



# Dual Digit LED Displays BD-A/C, BD-E/F Series

7-segment

| Digit Size       | Part No.     |                      | Chip                   |                                   | Absolute Maximum Ratings |         |         |          | Electro-optical Data(At 10mA) |      |                         | Drawing No. |
|------------------|--------------|----------------------|------------------------|-----------------------------------|--------------------------|---------|---------|----------|-------------------------------|------|-------------------------|-------------|
|                  | Common Anode | Common Cathode       | Material/Emitted Color | Peak Wave Length $\lambda_p$ (nm) | $\Delta \lambda$ (nm)    | Pd (mw) | If (mA) | Ifp (mA) | Vf (v)                        |      | Iv. Typ. Per.Seg. (mcd) |             |
|                  |              |                      |                        |                                   |                          |         |         |          | Typ.                          | Max. |                         |             |
| 0.30" Dual-Digit | BD-E311RD    | BD-F311RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.5                     | DD-07       |
|                  | BD-E315RD    | BD-F315RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.0                     |             |
|                  | BD-E315RE    | BD-F315RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-E312RD    | BD-F312RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 2.5                     |             |
|                  | BD-E313RD    | BD-F313RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |
|                  | BD-E314RD    | BD-F314RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 2.5                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-E316RD    | BD-F316RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 5.0                     |             |
| BD-E31DRD        | BD-F31DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 6.0  |                         |             |
| 0.36" Dual-Digit | BD-E321RD    | BD-F321RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.6                     | DD-08       |
|                  | BD-E325RD    | BD-F325RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |
|                  | BD-E325RE    | BD-F325RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-E322RD    | BD-F322RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |
|                  | BD-E323RD    | BD-F323RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |
|                  | BD-E324RD    | BD-F324RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-E326RD    | BD-F326RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |
| BD-E32DRD        | BD-F32DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.0  |                         |             |
| 0.39" Dual-Digit | BD-A431ND    | BD-C431ND            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-09       |
|                  | BD-A435ND    | BD-C435ND            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |
|                  | BD-A435ND    | BD-C435ND            |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A432ND    | BD-C432ND            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |
|                  | BD-A433ND    | BD-C433ND            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |
|                  | BD-A434ND    | BD-C434ND            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A436ND    | BD-C436ND            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |
| BD-A43DND        | BD-C43DND    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |
| 0.40" Dual-Digit | BD-A401ND    | BD-C401ND            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-10       |
|                  | BD-A405ND    | BD-C405ND            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |
|                  | BD-A405NE    | BD-C405NE            |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A402ND    | BD-C402ND            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |
|                  | BD-A403ND    | BD-C403ND            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |
|                  | BD-A404NE    | BD-C404NE            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A406ND    | BD-C406ND            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |
| BD-A40DND        | BD-C40DND    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |
| 0.40" Dual-Digit | BD-A401ND-A  | BD-C401ND-A          | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-11       |
|                  | BD-A405ND-A  | BD-C405ND-A          | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |
|                  | BD-A405NE-A  | BD-C405NE-A          |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A402ND-A  | BD-C402ND-A          | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |
|                  | BD-A403ND-A  | BD-C403ND-A          | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |
|                  | BD-A404NE-A  | BD-C404NE-A          | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-A406ND-A  | BD-C406ND-A          | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |
|                  | BD-A40DND-A  | BD-C40DND-A          | GaAlAs/ DH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 7.5                     |             |
|                  | BD-E401RD    | BD-F401RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-12       |
|                  | BD-E405RD    | BD-F405RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |
|                  | BD-E405RE    | BD-F405RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                  | BD-E402RD    | BD-F402RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |
|                  | BD-E403RD    | BD-F403RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |
|                  | BD-E404RD    | BD-F404RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |
|                  |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |
| BD-E406RD        | BD-F406RD    | GaAlAs/ SH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 6.5  |                         |             |
| BD-E40DRD        | BD-F40DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |



# Dual Digit LED Displays BD-A/C, BD-E/F Series

7-segment

|                                                                |                                                              |
|----------------------------------------------------------------|--------------------------------------------------------------|
| <p><b>DD-07</b> <b>BD-<math>\frac{E}{F}</math> 31xRD</b></p>   | <p><b>DD-08</b> <b>BD-<math>\frac{E}{F}</math> 32xRD</b></p> |
| <p><b>DD-09</b> <b>BD-<math>\frac{A}{C}</math> 43xND</b></p>   | <p><b>DD-10</b> <b>BD-<math>\frac{A}{C}</math> 40xND</b></p> |
| <p><b>DD-11</b> <b>BD-<math>\frac{A}{C}</math> 40xND-A</b></p> | <p><b>DD-12</b> <b>BD-<math>\frac{E}{F}</math> 40xRD</b></p> |

NOTES: 1.All Dimensions are in millimeters(inches).

3.Specifications are subject to change without notice.

2.Tolerance is  $\pm 0.25\text{mm}(.010")$ .

4.NP:No Pin. 5.NC:No Connect.

**AMERICAN BRIGHT**

(714) 257-0800 FAX (714) 257-1310 • © 2000 American Bright Optoelectronics Corporation. Specifications subject to change without notice. **143**