

Switch & IPD & Multiplexer & Logic

Automotive Standard Logic	21
Logic Gate (Single type)	21
Standard Logic ICs	21
Analog Switch/Analog Switch (Single type)	21
Multiplexer	21
Logic Gates	21
Logic Gates (Single type)	21
Function Logic	21
Serial-in/Parallel-out Drivers	22
Serial/Parallel 2-input Drivers	22
Serial/Parallel 4-input Drivers	22
USB Switch ICs	22
DP type (Double Pole)	22
Built-in OVP Micro USB Switch with USB2.0, MHL™ and Audio	22
IPD (Intelligent Power Device)	22
High Side Switch	22
Low Side Switch	23

Switch & IPD & Multiplexer & Logic			
Automotive Standard Logic ICs	P.21	Standard Logic ICs	P.21
Serial-in/Parallel-out Drivers	P.22	USB Switch ICs	P.22
IPD (Intelligent Power Device)	P.22		

Automotive Standard Logic ICs

Logic Gate (Single type)									
Type	Package/Part No.		Function	Supply Voltage (V)	H Input Voltage (Min) (V)	L Input Voltage (Min) (V)	Operating Temperature (°C)	Output Delay Time $V_{CC}=4.5V$ to $5.5V$ (Max) (ns)	Automotive Grade AEC-Q100
	SSOP5	SSOP6							
BD7LS00	BD7LS00G-C	—	Single 2-input NAND gate	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS02	BD7LS02G-C	—	Single 2-input NOR gate	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS04	BD7LS04G-C	—	Single Inverter	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS08	BD7LS08G-C	—	Single 2-input AND gate	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS07	BD7LS07G-C	—	Single Buffer with Open-drain	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	9.0	YES
BD7LS14	BD7LS14G-C	—	Single Schmitt Trigger Inverter	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	11.0	YES
BD7LS17	BD7LS17G-C	—	Single Schmitt Trigger Buffer	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	11.0	YES
BD7LS32	BD7LS32G-C	—	Single 2-input OR gate	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS34	BD7LS34G-C	—	Single Buffer	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS125	BD7LS125G-C	—	Single 3-state Buffer	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	10.0	YES
BD7LS97	—	BD7LS97G-C	Configurable Function gate	1.65 to 5.5	$V_{CC} \times 0.7$	$V_{CC} \times 0.3$	-40 to +125	13.0	YES

Standard Logic ICs

Analog Switch/Analog Switch (Single type)											
Type	Function	Supply Voltage (V)	Input Voltage (V)		ON Resistance (Max) (Ω)	Control-Output Propagation Delay Time (Typ) (ns)	IN-Out Propagation Delay Time (Typ) (ns)	Max Propagation Frequency (Typ) (MHz)	Package/Part No.		
			H Level (Min)	L Level (Max)					SOP14	SSOP-B14	SSOP5
BU4066BC	Quad Analog Switch	3 to 18	3.5	1.5	950	60	20	—	BU4066BCF	BU4066BCFV	—
BU4S66	Single Analog Switch	3 to 16	3.5	1.5	950	80	15	—	—	—	BU4S66G2

Multiplexer											
Type	Function	Supply Voltage (V)	Input Voltage (V)		ON Resistance (Max) (Ω)	Control-Output Propagation Delay Time (Typ) (ns)	IN-Out Propagation Delay Time (Typ) (ns)	Max Propagation Frequency (Typ) (MHz)	Package/Part No.		
			H Level (Min)	L Level (Max)					SOP16	SSOP-B16	
BU4051BC	Analog Multiplexer/Demultiplexer (8 \leftrightarrow 1)	3 to 18	3.5	1.5	950	170	15	20	BU4051BCF	BU4051BCFV	—
BU4052BC	Dual Analog Multiplexer/Demultiplexer (4 \leftrightarrow 1)	3 to 18	3.5	1.5	950	170	15	20	BU4052BCF	BU4052BCFV	—
BU4551B	Quad Analog Multiplexer/Demultiplexer (2 \leftrightarrow 1)	3 to 16	3.5	1.5	1,100	360	35	15	BU4551BF	BU4551BFV	—

Logic Gates										
Type	Function	Supply Voltage (V)	Input Voltage (V)		Hysteresis Voltage (V)	Output Voltage $I_{OUT}=1\mu A$ (V)		Propagation Delay Time (Typ) (ns)	Package/Part No.	
			H Level (Min)	L Level (Max)		H Level (Min)	L Level (Max)			
BU4030B	Quad Exclusive OR Gate	3 to 16	3.5	1.5	—	4.95	0.05	90	BU4030BF	

Logic Gates (Single type)										
Type	Function	Supply Voltage (V)	Input Voltage (V)		Hysteresis Voltage (V)	Output Voltage $I_{OUT}=1\mu A$ (V)		Propagation Delay Time (Typ) (ns)	Package/Part No.	
			H Level (Min)	L Level (Max)		H Level (Min)	L Level (Max)			
BU4S01	Single NOR Gate	3 to 16	3.5	1.5	—	4.95	0.05	85	BU4S01G2	
BU4S11	Single NAND Gate	3 to 16	3.5	1.5	—	4.95	0.05	85	BU4S11G2	
BU4SU69	Single Unbuffer Inverter	3 to 16	4.0	1.0	—	4.95	0.05	55	BU4SU69G2	
BU4S71	Single OR Gate	3 to 16	3.5	1.5	—	4.95	0.05	90	BU4S71G2	
BU4S81	Single AND Gate	3 to 16	3.5	1.5	—	4.95	0.05	90	BU4S81G2	
BU4S584	Single Schmitt Trigger	3 to 16	3.5	1.5	0.15 to 0.60	4.95	0.05	125	BU4S584G2	

Function Logic												
Type	Function	Supply Voltage (V)	Input Voltage (V)		Output Voltage $I_{OUT}=1\mu A$ (V)		Propagation Delay Time (Typ) (ns)	Max Clock Frequency (Typ) (MHz)	Set up Time (Typ) (ns)	Hold Time (Typ) (ns)	Package/Part No.	
			H Level (Min)	L Level (Max)	H Level (Min)	L Level (Max)					SOP16	SSOP-B16
BU4094BC	8-Stage Shift/Store Register (3-State)	3 to 18	3.5	1.5	4.95	0.05	420	2.5	20	10	BU4094BCF	BU4094BCFV

Serial-in/Parallel-out Drivers

Serial/Parallel 2-input Drivers							
Part No.	Serial Number of Input	Parallel Number of Output	Supply Voltage (V)	Max Output Current (mA)	Max Output Voltage (V)	Output type	Package
BU2098F	2	8	2.7 to 5.5	25	15	Open drain	SOP16
BU2090F		12	2.7 to 5.5	25	25	Open drain	SOP16
BU2090FS		12	2.7 to 5.5	25	25	Open drain	SSOP-A16

Serial/Parallel 4-input Drivers							
Part No.	Serial Number of Input	Parallel Number of Output	Supply Voltage (V)	Max Output Current (mA)	Max Output Voltage (V)	Output type	Package
BU2050F	4	8	4.5 to 5.5	25	5.5	CMOS	SOP14
BU2092F		12	2.7 to 5.5	25	25	Open drain	SOP18
BU2092FV		12	2.7 to 5.5	25	25	Open drain	SSOP-B20
BU2099FV		12	2.7 to 5.5	25	25	Open drain	SSOP-B20
BU2152FS		24	2.7 to 5.5	25	5.5	CMOS	SSOP-A32

Serial/Parallel 2-input Drivers: 2-wires Interface CLOCK, DATA
 Serial/Parallel 4-input Drivers: 4-wires Interface CLOCK, DATA, LATCH, ENABLE

USB Switch ICs

DP type (Double POLE)								
Part No.	Supply Voltage (V)		USB Switch (ch)	UART Switch (ch)	Circuit Current (μA)	USB Switch ON Resistance (Ω)	USB Switch ON Capacitance (pF)	Package
	USB	UART						
BD11600NUX	2.5 to 5.5	—	1	—	18	3	6	VSON010X3020
BD11603MWX	2.5 to 5.5	—	2	—	18	3	7	USON016X3315
BD11601NUX	2.5 to 5.5	—	1	—	18	2.5	6	VSON008X2020
BD11670GWL	3.8 to 28.0	—	1	—	26	5	6	UCSP50L1C

Built-in OVP Micro USB Switch with USB2.0, MHL™ and Audio													
Part No.	Supply Voltage (V)			USB/MHL Switch (ch)	MIC Switch (ch)	HP Switch (ch)	VBUS Signal Path (ch)	ID-CBUS Path (ch)	OTG-VBUS Voltage Path (ch)	Stand by Current (μA)	USB/MHL Switch ON Resistance (Ω)	USB/MHL Switch ON Capacitance (pF)	Package
	VBUS	VBAT	VDDIO										
BD91411GW	3.8 to 28.0	2.9 to 4.6	1.7 to 3.0	2	1 (mono)	1	1	1	1	6	5	6	UCSP75M3

©MHL™ is a trademark or a registered trademark of MHL, LCC.

IPD (Intelligent Power Device)

High Side Switch

L-shaped Protection Smart High Side Switch										
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
BV1HD045EFJ-C	6.0 to 28.0	41.0	1	21	45	Self-restart	HTSOP-J8	FSs	YES	
BV2HC045EFU-C	6.0 to 19.0	41.0		21	45	Off-latch	HSSOP-C16	FSs	YES	
BV2HD045EFU-C	6.0 to 28.0	41.0	2	21	45	Self-restart	HSSOP-C16	FSs	YES	
BV2HD070EFU-C	6.0 to 28.0	41.0		10	70	Self-restart	HSSOP-C16	FSs	YES	

Smart High Side Switch										
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
New BV1HJC45EFJ-C	6.0 to 28.0	45.0	1	5.0	45	Self-restart	HTSOP-J8	FSs	YES	
New BV1HLC45EFJ-C	6.0 to 28.0	45.0		2.5	45	Self-restart	HTSOP-J8	FSs	YES	
BV1HD090FJ-C	4.5 to 36.0	45.0		2.7	90	Self-restart	SOP-J8	FSs	YES	
New BV1HJ180EFJ-C	4.0 to 28.0	45.0		2.0	180	Self-restart	HTSOP-J8	FSs	YES	
New BD1HCU50EFJ-C	4.0 to 18.0	44.5		0.8	500	Off-latch	HTSOP-J8	FSs	YES	
BD1HC500FVM-C	4.0 to 18.0	44.5		0.8	500	Off-latch	MSOP8	FSs	YES	
BD1HC500HFN-C	4.0 to 18.0	44.5		0.8	500	Off-latch	HSON8	FSs	YES	
New BD1HJU50EFJ-C	4.0 to 18.0	44.5		0.8	500	Self-restart	HTSOP-J8	FSs	YES	
BD1HD500FVM-C	4.0 to 18.0	44.5		0.8	500	Self-restart	MSOP8	FSs	YES	
BD1HD500HFN-C	4.0 to 18.0	44.5		0.8	500	Self-restart	HSON8	FSs	YES	
New BV2HM050EFV-C	6.0 to 28.0	45.0	2	5	50	Self-restart	HTSSOP-B20	FSs	YES	

Built-in current sensing function High Side Switch										
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
New BV1HB045EFJ-C	6.0 to 28.0	45	1	21	45	Self-restart	HTSOP-J8	FSs	YES	

©ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.
 *1 For more information about "ComfySIL™ Functional Safety", please refer to the reverse side of the cover.

Low Side Switch

Smart Low Side Switch										
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100	
BV1LA025EFJ-C	3.5 to 5.5	42	1	9.0	25	Self-restart	HTSOP-J8	FSs	YES	
BV1LB025EFJ-C				35.0	25		HTSOP-J8	FSs	YES	
BV1LB028FPJ-C	30.0			28	TO252-J3		FSs	YES		
BV1LB045FPJ-C	18.0			45	TO252-J3		FSs	YES		
BV1LB085FJ-C	13.0			85	SOP-J8		FSs	YES		
BV1LB150FJ-C	6.5			150	SOP-J8		FSs	YES		
BV1LB300FJ-C	1.7			300	SOP-J8		FSs	YES		
BM2LB150FJ-C	3.0 to 5.5		42	2	6.5		150	SOP-J8	FSs	YES
BM2LB300FJ-C					1.7		300	SOP-J8	FSs	YES

Smart Low Side Switch with Error Flag											
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100		
New BV1LE040EFJ-C	3.0 to 5.5	40	1	17.5	40	Self-restart	HTSOP-J8	FSs	YES		
New BV1LE080EFJ-C				9.0	80		HTSOP-J8	FSs	YES		
BV1LC085EFJ-C		42		4.0	85		HTSOP-J8	FSs	YES		
BV1LC105FJ-C				3.0	105		SOP-J8	FSs	YES		
BV1LC150EFJ-C				3.5	150		HTSOP-J8	FSs	YES		
New BV1LE160EFJ-C				5.0	160		HTSOP-J8	FSs	YES		
New BV1LE250EFJ-C		40		42	1		3.0	250	HTSOP-J8	FSs	YES
BV1LC300EFJ-C							1.7	350	HTSOP-J8	FSs	YES
BV1LC300FJ-C							1.7	350	SOP-J8	FSs	YES
BD1LB500EFJ-C							3.5 to 5.5	42	1	0.8	350
BD1LB500FVM-C	0.8	350	MSOP8	FSs	YES						
New BM2LE040FJ-C	3.0 to 5.5	40	2	17.5	40	Self-restart	SOP-J8	FSs	YES		
New BM2LE080FJ-C				9.0	80		SOP-J8	FSs	YES		
BM2LC105FJ-C		42		3.0	105		SOP-J8	FSs	YES		
BM2LC120FJ-C				3.0	120		SOP-J8	FSs	YES		
New BM2LE160FJ-C				5.0	160		SOP-J8	FSs	YES		
New BM2LE250FJ-C				3.0	250		SOP-J8	FSs	YES		
BM2LC300FJ-C		42		42	2		1.7	350	SOP-J8	FSs	YES

Smart Low Side Switch Variable Slew Rate									
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BV1LF080EFJ-C	3.5 to 6.5	42	1	5.0	80	Self-restart	HTSOP-J8	FSs	YES

Multi Channel Smart Low Side Switch									
Part No.	Voltage Range (V)	V _{DS} (Max) (V)	ch	I _{ocp} (Min) (A)	ON Resistance (Typ) (mΩ)	Thermal Shut Down	Package	ComfySIL™ Functional Safety*1	Automotive Grade AEC-Q100
BD8LB600FS-C	3.0 to 5.5 (Digital)/ 4.0 to 5.5 (Analog)	45	8	1.0	600	Self-restart	SSOP-A24	FSs	YES
BD8LA700EFV-C				0.5	700	Off-latch	HTSSOP-B24	FSs	YES

© ComfySIL™ is a trademark or a registered trademark of ROHM Co., Ltd.
 *1 For more information about "ComfySIL™ Functional Safety", please refer to the reverse side of the cover.