



Interface

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LVDS Interface ICs

A
Interface

| 27bit LVDS Transmitter 27:4 Serializer | | | | | | | | | |
|---|-----------------------------|------------|-------------|---------------------|----------------------|-----------------------|-------------------------------|----------------------------|--------------|
| Part No. | Type | bits (bit) | Color Depth | Input Specification | Output Specification | Clock Frequency (MHz) | Supply Voltage (V) | Operating Temperature (°C) | Package |
| BU90T81 | Serializer | 27 | 8 | LVC MOS | LVDS Single Link | 20 to 112 | 1.65 to 1.95 | -20 to +85 | VBGA048W040 |
| 27bit LVDS Transmitter 27:8 Serializer | | | | | | | | | |
| BU90T82 | Serializer | 27 | 8 | LVC MOS | LVDS Dual Link | 10 to 174 | 1.62 to 1.98/ 1.62 to 3.60 | -40 to +85 | SBGA072T070A |
| 35bit LVDS Transmitters 35:5 Serializer | | | | | | | | | |
| BU8254KVT | Serializer | 35 | 10 | LVC MOS | LVDS Single Link | 8 to 112 | 3.0 to 3.6 | -40 to +85 | TQFP64V |
| BU8254GUW | Serializer | 35 | 10 | LVC MOS | LVDS Single Link | 8 to 112 | 3.0 to 3.6 | -20 to +85 | VBGA099W060 |
| 56bit LVDS Transmitter 56:8 Serializer | | | | | | | | | |
| BU7988KVT | Serializer | 56 | 8 | LVC MOS | LVDS Dual Link | 8 to 112 | 3.0 to 3.6 | -20 to +85 | TQFP100V |
| 35bit LVDS Receiver 5:35 Deserializer | | | | | | | | | |
| BU90R104 | Deserializer | 35 | 10 | LVDS Single Link | LVC MOS | 8 to 112 | 2.3 to 3.6 | -40 to +85 | TQFP64V |
| 56bit LVDS Receiver 8:56 Deserializer | | | | | | | | | |
| BU7985KVT | Deserializer | 56 | 8 | LVDS Dual Link | LVC MOS | 20 to 112 | 3.0 to 3.6 | -20 to +85 | TQFP100V |
| 67bit LVDS Receiver 10:67 Deserializer | | | | | | | | | |
| BU90R102 | Deserializer | 67 | 10 | LVDS Dual Link | LVC MOS | 8 to 160 | 2.3 to 3.6 | -40 to +85 | HQFP144VM |
| 70bit LVDS Distributor | | | | | | | | | |
| BU90RT102 | Serializer/ Deserializer | 70 | 10 | LVDS | LVDS | 20 to 135 | 3.0 to 3.6 | -20 to +85 | HTSSOP-C64 |
| 4bit LVDS Driver | | | | | | | | | |
| BU90LV047A | Driver | 4 | — | LVC MOS | LVDS | 250 | 3.0 to 3.6 | -40 to +85 | SSOP-B16 |
| 4bit LVDS Receiver | | | | | | | | | |
| BU90LV048 | Receiver | 4 | — | LVDS | LVC MOS | 250 | 3.0 to 3.6 | -40 to +85 | SSOP-B16 |
| 4bit LVDS Transceiver | | | | | | | | | |
| BU90LV049A | Transceiver | 4 | — | LVC MOS/LVDS | LVC MOS/LVDS | 250 | 3.0 to 3.6 | -40 to +85 | SSOP-B16 |

Clockless Link Interface ICs

| Clockless Link Serializer/Deserializer | | | | | | | | | | | |
|--|-----------------------------|----------------------------|----------------------------|---------------|----------------|-----------------------|---------------------------------|--------------------------|--------------------|----------------------------|---------|
| Part No. | Type | Input Specification | Output Specification | Input ch (ch) | Output ch (ch) | Clock Frequency (MHz) | Clockless Transfer Rates (Gbps) | Parallel BUS Width (bit) | Supply Voltage (V) | Operating Temperature (°C) | Package |
| BU17074KV | Serializer/ Deserializer | LVC MOS/ Clockless Link | Clockless Link/ LVC MOS | —/1 | 1/— | 20 to 75 | 2.7 | 28 | 2.3 to 3.6 | -40 to +85 | VQFP64 |
| BU17101AKV-M | Serializer | LVC MOS | Clockless Link | — | 1 | 30 to 51 | 1.63 | 24 | 2.3 to 3.6 | -40 to +85 | VQFP48 |
| BU17102AKV-M | Deserializer | Clockless Link | LVC MOS | 1 | — | 30 to 51 | 1.63 | 24 | 2.3 to 3.6 | -40 to +85 | VQFP48 |

Timing Controllers

| Timing Controller for FHD, WUXGA | | | | | | | | | | |
|----------------------------------|--|----------------------|----------------------|------------------|-------------------|-----------------------|----------------------------|------------------------------|-----------|---------------------------|
| Part No. | Supply Voltage (V) | Input Specification | Output Specification | Input bits (bit) | Output bits (bit) | Clock Frequency (MHz) | Operating Temperature (°C) | Resolution | Package | Automotive Grade AEC-Q100 |
| BU90AM4-03 | 1.62 to 3.63/ 1.62 to 2.20/ 1.08 to 1.32 | MIPI DSI 4lane | P2P 8lane | 8/6 | 8/6 | 40 to 200 | -20 to +70 | up to WUXGA (1920 × 1200) | UQFN54 | — |
| BU8179MWV | 2.25 to 3.63/ 1.62 to 2.20/ 1.08 to 1.32 | eDP Ver.1.2 2lane | P2P 6lane | 8/6 | 8/6 | 40 to 200 | -20 to +85 | up to WUXGA (1920 × 1200) | UQFN46 | — |
| BU90AD2-01 | 1.62 to 3.63/ 1.62 to 1.98/ 1.08 to 1.32 | eDP Ver.1.2 2lane | P2P 8lane | 8/6 | 8/6 | 40 to 170 | -40 to +85 | up to WUXGA (1920 × 1200) | UQFN54 | — |
| BU90AL210-M | 2.3 to 3.6/ 1.35 to 1.65 | LVDS Dual | mini-LVDS Dual | 8/6 | 8/6 | 20 to 240 | -40 to +105 | up to 2880 × 1080 | HTQFP100V | YES |
| BU90AL211-M | 2.3 to 3.6 | LVDS Dual | mini-LVDS Single | 8/6 | 8/6 | 20 to 200 | -40 to +105 | up to 1920 × 1200 | UQFP80 | YES |

Multiple Input Switch Monitor LSIs

| 22ch Models | | | | | | | | | | |
|------------------------|---|---------------------|--------------------------------|------------------------------------|--|-------------|-----------------------|----------------------------|--------------|---------------------------|
| Part No. | Supply Voltage (V) | Switch Input Number | Switch Input Voltage Range (V) | Wetting Current (mA) | Operating Current Intermittent Monitoring 50ms(Max.)(μ A) | Control I/F | Clock Frequency (MHz) | Operating Temperature (°C) | Package | Automotive Grade AEC-Q100 |
| BD3375MUV-M | 8.0 to 26.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 22 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 100 | SPI | up to 4.4 | -40 to +125 | VQFN48MCV070 | YES |
| BD3375KV-C | 8.0 to 26.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 22 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 100 | SPI | up to 4.4 | -40 to +125 | VQFP48C | YES |
| New BD3378MUV-M | 6.0 to 28.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 22 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 100 | SPI | up to 4.4 | -40 to +125 | VQFN48MCV070 | YES |
| 33ch Models | | | | | | | | | | |
| New BD3380MUV-M | 6.0 to 28.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 33 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 110 | SPI | up to 4.4 | -40 to +125 | VQFN48MDV070 | YES |
| New BD3381EKV-C | 6.0 to 28.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 33 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 110 | SPI | up to 4.4 | -40 to +125 | HTQFP64BV | YES |
| 10ch Models | | | | | | | | | | |
| BD3376MUV-M | 8.0 to 26.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 10 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 100 | SPI | up to 4.4 | -40 to +125 | VQFN28SV5050 | YES |
| BD3376EFV-C | 8.0 to 26.0(VPUA/VPUB) 3.1 to 5.25(VDDI) | 10 | -14 to +40 | 1/3/5/10/15 (Pull up/Pull down) | 100 | SPI | up to 4.4 | -40 to +125 | HTSSOP-B30 | YES |

IrDA Controllers

| IrDA SIR Encoder/Decoder | | | | | | |
|--|-------------------|--------------|--------------------------------------|-----------------------|---------------------|-------------|
| Part No. | Supply Voltage(V) | | Data Rate (bps) | Clock Frequency (MHz) | I/F | Package |
| | V _{DD} | VIO | | | | |
| BU92001KN | 2.50 to 3.50 | — | 2.4k to 115.2k | 24.0 to 29.5 | UART | VQFN20 |
| IrDA SIR, MIR, FIR, IrSimple Controllers/Remote Control Transmitters | | | | | | |
| BU92747GUW | 1.62 to 1.98 | 1.62 to 3.60 | 2.4k to 115.2k, 0.576M,1.152M, 4M | 48 | Parallel BUS(16bit) | VBGA048W040 |
| BU92747KV | 1.62 to 1.98 | 1.62 to 3.60 | 2.4k to 115.2k, 0.576M,1.152M, 4M | 48 | Parallel BUS(16bit) | VQFP48C |

LIN Transceivers

| LIN Transceivers | | | | | | | | |
|------------------|------------------------------------|--------------------|----------------------------|--|-------------------------|---|---------|---------------------------|
| Part No. | Supported Standards | Supply Voltage (V) | Operating Temperature (°C) | Absolute Maximum Rating of LIN pin (V) | Baud Rates (Max.)(kbps) | Supply Current at Sleep Mode (Typ.)(μ A) | Package | Automotive Grade AEC-Q100 |
| BD41030FJ-C | LIN2.0, LIN2.1, LIN2.2, LIN2.2A | 5 to 27 | -40 to +125 | -27 to +40 | 20 | 3 | SOP-J8 | YES |
| BD41030HFN-C | LIN2.0, LIN2.1, LIN2.2, LIN2.2A | 5 to 27 | -40 to +125 | -27 to +40 | 20 | 3 | HSO8 | YES |

CAN Transceivers

| CAN Transceivers | | | | | | | | |
|------------------------|---------------------|--------------------|----------------------------|--|-------------------------|---|---------|---------------------------|
| Part No. | Supported Standards | Supply Voltage (V) | Operating Temperature (°C) | Absolute Maximum Rating of CAN pin (V) | Data Rates (Max.)(Mbps) | Supply Current at Standby Mode (Typ.)(μ A) | Package | Automotive Grade AEC-Q100 |
| New BD41041FJ-C | ISO 11898-2:2016 | 4.75 to 5.25 | -40 to +125 | -27 to +40 | 1 | 10 | SOP-J8 | YES |
| New BD41044FJ-C | ISO 11898-2:2016 | 4.75 to 5.25 | -40 to +125 | -27 to +40 | 5 | 10 | SOP-J8 | YES |

CXPI Transceivers

| CXPI Transceivers | | | | | | | | | |
|-------------------------|---------------------|--------------------|----------------------------|------------------------------------|-------------------|---|----------------------------------|---------|---------------------------|
| Part No. | Supported Standards | Supply Voltage (V) | Operating Temperature (°C) | Absolute Maximum Rating of BUS (V) | Baud Rates (kbps) | Supply Current at Sleep Mode (Typ.)(μ A) | EMI | Package | Automotive Grade AEC-Q100 |
| New BD41000AFJ-C | JASO_D015_3 | 7 to 18 | -40 to +125 | -27 to +40 | 5 to 20 | 3 | — | SOPJ-8 | YES |
| New BD41001FJ-C | JASO_D015_3 | 7 to 18 | -40 to +125 | -27 to +40 | 18.8 to 20.0 | 3 | Improved against BD41000AFJ-C | SOPJ-8 | YES |

PLC(Power Line Communication)

| HD-PLC Inside Compliant Baseband IC | | | | | | | | | | | |
|--|---------------------|--------------------------------|-----------------------------|-------------------|----------|-------------|----------------------------|---------------------|-----------------------|----------------------------|--------------|
| Part No. | Supported Standards | Operating Frequency Band (MHz) | Supply Voltage (V) | Modulation Method | FEC Mode | Control I/F | Communication Speed (Mbps) | Transmission Output | Receiving Sensitivity | Operating Temperature (°C) | Package |
| BU82204MWV | HD-PLC inside | 2 to 28 | 1.45 to 1.55/ 3.0 to 3.6 | Wavelet OFDM | AES128 | UART or SPI | up to 3 | -10dBm/ 10kHz | -88dBm/ 10kHz | -40 to +85 | UQFN88MV0100 |
| Broadband Power Line Communication Baseband IC | | | | | | | | | | | |
| BU82205MWV | ROHM Original PLC | 2 to 28 | 1.45 to 1.55/ 3.0 to 3.6 | Wavelet OFDM | AES128 | UART or SPI | up to 3 | -10dBm/ 10kHz | -88dBm/ 10kHz | -40 to +85 | UQFN88MV0100 |

USB Type-C Power Delivery

Interface

| For POWER SOURCE(Power Role : Source, DATA Role : DFP, Internal Shunt Reg., Variable OCP, Variable OVP, Internal Vconn SW) | | | | | | | | | | | |
|--|--------------------|-----------------------|--|--|--|--|--|-------------------|----------------------------|--------------|--|
| Part No. | Supply Voltage (V) | IO Supply Voltage (V) | TYPE-C/PD Controller | Initial Supply Capable Voltage/Current (V/A) | Tolerant Voltage at CC Pins (V) | Gate Drivers for Nch FET | After OCP Behavior After OVP Behavior | DP Alternate Mode | Operating Temperature (°C) | Package | |
| BM92A20MWV | 3.1 to 20.0 | 1.7 to 5.5 | ✓/✓ (Internal Shunt Reg. for AC/DC) | 5/3, 12/3, 15/3, 16/2.8, 19/2.36, 19.6/2.29, 20/2.25 | 6.5 | For Source: 1pair | OCP : Automatic recovery OVP : Automatic recovery | — | -30 to +105 | UQFN40V5050A | |
| BM92A21MWV | | | | 5/3, 9/3, 12/3, 15/3, 20/3 | | | | | | UQFN40V5050A | |
| BM92A50MWV | | | | 5/0.5, 12 to 20 Variable/2.25 | | | | | | UQFN40V5050A | |
| BM92A56MWV | | | | 5/3, 9/3, 12/3, 15/3, 20/3 | | | | | | UQFN40V5050A | |
| New BM92A70MWV | | | | 5/0.5, 12 to 20 Variable/2.25 | | | | | | UQFN40V5050A | |
| ☆BD93W21F | 4.75 to 20.00 | — | ✓/✓ (Internal Shunt Reg. for AC/DC) | 5/3, 9/3, 12/3, 15/3, 20/2.25 | 25.2 | For Source | — | — | SOP16 | | |
| For POWER SOURCE & SINK(Power Role : Source/Sink/DRP, DATA Role : DFP/UFP/DRD) | | | | | | | | | | | |
| Part No. | Supply Voltage (V) | IO Supply Voltage (V) | TYPE-C/PD Controller | Connected The Required Initial Voltage(V) Dead Battery | Non Dead Battery | Gate Drivers for Nch FET | Internal Vconn SW | DP Alternate Mode | Operating Temperature (°C) | Package | |
| BM92A30MWV | 3.1 to 20.0 | 1.7 to 5.5 | ✓/✓ | 12 to 20(Maximum voltage on the source side, NG: 5V) | 5 | For Sink : 1pair For Source : 1pair | ✓ | DP_SOURCE | -30 to +105 | UQFN40V5050A | |
| New BM92A31MWV | | | | 12(NG: 5V) | UQFN40V5050A | | | | | | |
| New BM92A32MWV | | | | 20(NG: 5V) | UQFN40V5050A | | | | | | |
| New BM92A33MWV | | | | 15(NG: 5V) | UQFN40V5050A | | | | | | |
| New BM92A34MWV | | | | 9(NG: 5V) | UQFN40V5050A | | | | | | |
| New BM92A35MWV | | | | 5 to 20(Maximum voltage on the source side) | UQFN40V5050A | | | | | | |
| For POWER SINK(Power Role : Sink, DATA Role : UFP) | | | | | | | | | | | |
| Part No. | Supply Voltage (V) | IO Supply Voltage (V) | TYPE-C/PD Controller | Connected The Required Initial Voltage(V) Without Ext-MCU | Start of Automatic Power Receiving Without Ext-MCU | Gate Drivers for Nch FET | Internal Vconn SW | DP Alternate Mode | Operating Temperature (°C) | Package | |
| New BM92A11MWV | 3.1 to 20.0 | 1.7 to 5.5 | ✓/✓ | 12(NG: 5V) | ✓ | For Sink : 1pair For Source : 1pair | ✓ | — | -30 to +105 | UQFN40V5050A | |
| New BM92A12MWV | | | | 20(NG: 5V) | | | | | | UQFN40V5050A | |
| New BM92A13MWV | | | | 15(NG: 5V) | | | | | | UQFN40V5050A | |
| New BM92A14MWV | | | | 9(NG: 5V) | | | | | | UQFN40V5050A | |
| New BM92A15MWV | | | | 5 to 20(Maximum voltage on the source side) | | | | | | UQFN40V5050A | |
| ☆BD91N01NUX | 4.0 to 5.5 | — | Type-C only | Type-C 5V | — | For Sink : 1path | — | — | -30 to +85 | VSON010X3020 | |

☆ : Under Development