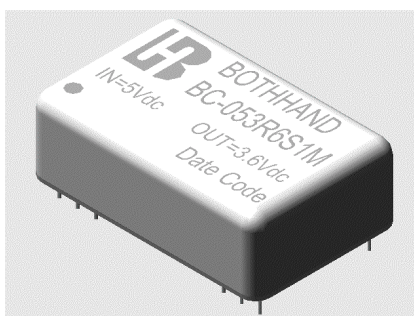


### 1. Features :

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>■ 24 Pin DIL Package</li> </ul>                          |  |
| <ul style="list-style-type: none"> <li>■ Regulated Output &amp; Low Ripple and Noise</li> </ul> |  |
| <ul style="list-style-type: none"> <li>■ Input / Output Isolation 1K Vdc 3K Vdc</li> </ul>      |  |
| <ul style="list-style-type: none"> <li>■ 100 % Burn-In</li> </ul>                               |  |
| <ul style="list-style-type: none"> <li>■ Input <math>\pi</math> - Filter</li> </ul>             |  |
| <ul style="list-style-type: none"> <li>■ Custom Design Available</li> </ul>                     |  |

### 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   |      |
| Output Short circuit duration       | Nominal Input Range | Indefinite & Auto-Restart |      |      |      |
| 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   |        |
| 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            | ---  | 125    | ---    | KHz    |
| Temperature Coefficient |                          | ---  | ± 0.01 | ± 0.02 | % / °C |
| Isolation Voltage       | Standard Series          | 1500 | ---    | ---    | Vdc    |
|                         | High Isolation Series    | 3000 | ---    | ---    |        |
| Isolation Resistance    | 500 Vdc                  | 1000 | ---    | ---    | MΩ     |
| Isolation Capacitance   | 1 KHz / 250 mV rms       | ---  | 60     | ---    | pF     |

### 4. Single Output Selection Guide :

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

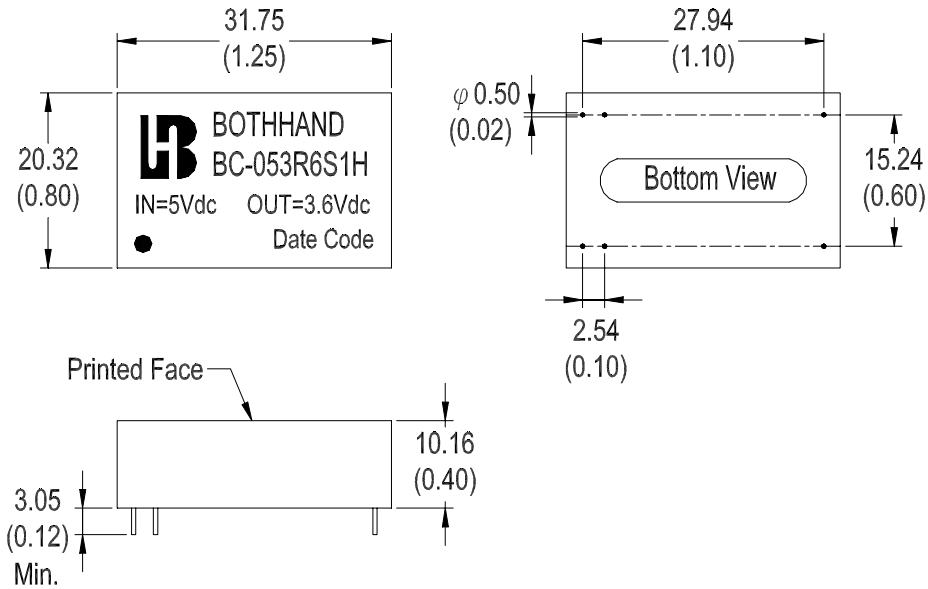
| Bothhand Model No.                  | Input Voltage (Vdc) | Output Voltage (Vdc) | Output Current (mA) Max | Input Current @ No Load (mA) Typ. | Input Current @ Max. Load (mA) Typ. | Output Ripple (mV) Max. | Load Regulation (%) Max. | Efficiency (%) Typ. |
|-------------------------------------|---------------------|----------------------|-------------------------|-----------------------------------|-------------------------------------|-------------------------|--------------------------|---------------------|
| <b>1.5 W Single output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-053R6S1                          | 5                   | 3.6                  | 400                     | 28                                | 443                                 | 60                      | ± 0.5                    | 65                  |
| BC-0505S1                           |                     | 5.0                  | 300                     | 25                                | 454                                 | 60                      | ± 0.5                    | 66                  |
| BC-1205S1                           | 12                  | 5.0                  | 300                     | 16                                | 184                                 | 60                      | ± 0.5                    | 68                  |
| BC-1212S1                           |                     | 12.0                 | 125                     | 16                                | 181                                 | 100                     | ± 0.5                    | 69                  |
| BC-2405S1                           | 24                  | 5.0                  | 300                     | 5                                 | 96                                  | 60                      | ± 0.5                    | 65                  |
| BC-247R2S1                          |                     | 7.2                  | 200                     | 5                                 | 91                                  | 70                      | ± 0.5                    | 66                  |
| BC-2415S1                           |                     | 15.0                 | 100                     | 4                                 | 91                                  | 120                     | ± 0.5                    | 69                  |
| <b>2.0 W Single output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-0505S2                           | 5                   | 5.0                  | 400                     | 45                                | 615                                 | 70                      | ± 0.5                    | 65                  |
| BC-0509S2                           |                     | 9.0                  | 200                     | 43                                | 545                                 | 90                      | ± 0.5                    | 66                  |
| BC-1205S2                           | 12                  | 5.0                  | 400                     | 18                                | 252                                 | 70                      | ± 0.5                    | 66                  |
| BC-1209S2                           |                     | 9.0                  | 200                     | 18                                | 220                                 | 90                      | ± 0.5                    | 68                  |
| BC-1212S2                           |                     | 12.0                 | 167                     | 18                                | 245                                 | 100                     | ± 0.5                    | 68                  |
| BC-2405S2                           | 24                  | 5.0                  | 400                     | 5                                 | 128                                 | 70                      | ± 0.5                    | 65                  |
| BC-2412S2                           |                     | 12.0                 | 167                     | 5                                 | 121                                 | 100                     | ± 0.5                    | 69                  |
| <b>3.0 W Single output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-0505S3                           | 5                   | 5.0                  | 600                     | 50                                | 938                                 | 70                      | ± 0.5                    | 64                  |
| BC-0512S3                           |                     | 12.0                 | 250                     | 45                                | 910                                 | 100                     | ± 0.5                    | 66                  |
| BC-1205S3                           | 12                  | 5.0                  | 600                     | 20                                | 378                                 | 70                      | ± 0.5                    | 66                  |
| BC-1209S3                           |                     | 9.0                  | 333                     | 20                                | 362                                 | 90                      | ± 0.5                    | 69                  |
| BC-1212S3                           |                     | 12.0                 | 250                     | 20                                | 362                                 | 100                     | ± 0.5                    | 69                  |
| BC-2405S3                           | 24                  | 5.0                  | 600                     | 6                                 | 192                                 | 70                      | ± 0.5                    | 65                  |
| BC-2412S3                           |                     | 12.0                 | 250                     | 6                                 | 181                                 | 100                     | ± 0.5                    | 66                  |
| BC-xxxxSx                           |                     |                      |                         |                                   |                                     |                         |                          |                     |

Notes :

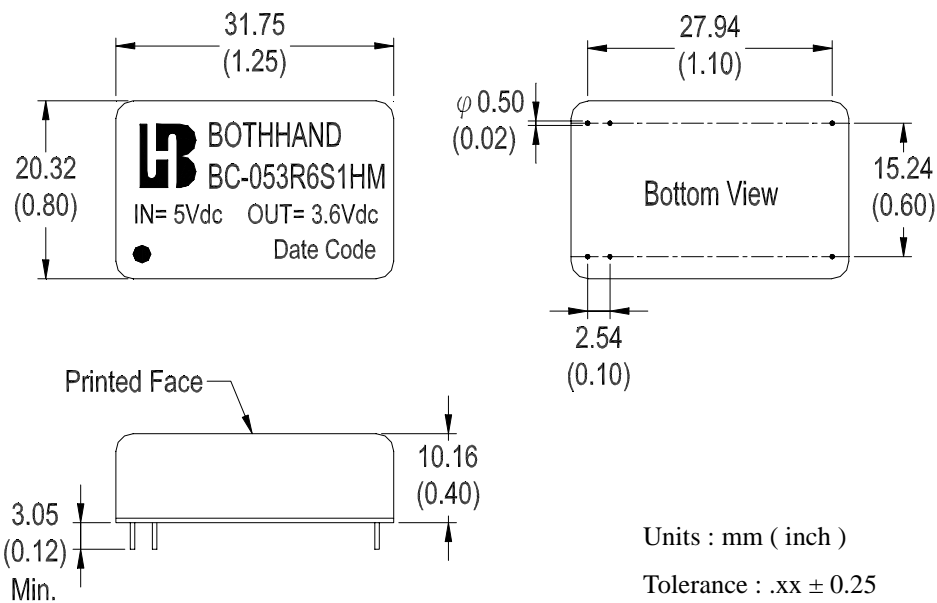
- Standard output voltage is 3.3V, 5V, 9V, 12V, 15V, BC-xxxxSx is for Customer Design.
- Load regulation is for output current change from 0 % to 100 % Max. Load.
- Suffix "H" for 3K Vdc Isolation..... ( BC-xxxxSxH )
- Suffix "M" for Metal case ..... ( BC-xxxxSxHM )

### Mechanical Dimension : ( Single O/P )

#### (1). Plastic Case :



#### (2). Nickel Coated Metal Case :



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

Note : " --- " means Omitted

Units : mm ( inch )

Tolerance : .xx ± 0.25

( ± 0.01 )

### 5. Dual Output Selection Guide :

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

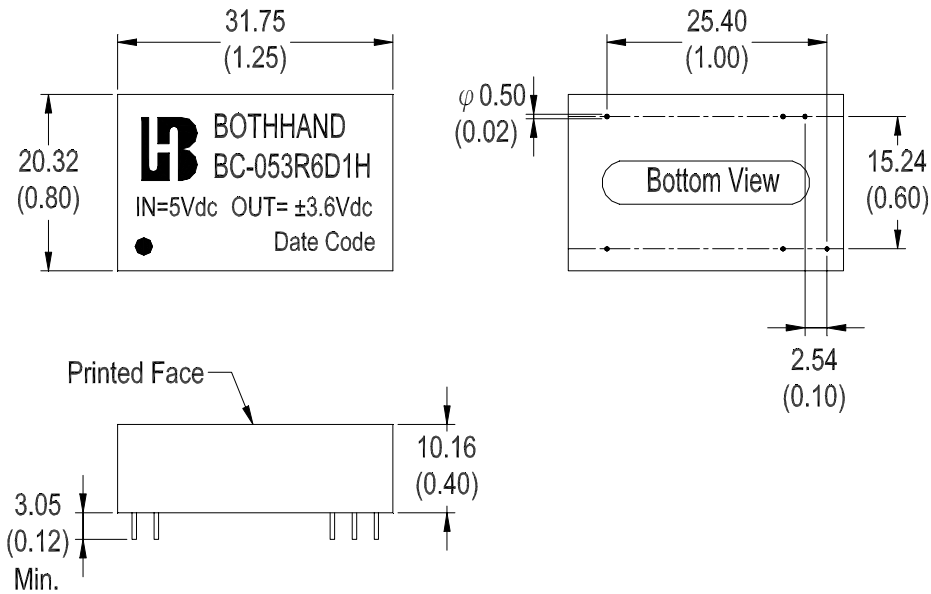
| Bothhand Model No.                | Input Voltage (Vdc) | Output Voltage (Vdc) | Output Current (mA) Max | Input Current @ No Load (mA) Typ. | Input Current @ Max. Load (mA) Typ. | Output Ripple (mV) Max. | Load Regulation (%) Max. | Efficiency (%) Typ. |
|-----------------------------------|---------------------|----------------------|-------------------------|-----------------------------------|-------------------------------------|-------------------------|--------------------------|---------------------|
| <b>1.5 W Dual output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-053R6D1                        | 5                   | ± 3.6                | ± 200                   | 28                                | 443                                 | 70                      | ± 2                      | 65                  |
| BC-0505D1                         |                     | ± 5.0                | ± 150                   | 25                                | 454                                 | 70                      | ± 2                      | 66                  |
| BC-1205D1                         | 12                  | ± 5.0                | ± 150                   | 16                                | 184                                 | 70                      | ± 2                      | 68                  |
| BC-1212D1                         |                     | ± 12.0               | ± 63                    | 16                                | 181                                 | 100                     | ± 2                      | 69                  |
| BC-2405D1                         | 24                  | ± 5.0                | ± 150                   | 5                                 | 96                                  | 70                      | ± 2                      | 65                  |
| BC-247R2D1                        |                     | ± 7.2                | ± 100                   | 5                                 | 91                                  | 75                      | ± 2                      | 66                  |
| BC-2415D1                         |                     | ± 15.0               | ± 50                    | 4                                 | 91                                  | 120                     | ± 2                      | 69                  |
| <b>2.0 W Dual output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-0505D2                         | 5                   | ± 5.0                | ± 200                   | 45                                | 615                                 | 70                      | ± 2                      | 65                  |
| BC-0512D2                         |                     | ± 12.0               | ± 83                    | 43                                | 606                                 | 100                     | ± 2                      | 66                  |
| BC-1205D2                         | 12                  | ± 5.0                | ± 200                   | 18                                | 252                                 | 70                      | ± 2                      | 66                  |
| BC-2405D2                         | 24                  | ± 5.0                | ± 200                   | 5                                 | 128                                 | 70                      | ± 2                      | 65                  |
| BC-2412D2                         |                     | ± 12.0               | ± 83                    | 5                                 | 121                                 | 100                     | ± 2                      | 69                  |
| <b>3.0 W Dual output Series :</b> |                     |                      |                         |                                   |                                     |                         |                          |                     |
| BC-0505D3                         | 5                   | ± 5.0                | ± 300                   | 50                                | 938                                 | 70                      | ± 2                      | 64                  |
| BC-0512D3                         |                     | ± 12.0               | ± 125                   | 45                                | 910                                 | 100                     | ± 2                      | 66                  |
| BC-1205D3                         | 12                  | ± 5.0                | ± 300                   | 20                                | 378                                 | 70                      | ± 2                      | 66                  |
| BC-1212D3                         |                     | ± 12.0               | ± 125                   | 20                                | 362                                 | 100                     | ± 2                      | 69                  |
| BC-2405D3                         | 24                  | ± 5.0                | ± 300                   | 6                                 | 192                                 | 70                      | ± 2                      | 65                  |
| BC-2412D3                         |                     | ± 12.0               | ± 125                   | 6                                 | 181                                 | 100                     | ± 2                      | 69                  |
| BC-2415D3                         |                     | ± 15.0               | ± 100                   | 6                                 | 181                                 | 120                     | ± 2                      | 69                  |
| BC-xxxxDx                         |                     |                      |                         |                                   |                                     |                         |                          |                     |

Notes :

- Standard output voltage is ±5V, ±12V, ±15V, BC-xxxxDx is for Customer Design.
- Load regulation is for Each output current change from 20 % to 100 % Max. Load.
- Suffix "H" for 3K Vdc Isolation..... ( BC-xxxxDxH )
- Suffix "M" for Metal case ..... ( BC-xxxxDxHM )

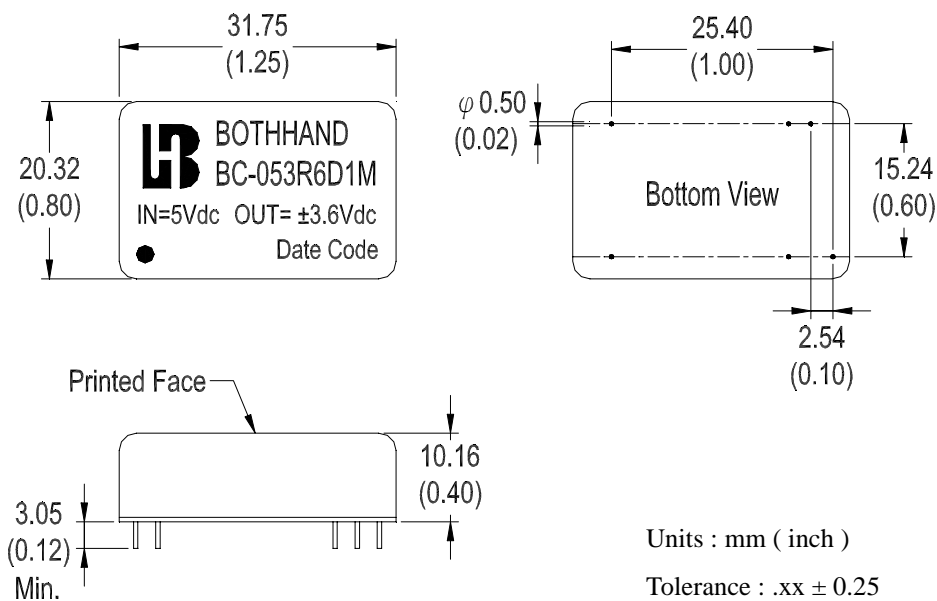
### Mechanical Dimension ( Dual O/P )

#### (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   |             |        | 16  |
| 10  | Common      | Vo (+) | 15  |
| 11  |             | ---    | 14  |
| 12  | ---         | Vo (-) | 13  |

#### (2). Nickel Coated Metal Case :



Note : " --- " means Omitted

Units : mm ( inch )

Tolerance : .xx ± 0.25

( ± 0.01 )