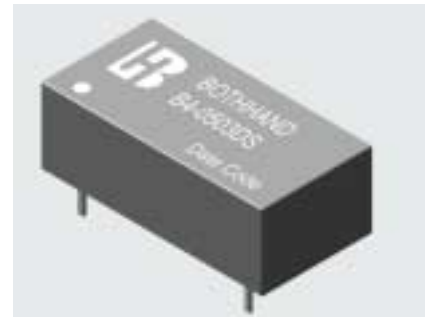


### 1. Features :

■ 14 Pin DIL Package
■ Low Ripple and Noise
■ Input / Output Isolation 1K Vdc or 3K Vdc
■ 100 % Burn-In
■ Input Filter with Internal Capacitor
■ Custom Design Available



### 2. Absolute maximum ratings :

( Exceeding these values may damage the module. These are not continuous operating ratings )

Parameter	Condition	Min.	Typ.	Max.	Unit
Input <b>Absolute</b> Voltage Range	5V Input Model	-0.7	5	7.5	Vdc
	12V Input Model	-0.7	12	15	
	24V Input Model	-0.7	24	30	
Max. Output power		---	---	1.5	W
Output Short circuit duration		---	---	1.0	Second
Operating temperature	Output Full Load	-40	---	+85	°C
Storage temperature		-55	---	+105	

### 3. Nominal Input / Output Electrical Specifications :

( Specifications typical at Ta = +25°C, nominal input voltage, rated output current unless otherwise noted )

Parameter	Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	5V Input Model	4.5	5	5.5	Vdc
	12V Input Model	10.8	12	13.2	
	24V Input Model	21.6	24	26.4	
Output Voltage Accuracy	Nominal Input	---	---	± 1.0	%
Switching Frequency		---	120	---	KHz
Temperature Coefficient		---	± 0.01	± 0.02	% / °C
Isolation Voltage	Standard Series	1000	---	---	Vdc
	High Isolation Series	3000	---	---	
Isolation Resistance	500 Vdc	1000	---	---	MΩ
Isolation Capacitance	1 KHz / 250 mV rms	---	40	---	pF
Line Regulation		---	---	± 0.5	%

## 4. Model Selection Guide :

### 4.1. 1K Vdc Isolation - Single output

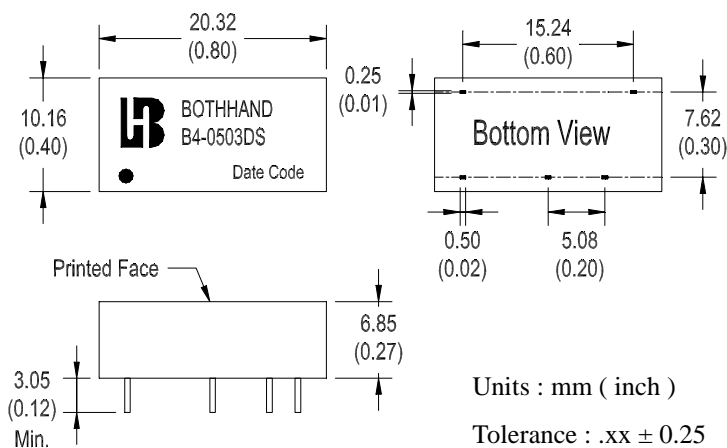
( Specifications typical at Ta = +25 °C, Nominal input voltage, Rated output current unless otherwise noted )

Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
B4-0503DS	5	3.0	200	28	193	50	± 0.5	62
B4-053R3DS		3.3	200	28	212	50	± 0.5	62
B4-0505DS		5.0	200	28	312	50	± 0.5	64
B4-0509DS		9.0	150	26	421	60	± 0.5	64
B4-0512DS		12.0	100	26	375	80	± 0.5	64
B4-1203DS	12	3.0	200	18	81	50	± 0.5	62
B4-123R3DS		3.3	200	18	88	50	± 0.5	62
B4-1205DS		5.0	200	18	130	50	± 0.5	64
B4-1209DS		9.0	150	18	176	60	± 0.5	64
B4-1212DS		12.0	100	18	156	80	± 0.5	64
B4-2403DS	24	3.0	200	5	40	50	± 0.5	62
B4-243R3DS		3.3	200	5	43	50	± 0.5	63
B4-2405DS		5.0	200	4	64	50	± 0.5	65
B4-2409DS		9.0	150	4	88	60	± 0.5	64
B4-2412DS		12.0	100	4	78	80	± 0.5	64
B4-xxxxDS								

Notes :

1. B4-xxxxDS is for Customer Design.
2. Load regulation is for output current change from 0 % to 100 % Max. Load.

### Mechanical Dimension :



Units : mm ( inch )

Tolerance : .xx ± 0.25

( ± 0.01 )

Pin	1K Vdc - Single		Pin	
1	-Vin	+Vin	14	
2	---	---	13	
3			12	
4			Vo (-)	11
5			---	10
6			Vo (+)	9
7	NC	---	8	

Note : " --- " means Omitted

## 4.2. 3K Vdc Isolation - Single output

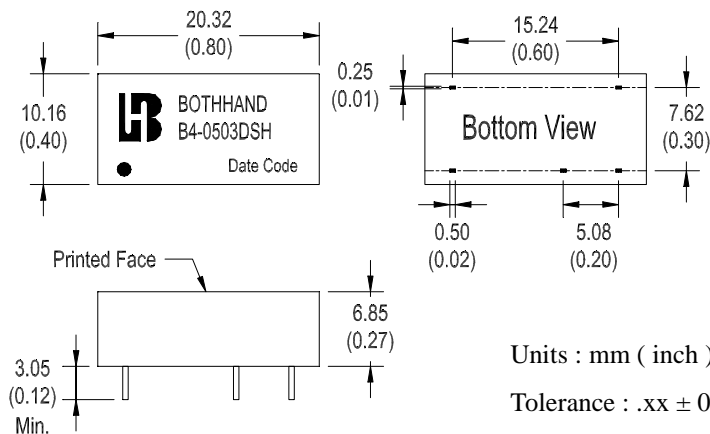
( Specifications typical at Ta = +25 °C, Nominal input voltage, Rated output current unless otherwise noted )

Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
B4-0503DSH	5	3.0	200	28	193	50	± 0.5	62
B4-053R3DSH		3.3	200	28	212	50	± 0.5	62
B4-0505DSH		5.0	200	28	312	50	± 0.5	64
B4-0509DSH		9.0	150	26	421	60	± 0.5	64
B4-0512DSH		12.0	100	26	375	80	± 0.5	64
B4-1203DSH	12	3.0	200	18	81	50	± 0.5	62
B4-123R3DSH		3.3	200	18	88	50	± 0.5	62
B4-1205DSH		5.0	200	18	130	50	± 0.5	64
B4-1209DSH		9.0	150	18	176	60	± 0.5	64
B4-1212DSH		12.0	100	18	156	80	± 0.5	64
B4-2403DSH	24	3.0	200	5	40	50	± 0.5	62
B4-243R3DSH		3.3	200	5	43	50	± 0.5	63
B4-2405DSH		5.0	200	4	64	50	± 0.5	65
B4-2409DSH		9.0	150	4	88	60	± 0.5	64
B4-2412DSH		12.0	100	4	78	80	± 0.5	64
B4-xxxxDSH								

Notes : .

1. B4-xxxxDSH is for Customer Design.
2. Load regulation is for output current change from 0 % to 100 % Max. Load.

### Mechanical Dimension :



Units : mm ( inch )  
Tolerance : .xx ± 0.25  
( ± 0.01 )

Pin	3K Vdc - Single		Pin
1	-Vin	+Vin	14
2			13
3		---	12
4	---		11
5		Vo (-)	10
6		---	9
7	NC	Vo (+)	8

Note : " --- " means Omitted