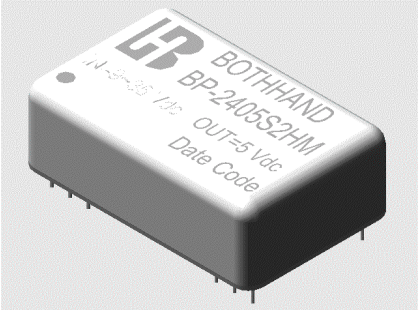
1. Features :

- ■ Wide 4：1 Input Range
- ■ Low Ripple and Noise
- ■ Input / Output Isolation 1.5K Vdc or 3.5K Vdc
- ■ 100 % Burn-In
- ■ Input π - 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	24V Input Model	-0.7	24	45	Vdc
	48V Input Model	-0.7	48	90	
Output Short circuit duration	Nominal Input Range	Indefinite & Auto-Restart			
Reverse Polarity Input current Limit	---	---	---	1	A
Operating temperature	Output Full Load	-25	---	+71	℃
Storage temperature		-55	---	+105	

3. Nominal Input / Output Electrical Specifications :

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

Parameter	Condition	Min.	Typ.	Max.	Unit
Input Voltage Range	24V Input Model	9	24	36	Vdc
	48V Input Model	18	48	75	
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	± 2.0	
Output Voltage Balance	Dual Output at same Load	---	---	± 1.0	
Switching Frequency	Nominal Input	---	250	---	KHz
Temperature Coefficient		---	± 0.01	± 0.02	% / ℃
Isolation Voltage	Standard Series	1500	---	---	Vdc
	High Isolation Series	3500	---	---	
Isolation Resistance	500 Vdc	1000	---	---	MΩ
Isolation Capacitance	1 KHz / 250 mV rms	---	350	---	pF

4. Single Output Selection Guide :

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

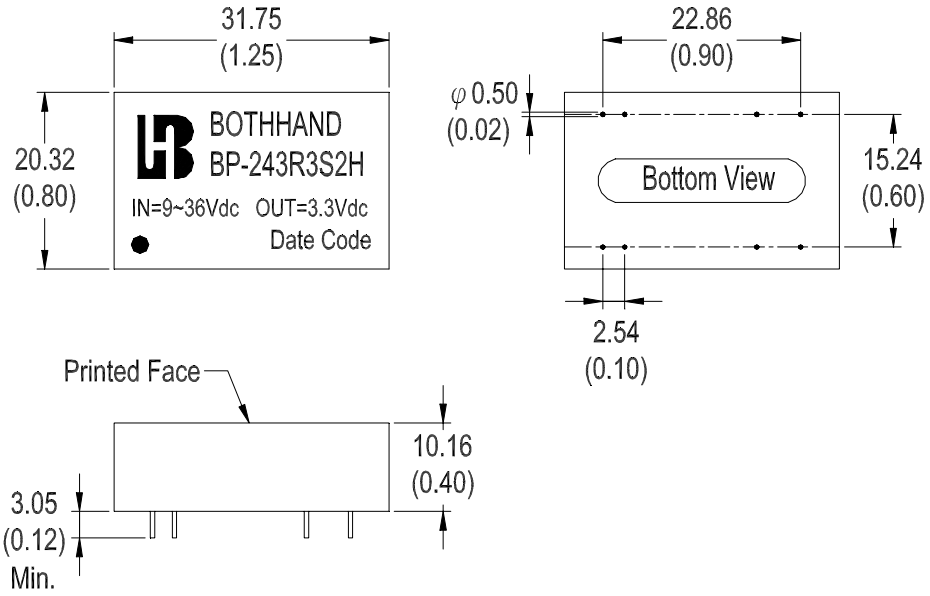
Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
2 W Single output Series								
BP-2405S2	9 ~ 36	5.0	400	19	113	50	± 0.5	74
BP-2412S2		12.0	167	20	110	100	± 0.5	76
BP-2415S2		15.0	134	21	107	120	± 0.5	78
BP-4805S2	18 ~ 75	5.0	400	10	58	50	± 0.5	72
BP-4812S2		12.0	167	12	56	100	± 0.5	75
BP-4815S2		15.0	134	13	55	120	± 0.5	76
4 W Single output Series								
BP-2405S4	9 ~ 36	5.0	800	19	219	50	± 0.5	76
BP-2412S4		12.0	333	20	213	50	± 0.5	78
BP-2415S4		15.0	267	22	209	100	± 0.5	80
BP-4805S4	18 ~ 75	5.0	800	10	105	50	± 0.5	79
BP-4812S4		12.0	333	13	104	100	± 0.5	80
BP-4815S4		15.0	267	15	101	120	± 0.5	83
6 W Single output Series								
BP-2405S6	9 ~ 36	5.0	1200	25	321	50	± 0.5	78
BP-2412S6		12.0	500	27	313	100	± 0.5	80
BP-2412S6		15.0	400	27	309	120	± 0.5	81
BP-4805S6	18 ~ 75	5.0	1200	15	158	50	± 0.5	79
BP-4812S6		12.0	500	17	154	100	± 0.5	81
BP-4815S6		15.0	400	17	152	120	± 0.5	82
BP-xxxxSx								

Notes：

1. Standard output Voltage is 3.3V, 5V, 9V, 12V, 15V, BP-xxxxSx is for Customer Design.
2. Load regulation is for output current change from 0 % to 100 % Max. Load.
3. Suffix “H” for 3.5K Vdc Isolation ….. (BP-xxxxSxH)
4. Suffix “M” for Metal case ……... (BP-xxxxSxM)

Mechanical Dimension： (Single O/P)

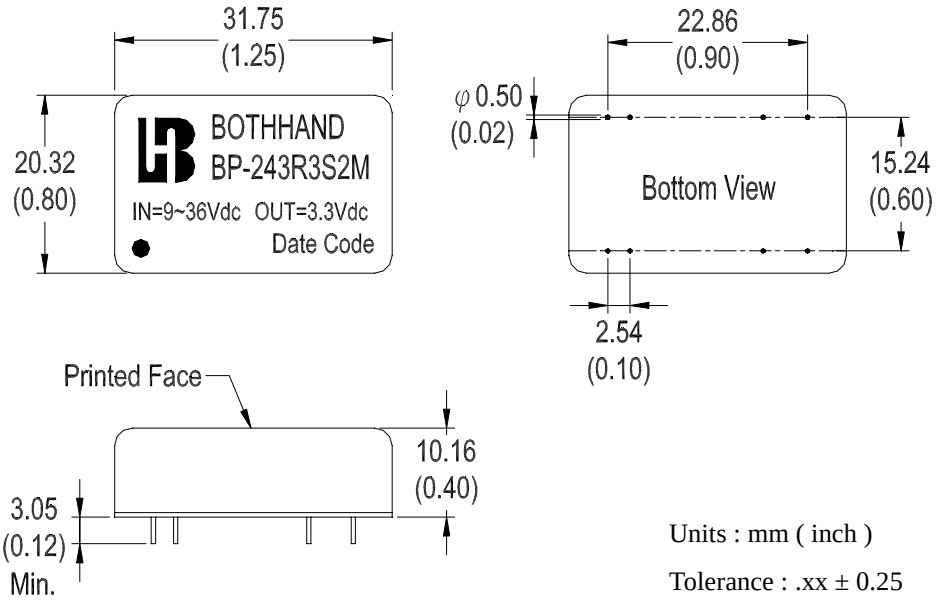
(1). Plastic Case：



Pin	Single Output		Pin
1	---	---	24
2	-Vin	+Vin	23
3			22
4	---	---	21
5			20
6			19
7			18
8			17
9	NC	Vo (-)	16
10	---	---	15
11	NC	Vo (+)	14
12	---	---	13

Note：" --- " means Omitted

(2). Nickel Coated Metal Case：



Units : mm (inch)

Tolerance : .xx ± 0.25

(± 0.01)

5. Dual Output Selection Guide：

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

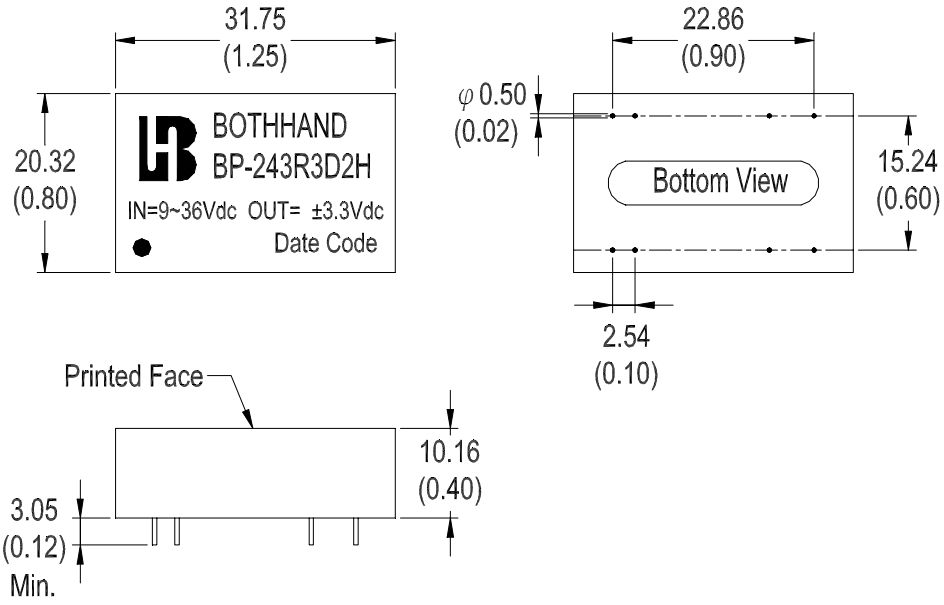
Bothhand Model No.	Input Voltage (Vdc)	Output Voltage (Vdc)	Output Current (mA) Max	Input Current @ No Load (mA) Typ.	Input Current @ Max. Load (mA) Typ.	Output Ripple (mV) Max.	Load Regulation (%) Max.	Efficiency (%) Typ.
2 W Dual output Series								
BP-2405D2	9 ~ 36	± 5.0	± 200	19	116	50	± 2	72
BP-2412D2		± 12.0	± 83	20	111	100	± 2	75
BP-2415D2		± 15.0	± 67	21	112	120	± 2	75
BP-4805D2	18 ~ 75	± 5.0	± 200	10	56	50	± 2	74
BP-4812D2		± 12.0	± 83	12	55	100	± 2	75
BP-4815D2		± 15.0	± 67	13	55	120	± 2	76
4 W Dual output Series								
BP-2405D4	9 ~ 36	± 5.0	± 400	25	214	50	± 2	78
BP-2412D4		± 12.0	± 167	27	209	100	± 2	80
BP-2412D4		± 15.0	± 133	28	208	120	± 2	80
BP-4805D4	18 ~ 75	± 5.0	± 400	18	105	50	± 2	79
BP-4812D4		± 12.0	± 167	20	104	100	± 2	80
BP-4815D4		± 15.0	± 133	20	104	120	± 2	80
6 W Dual output Series								
BP-2405D6	9 ~ 36	± 5.0	± 600	25	325	50	± 2	77
BP-2412D6		± 12.0	± 250	27	313	100	± 2	80
BP-2412D6		± 15.0	± 200	27	313	120	± 2	80
BP-4805D6	18 ~ 75	± 5.0	± 600	18	160	50	± 2	78
BP-4812D6		± 12.0	± 250	20	156	100	± 2	80
BP-4812D6		± 15.0	± 200	20	156	120	± 2	80
BP-xxxxDx								

Notes：

1. BP-xxxxDx is for Customer Design.
2. Load regulation is for Each output current change from 20 % to 100 % Max. Load.
3. Suffix “H” for 3.5K Vdc Isolation …… (BP-xxxxDxH)
4. Suffix “M” for Metal case …….…… (BP-xxxxDxM)

Mechanical Dimension： (Dual O/P)

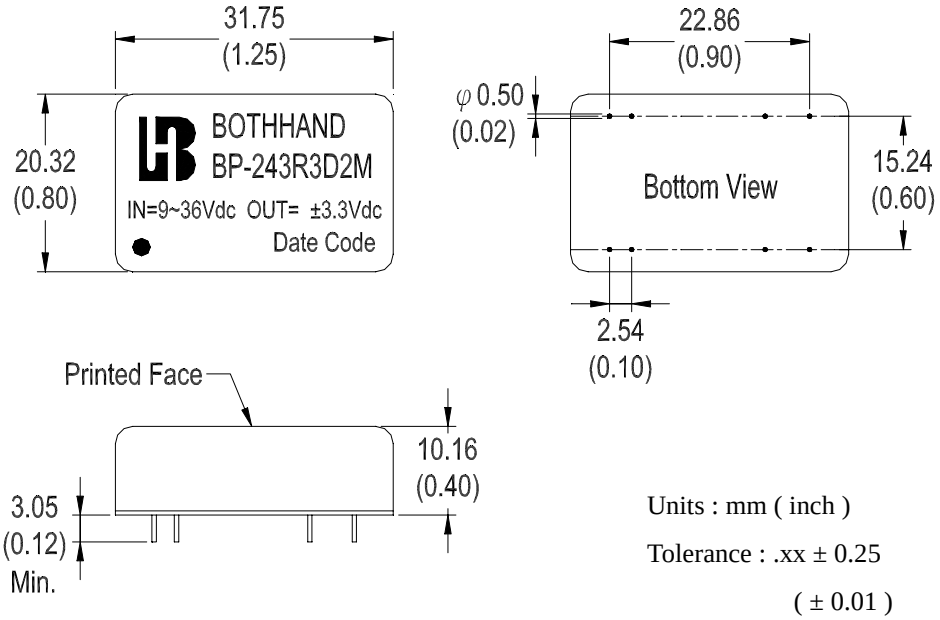
(1). Plastic Case：



Pin	Dual Output		Pin
1	---	---	24
2	-Vin	+Vin	23
3			22
4	---	---	21
5			20
6			19
7			18
8			17
9	Common	Common	16
10	---	---	15
11	Vo (-)	Vo (+)	14
12	---	---	13

Note：” --- “ means Omitted

(2). Nickel Coated Metal Case：



Units : mm (inch)

Tolerance : .xx ± 0.25

(± 0.01)