

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

|                      |                                      |
|----------------------|--------------------------------------|
| <b>Part Number:</b>  | BU2500FV-E2                          |
| <b>Manufacturer:</b> | Rohm Semiconductor                   |
| <b>Package:</b>      | 20-LSSOP (0.173&quot;, 4.40mm Width) |
| <b>Availability:</b> | Please confirm with sales            |

### Product Page:

<https://antrexco.com/product/details/rohm-semiconductor/bu2500fv-e2.html>

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### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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# 8bit 12-channel D/A converter

## BU2500FV / BU2501FV

BU2500FV / BU2501FV is a 12ch high-performance 8bit D/A converter which adopts the R-2R system.

The BU2500FV utilizes a 5V supply voltage and the BU2501FV a 3V. Each channel output incorporates a Rail to Rail output type buffer amplifier. Three wire serial data input and cascade connection is possible. Small package (0.65mm pitch and 20pin) is adopted.

### ●Applications

CD-R, CD-RW, DVC, Digital camera and industrial equipment

### ●Features

- 1) High-performance 8bit 12-channel D/A converter adopting the R-2R system.
- 2) Output of each channel incorporates a Rail to Rail output type buffer amplifier.
- 3) Digital input compatible with TTL levels.
- 4) 12bit 3wire serial data input, cascade connection is possible.
- 5) Buffer amplifier of each channel is highly-stable. Prevents oscillation even with capacitance loads.

### ●Absolute maximum ratings (Ta=25°C)

| Parameter                                | Symbol           | Limits    | Unit |
|------------------------------------------|------------------|-----------|------|
| Supply voltage                           | V <sub>CC</sub>  | -0.3~+6.0 | V    |
| Upper reference voltage of D/A converter | V <sub>DD</sub>  | -0.3~+6.0 | V    |
| Input voltage                            | V <sub>IN</sub>  | -0.3~+6.0 | V    |
| Output voltage                           | V <sub>OUT</sub> | -0.3~+6.0 | V    |
| Power dissipation                        | P <sub>d</sub>   | 400*      | mW   |
| Operating temperature                    | T <sub>opr</sub> | -25~+85   | °C   |
| Storage temperature                      | T <sub>stg</sub> | -55~+125  | °C   |

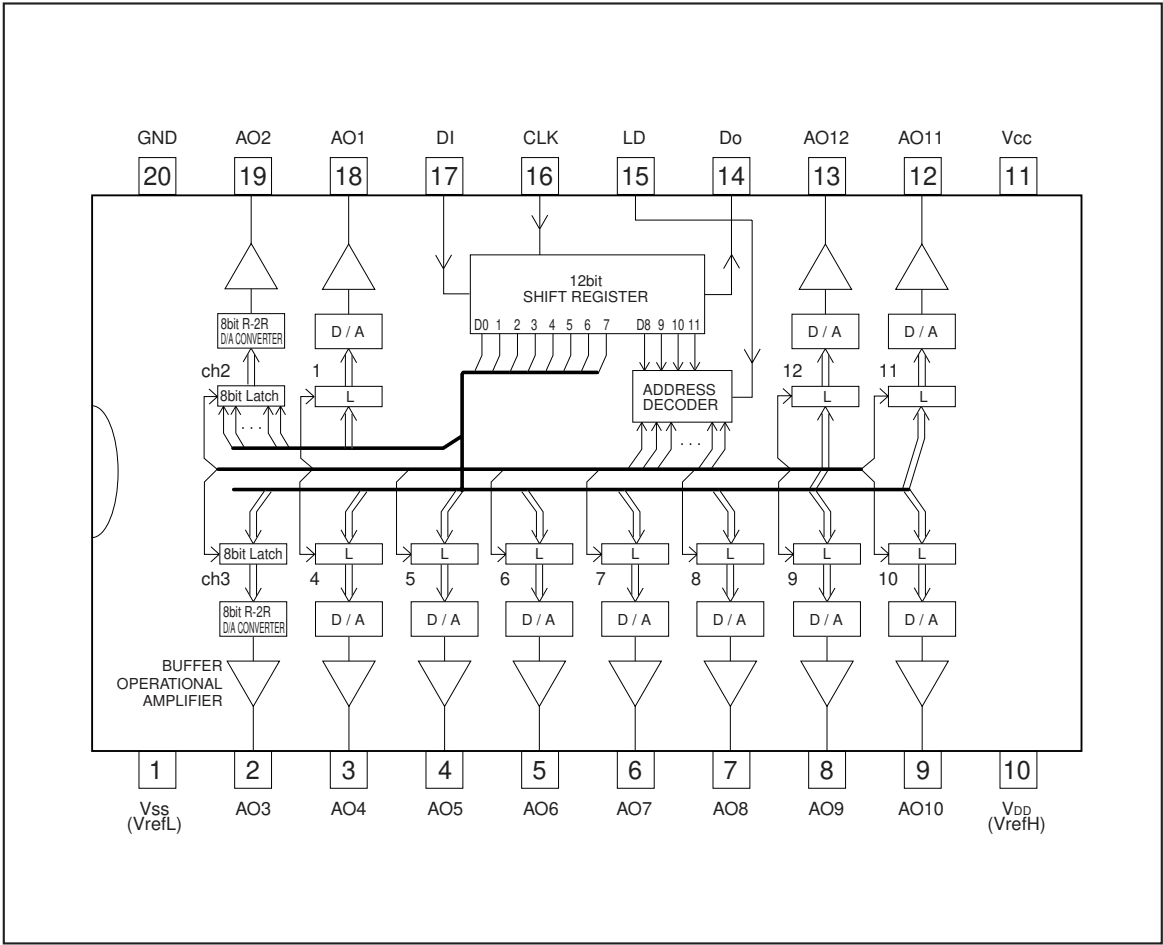
\* Reduced by 4mW for each increase in Ta of 1°C over 25°C.

### ●Recommended operating conditions (Ta=25°C)

| Parameter                 | Symbol          | Limits  | Unit |
|---------------------------|-----------------|---------|------|
| Supply voltage (BU2500FV) | V <sub>CC</sub> | 4.5~5.5 | V    |
| Supply voltage (BU2501FV) | V <sub>CC</sub> | 2.7~3.6 | V    |

Optical disc ICs

●Block diagram

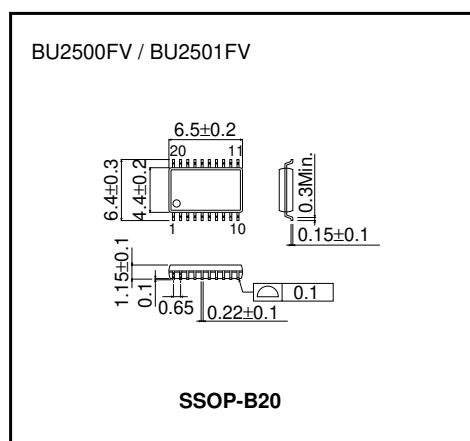


## Optical disc ICs

## ●Pin descriptions

| Pin No. | Pin name | Analog / Digital | I / O | Function                                                                                                                                         | Circuit |
|---------|----------|------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1       | Vss      | Analog           | –     | D/A converter lower reference voltage input terminal                                                                                             | 5       |
| 2       | Ao3      | Analog           | O     | 8bit D/A converter output terminal (CH3)                                                                                                         | 3       |
| 3       | Ao4      | Analog           | O     | 8bit D/A converter output terminal (CH4)                                                                                                         | 3       |
| 4       | Ao5      | Analog           | O     | 8bit D/A converter output terminal (CH5)                                                                                                         | 3       |
| 5       | Ao6      | Analog           | O     | 8bit D/A converter output terminal (CH6)                                                                                                         | 3       |
| 6       | Ao7      | Analog           | O     | 8bit D/A converter output terminal (CH7)                                                                                                         | 3       |
| 7       | Ao8      | Analog           | O     | 8bit D/A converter output terminal (CH8)                                                                                                         | 3       |
| 8       | Ao9      | Analog           | O     | 8bit D/A converter output terminal (CH9)                                                                                                         | 3       |
| 9       | Ao10     | Analog           | O     | 8bit D/A converter output terminal (CH10)                                                                                                        | 3       |
| 10      | VDD      | Analog           | –     | D/A converter upper reference voltage input terminal                                                                                             | 4       |
| 11      | Vcc      | –                | –     | Power supply terminal                                                                                                                            | –       |
| 12      | Ao11     | Analog           | O     | 8bit D/A converter output terminal (CH11)                                                                                                        | 3       |
| 13      | Ao12     | Analog           | O     | 8bit D/A converter output terminal (CH12)                                                                                                        | 3       |
| 14      | Do       | Digital          | O     | Terminal to output MSB data of 12-bit shift register                                                                                             | 2       |
| 15      | LD       | Digital          | I     | When H-level signal is input to this terminal, the value stored in 12-bit shift register is loaded in decoder and D/A converter output register. | 1       |
| 16      | CLK      | Digital          | I     | Shift clock input terminal. Input signal at DI pin is input to 12-bit shift register at rise of shift clock pulse                                | 1       |
| 17      | DI       | Digital          | I     | Serial data input terminal to input 12-bit long serial data                                                                                      | 1       |
| 18      | Ao1      | Analog           | O     | 8bit D/A converter output terminal (CH1)                                                                                                         | 3       |
| 19      | Ao2      | Analog           | O     | 8bit D/A converter output terminal (CH2)                                                                                                         | 3       |
| 20      | GND      | –                | –     | GND terminal                                                                                                                                     | –       |

## ●External dimensions (Unit : mm)



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