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)

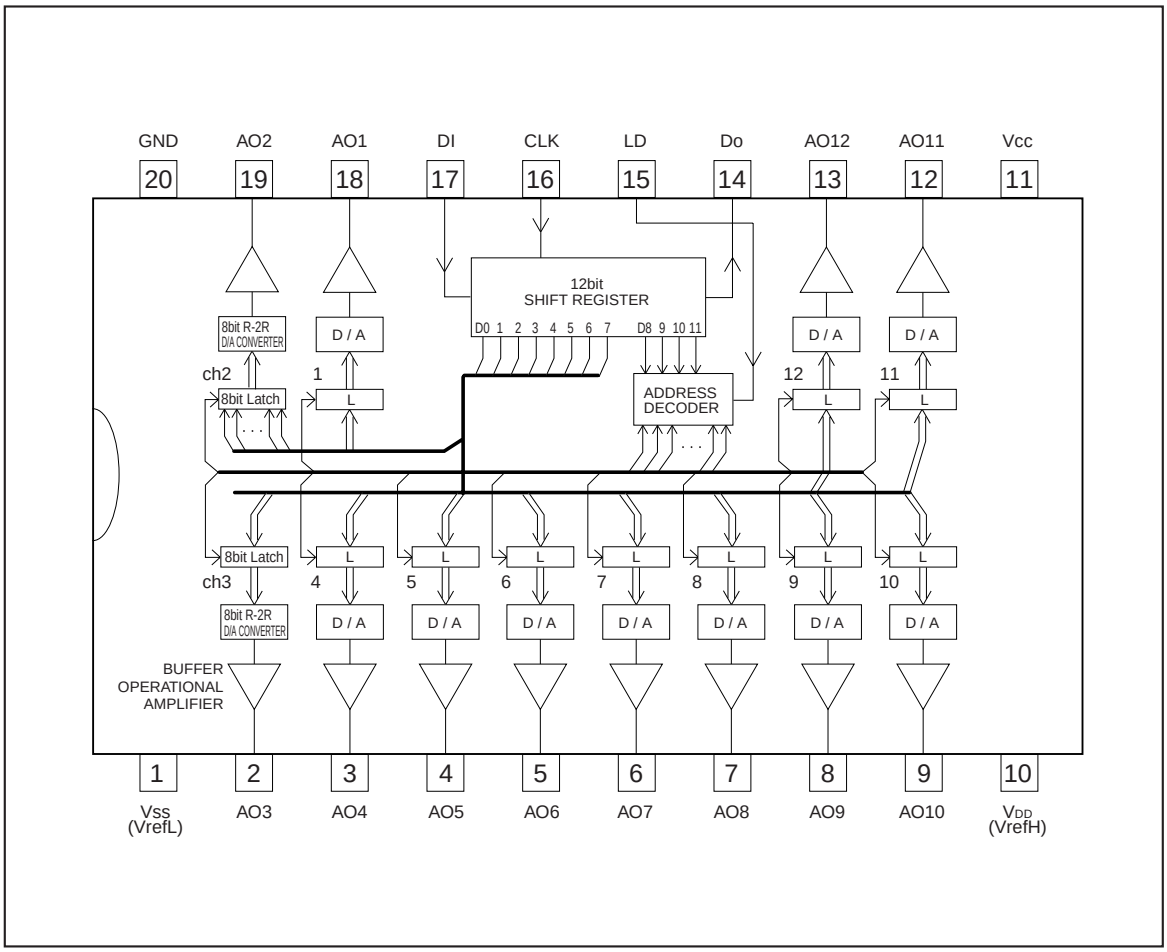
Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	–0.3~+6.0	V
Upper reference voltage of D/A converter	V_{DD}	–0.3~+6.0	V
Input voltage	V_{IN}	–0.3~+6.0	V
Output voltage	V_{OUT}	–0.3~+6.0	V
Power dissipation	Pd	400*	mW
Operating temperature	Topr	–25~+85	°C
Storage temperature	Tstg	–55~+125	°C

* 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_{CC}	4.5~5.5	V
Supply voltage (BU2501FV)	V_{CC}	2.7~3.6	V

●**Block diagram**

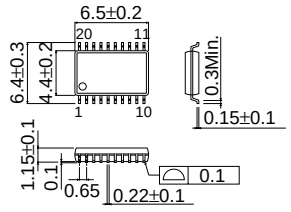


●Pin descriptions

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	V_{DD}	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)

BU2500FV / BU2501FV



SSOP-B20