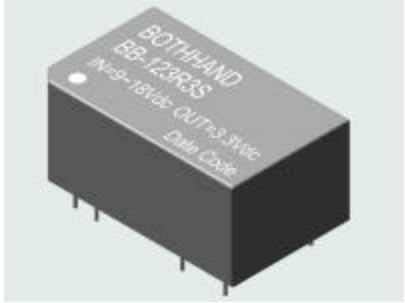


1. Features :

■ Wide 2:1 Input Range	
■ Low Ripple and Noise	
■ Input / Output Isolation 1K Vdc or 3K Vdc	
■ 100 % Burn-In	
■ Input p - Filter	
■ 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 Absolute Voltage Range	12V Input Model	-0.7	12	22.5	Vdc
	24V Input Model	-0.7	24	45	
Output Short circuit duration	Nominal Input Range	Indefinite & Auto-Restart			
Reverse Polarity Input current Limit	---	---	---	1	A
Operating temperature	Output Full Load	-25	---	+71	Deg
Storage temperature		-55	---	+125	

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	12V Input Model	9	12	18	Vdc
	24V Input Model	18	24	36	
Line Regulation	Output full Load	---	---	± 0.5	%
Load Regulation	Single Output Model	---	---	± 0.5	
	Dual Output Model			± 2	
Output Voltage Accuracy	Nominal Input	---	---	± 1.0	
Output Voltage Balance	Dual Output at same Load	---	---	± 1.0	
Switching Frequency	Nominal Input	---	150	---	KHz
Temperature Coefficient		---	± 0.01	± 0.02	% / °
Isolation Voltage	Standard Series	1000	---	---	Vdc
	High Isolation Series	3000	---	---	
Isolation Resistance	500 Vdc	1000	---	---	M?
Isolation Capacitance	1 KHz / 250 mV rms	---	80	---	pF

4. Single Output Selection Guide

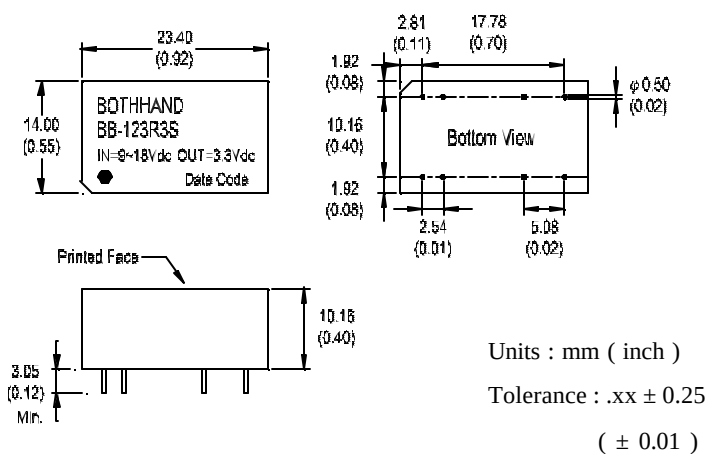
(Specifications typical at Ta = +25 °C, Nominal input voltage, Rated output current unless otherwise noted)

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.
1.0 W Single output Series								
BB-123R3S	9 ~ 18	3.3	300	9	115	75	± 8	72
BB-1205S		5.0	200	9	114	75	± 8	73
BB-1212S		12.0	100	9	135	75	± 8	74
BB-2405S	18 ~ 36	5.0	200	8	57	75	± 8	73
BB-2412S		12.0	100	8	68	75	± 8	73
BB-2415S		15.0	80	8	67	75	± 8	75
2.0 W Single output Series								
BB-1205S2	9 ~ 18	5.0	400	12	222	75	± 8	75
BB-1215S2		15.0	134	12	209	75	± 8	80
BB-2405S2	18 ~ 36	5.0	400	12	113	75	± 8	74
BB-2412S2		12.0	167	12	107	75	± 8	78
BB-2415S2		15.0	134	12	105	75	± 8	80
BB-2418S2		18.0	400	10	111	75	± 8	75
BB-xxxxSx								

Notes

1. BB-xxxxSx is for Customer Design.
2. Load regulation is for output current change from 0 % to 100 % Max. Load.
3. Suffix “H” for 3K Vdc Isolation. (BB-xxxxSxH)

Mechanical Dimension



Pin	1K Vdc - Single		Pin
1	-Vin	+Vin	16
2			15
3	---	---	14
4			13
5			12
6	NC	Vo(-)	11
7	---	---	10
8	NC	Vo(+)	9

Note " --- " means Omitted

5. Dual Output Selection Guide

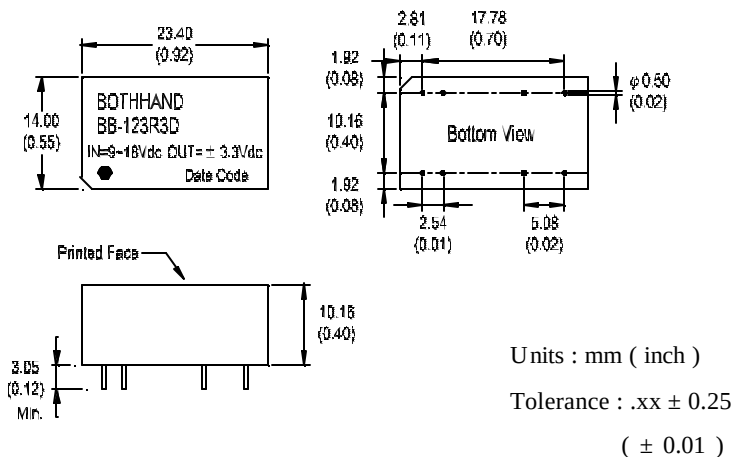
(Specifications typical at Ta = +25 °C, Nominal input voltage, Rated output current unless otherwise noted)

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.
1.0 W Dual output Series								
BB-123R3D	9 ~ 18	± 3.3	± 150	12	115	75	± 8	72
BB-1205D		± 5.0	± 100	12	114	75	± 8	73
BB-2405D	18 ~ 36	± 5.0	± 100	12	57	75	± 8	73
BB-2412D		± 12.0	± 50	12	66	75	± 8	76
BB-2415D		± 15.0	± 40	12	67	75	± 8	75
BB-2418D		± 18.0	± 30	11	58	75	± 8	77
2.0 W Dual output Series								
BB-1205D2	9 ~ 18	± 5.0	400	12	222	75	± 8	75
BB-1212D2		± 12.0	134	12	210	75	± 8	80
BB-2405D2	18 ~ 36	± 5.0	400	12	111	75	± 8	75
BB-2412D2		± 12.0	167	12	105	75	± 8	80
BB-2415D2		± 15.0	134	12	105	75	± 8	80
BB-xxxxDx								

Notes

- BB-xxxxDx is for Customer Design.
- Load regulation is for output current change from 0 % to 100 % Max. Load.
- Suffix “H” for 3K Vdc Isolation. (BB-xxxxDxH)

Mechanical Dimension



Pin	1K Vdc - Dual		Pin
1	-Vin	+Vin	16
2			15
3	---	---	14
4			13
5			12
6	Common	Common	11
7	---	---	10
8	Vo (-)	Vo (+)	9

Note " --- " means Omitted