z at power-on. Output inhibit terminal is provided. Shift register and storage register can be clocked independent of the other.	DIP18/SOP18
New BU2090/F	3~5	20		12		High voltage (25V) output version of BU2040/F Output is high Z at power-on.	DIP16/SOP16
New BU2092/F	3~5	20		12		High voltage (25V) output version of BU2040/F Output is high Z at power-on. Output inhibit terminal is provided. Shift register and storage register can be clocked independent of the other.	DIP18/SOP18
BU2114/F	8	36		8		Provided with transparent latch and enable terminals	DIP18/SOP16
BA823/F	8	200	open collector	8	○	Can be connected in series.	DIP16/SOP16
BA829	8	300		8	○	Standby function. Can be connected in series.	DIP18

●Logic with driver

Part No.	Power supply (V)	Function	Feature	Package
BA6266/F	5	6ch inverter	Output withstand voltage 30V. Output current 40mA.	DIP14/SOP14
BA6267/F	5	6ch buffer	Output withstand voltage 18V. Output current 40mA.	DIP14/SOP14
BA6268	5	4ch 2-input NAND buffer	Output withstand voltage 7V. Output current 40mA.	DIP14
BA634/F	-12	T-F/F with reset	Low current(1mA). Reset pin	SIP5/SOP8

CMOS logic

●BU4S Series

Part No.	Supply voltage range(V)	Classification	Function	Feature	Package
BU4S01	3~16	Standard CMOS logic	Single NOR gate	Compatible with TC4S01F	SMP5
BU4S11			Single NAND gate	Compatible with TC4S11F	SMP5
BU4SU69			Single unbuffer inverter	Compatible with TC4SU69F	SMP5
BU4S71			Single OR gate	Compatible with TC4S71F	SMP5
BU4S81			Single AND gate	Compatible with TC4S81F	SMP5
BU4S584			Single schmitt trigger	Compatible with TC4S584F	SMP5
BU4S66			Single analog switch	Compatible with TC4S66F	SMP5

●BU4000B Series

Part No.	Supply voltage range(V)	Classification	Function	Feature	Package
BU4016B	3~16	Analog switch	Quad analog switch	Low power dissipation Wide operating voltage range:3 to 16V High input impedance Fan-out Direct drive of 2 L-TTL inputs and 1 LS-TTL input	DIP14
BU4066BC/BCF/BL/BFV			Quad analog switch		DIP14/SOP14/ZIP16/SSOP-B14
BU4051BC/BCF/BFV			8ch analog multiplexer		DIP16/SOP16/SSOP-B16
BU4052BC/BCF/BFV			Dual 4ch analog multiplexer		DIP16/SOP16/SSOP-B16
BU4053BC/BCF/BFV			Triple 2ch analog multiplexer		DIP16/SOP16/SSOP-B16
BU4551B/F			Quad 2ch analog multiplexer		DIP16/SOP16
BU4001B/F		Gate	Quad 2-input NOR gate		DIP14/SOP14
BU4011B/F/L			Quad 2-input NAND gate		DIP14/SOP14/ZIP16
BU4030B/F			Quad exclusive OR gate		DIP14/SOP14
BU4070B/F			Quad exclusive OR gate		DIP14/SOP14
BU4081B/F			Quad 2-input AND gate		DIP14/SOP14
BU4093B/F			Quad 2-input NAND schmitt trigger		DIP14/SOP14
BU4069UB/F			Hex inverter		DIP14/SOP14
BU4503B/F			Hex 3-state buffer		DIP16/SOP16
BU4584B/F			Hex schmitt trigger		DIP14/SOP14
BU4013B/F		Flip-flop	Dual type D flip-flop		DIP14/SOP14
BU4015B/F		Register	Dual 4-bit static shift register		DIP16/SOP16
BU4021B/F			8-stage static shift register		DIP16/SOP16
BU4094B/F			8-stage shift/store register (3states)		DIP16/SOP16
BU4528B/F		Monostable multivibrator	Dual monostable multivibrator		DIP16/SOP16
BU4538B			Dual high accurate monostable multivibrator		DIP16
BU4028B		Decoder	BCD to decimal decoder		DIP16
BU4042B		Latch	Quad latch		DIP16

●Dual inverter for crystal/ceramic oscillator

Part No.	Supply voltage range(V)	Classification	Function	Feature	Package
BU2007F	2~6	Inverter	Dual unbuffer inverter	Dual inverter version of standard logic 74HCU04.	SOP8