8bit 20ch D/A converter

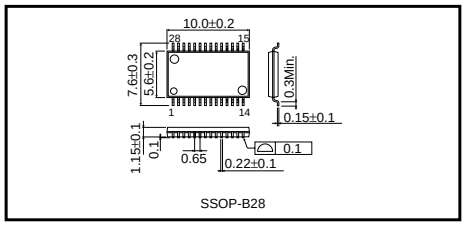
BH2222FV

BH2222FV is an 8bit D/A converter for electronic adjustment. The 20-channel output voltage can be independently controlled by three-wire serial interface from micro-controller. The built-in power on reset circuit keeps the output state Low after the power is on. 4-channel have data register function. Two kinds of set voltage can be retained, and output voltage can be switched by SEL pin.

●Applications

The voltage adjustment for DVC, DSC etc.

●External dimensions (Unit : mm)



●Features

1) 8bit 20-channel D/A converters adopting R-2R system.
2) 3-wire + 1-wire 16-bit serial interface.
3) POWER ON RESET circuit.
4) The full scale output voltage range : 2.7 ~ 5.5V.
5) It is possible to set the two output full scale level independently.
6) 4-channel date Register extension function.
7) SSOP-B28 package.

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power supply voltage	V_{CC}	–0.3~+7.0	V
Maximum output voltage	V_{IN}	–0.3~V_{CC}	V
Storage temperature	Tstg	–55~+125	°C
Power dissipation	Pd	640 *	mW

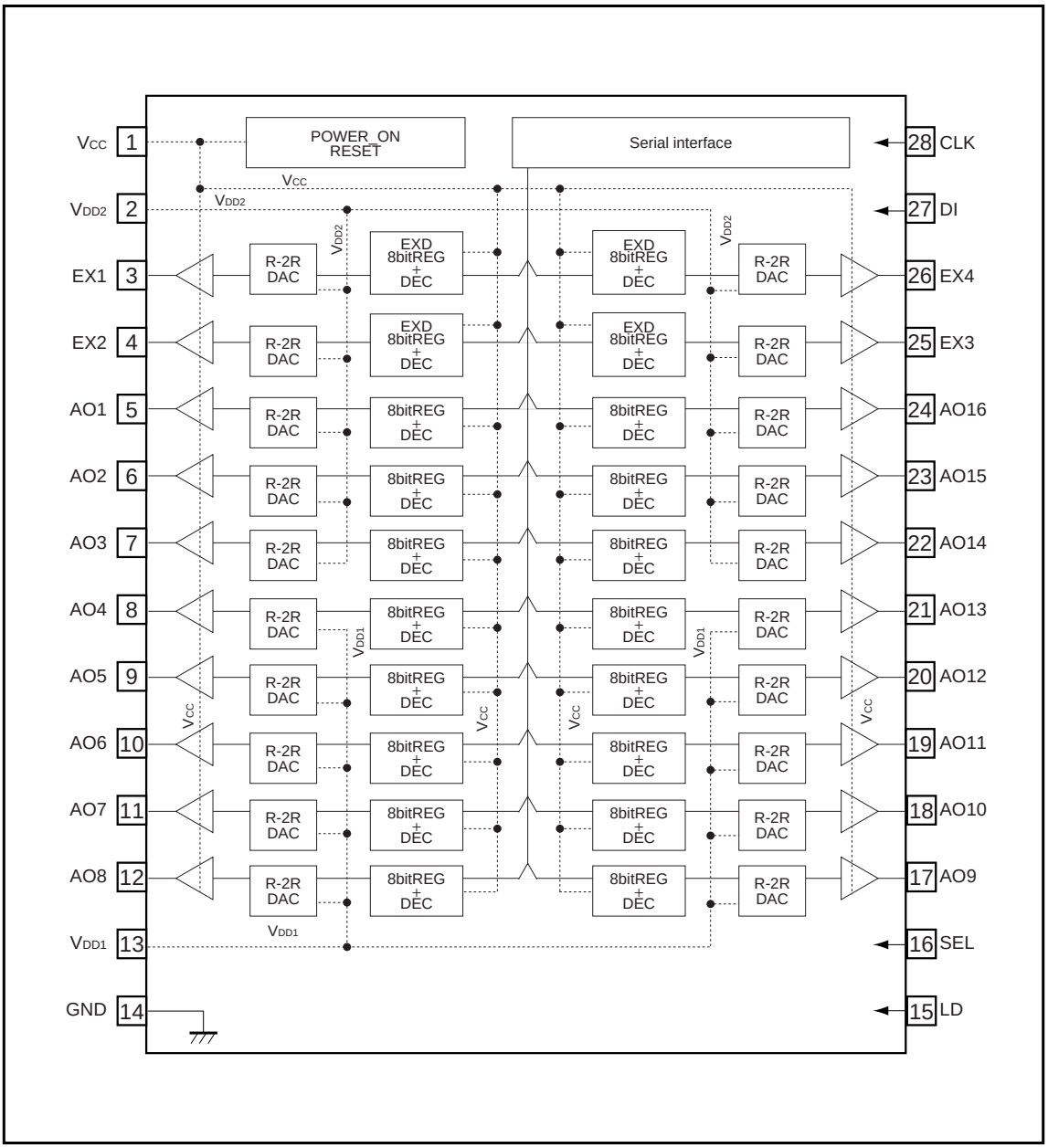
*Reduced by 6.4mW for each increase in Ta of 1°C over 25°C.
◎This product is not designed for protection against radioactive rays.

●Recommended operating conditions (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit
V_{CC} supply voltage	V_{CC}	4.5	–	5.5	V
$V_{DD}1$ supply voltage	$V_{DD}1$	2.7	–	V_{CC}	V
$V_{DD}2$ supply voltage	$V_{DD}2$	2.7	–	V_{CC}	V
Analog output source current	I_{OL}	–	–	1.0	mA
Analog output sink current	I_{OH}	–	–	1.0	mA
Operating temperature range	Topr	–20	–	85	°C
Clock frequency	FSCLK	–	1.0	–	MHz
Limit load capacitance	CL	–	–	0.47	μF

Please set to $V_{CC} \geq V_{DD}1, V_{DD}2$.

●**Block diagram**



●Pin descriptions

Pin No.	Pin name	In / Out	Power supply	Functions
1	V_{CC}	–	–	Power supply pin
2	$V_{DD}2$	–	–	Power supply pin
3	EX1	OUT	$V_{DD}2$	Analog output pins (Register extension)
4	EX2	OUT	$V_{DD}2$	
5	AO1	OUT	$V_{DD}2$	Analog output pins
6	AO2	OUT	$V_{DD}2$	
7	AO3	OUT	$V_{DD}2$	
8	AO4	OUT	$V_{DD}1$	
9	AO5	OUT	$V_{DD}1$	
10	AO6	OUT	$V_{DD}1$	
11	AO7	OUT	$V_{DD}1$	
12	AO8	OUT	$V_{DD}1$	
13	$V_{DD}1$	–	–	Power supply pin
14	GND	–	–	Common GND pin
15	LD	IN	–	Serial Load input pin
16	SEL	IN	–	Select extended data register pin
17	AO9	OUT	$V_{DD}1$	Analog output pins
18	AO10	OUT	$V_{DD}1$	
19	AO11	OUT	$V_{DD}1$	
20	AO12	OUT	$V_{DD}1$	
21	AO13	OUT	$V_{DD}1$	
22	AO14	OUT	$V_{DD}2$	
23	AO15	OUT	$V_{DD}2$	
24	AO16	OUT	$V_{DD}2$	
25	EX3	OUT	$V_{DD}2$	Analog output pins (Register extension)
26	EX4	OUT	$V_{DD}2$	
27	DI	IN	–	Serial Data input pin
28	CLK	IN	–	Serial Clock input pin

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