



# Single Digit LED Displays BF-A/C, BF-U, BS-A/C Series

7-segment,  $\pm 1$  overflow

| 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<br>$\lambda_p$ (nm) | $\Delta \lambda$ (nm)    | Pd (mw) | If (mA) | Ifp (mA) | Vf (v)                        |      | Iv. Typ. Per.Seg. (mcd) |             |       |       |
|                              |                    |                      |                        |                                      |                          |         |         |          | Typ.                          | Max. |                         |             |       |       |
| 0.36" Overflow Single-Digit  | BF-A321RD          | BF-C321RD            | GaAsP/Red              | 655                                  | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.6                     | SD-13       |       |       |
|                              | BF-A325RD          | BF-C325RD            | GaP/ Bright Red        | 700                                  | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |       |       |
|                              | BF-A325RE          | BF-C325RE            |                        |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BF-A322RD          | BF-C322RD            | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |       |       |
|                              | BF-A323RD          | BF-C323RD            | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |       |       |
|                              | BF-A324RD          | BF-C324RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BF-A326RD          | BF-C326RD            | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |       |       |
| BF-A32DRD                    | BF-C32DRD          | GaAlAs/ DH Super Red | 660                    | 20                                   | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.0  |                         |             |       |       |
| 0.39" Single-Digit           | BS-A341RD          | BS-C341RD            | GaAsP/Red              | 655                                  | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.6                     | SD-14       |       |       |
|                              | BS-A345RD          | BS-C345RD            | GaP/ Bright Red        | 700                                  | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |       |       |
|                              | BS-A345RE          | BS-C345RE            |                        |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A342RD          | BS-C342RD            | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |       |       |
|                              | BS-A343RD          | BS-C343RD            | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |       |       |
|                              | BS-A344RD          | BS-C344RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A346RD          | BS-C346RD            | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |       |       |
|                              | BS-A34DRD          | BS-C34DRD            | GaAlAs/ DH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 7.0                     |             |       |       |
|                              | 0.39" Single-Digit | BS-A341RD-A          | BS-C341RD-A            | GaAsP/Red                            | 655                      | 40      | 80      | 40       | 200                           | 1.7  | 2.0                     |             | 0.6   | SD-15 |
|                              |                    | BS-A345RD-A          | BS-C345RD-A            | GaP/ Bright Red                      | 700                      | 90      | 40      | 15       | 50                            | 2.2  | 2.5                     |             | 1.2   |       |
|                              |                    | BS-A345RE-A          | BS-C345RE-A            |                                      |                          |         |         |          |                               |      |                         |             |       |       |
| BS-A342RD-A                  |                    | BS-C342RD-A          | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |       |       |
| BS-A343RD-A                  |                    | BS-C343RD-A          | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |       |       |
| BS-A344RD-A                  |                    | BS-C344RD-A          | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
| BS-A346RD-A                  |                    | BS-C346RD-A          | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |       |       |
| BS-A34DRD-A                  |                    | BS-C34DRD-A          | GaAlAs/ DH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 7.0                     |             |       |       |
| 0.39" Alpha-Numeric Displays |                    | BS-A341RD-B          | BS-C341RD-B            | GaAsP/Red                            | 655                      | 40      | 80      | 40       | 200                           | 1.7  | 2.0                     | 0.6         | SD-16 |       |
|                              | BS-A345RD-B        | BS-C345RD-B          | GaP/ Bright Red        | 700                                  | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |       |       |
|                              | BS-A345RE-B        | BS-C345RE-B          |                        |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A342RD-B        | BS-C342RD-B          | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 2.8                     |             |       |       |
|                              | BS-A343RD-B        | BS-C343RD-B          | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.2                     |             |       |       |
|                              | BS-A344RD-B        | BS-C344RD-B          | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 2.8                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A346RD-B        | BS-C346RD-B          | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 5.0                     |             |       |       |
| BS-A34DRD-B                  | BS-C34DRD-B        | GaAlAs/ DH Super Red | 660                    | 20                                   | 80                       | 30      | 150     | 1.7      | 2.5                           | 10.0 |                         |             |       |       |
| 0.40" Single-Digit           | BS-A401RD          | BS-C401RD            | GaAsP/Red              | 655                                  | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.6                     | SD-17       |       |       |
|                              | BS-A405RD          | BS-C405RD            | GaP/ Bright Red        | 700                                  | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |       |       |
|                              | BS-A405RE          | BS-C405RE            |                        |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A402RD          | BS-C402RD            | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |       |       |
|                              | BS-A403RD          | BS-C403RD            | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |       |       |
|                              | BS-A404RD          | BS-C404RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BS-A406RD          | BS-C406RD            | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |       |       |
| BS-A40DRD                    | BS-C40DRD          | GaAlAs/ DH Super Red | 660                    | 20                                   | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.0  |                         |             |       |       |
| 0.40" Overflow Single-Digit  | BF-U401RD          |                      | GaAsP/Red              | 655                                  | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.6                     | SD-18       |       |       |
|                              | BF-U405RD          |                      | GaP/ Bright Red        | 700                                  | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.2                     |             |       |       |
|                              | BF-U405RE          |                      |                        |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BF-U402RD          |                      | GaP/ Green             | 568                                  | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.0                     |             |       |       |
|                              | BF-U403RD          |                      | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.0                     |             |       |       |
|                              | BF-U404RD          |                      | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.0                     |             |       |       |
|                              |                    |                      | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |       |       |
|                              | BF-U406RD          |                      | GaAlAs/ SH Super Red   | 660                                  | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.0                     |             |       |       |
| BF-U40DRD                    |                    | GaAlAs/ DH Super Red | 660                    | 20                                   | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.0  |                         |             |       |       |

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| <p><b>SD-13</b>      <b>BF- <math>\frac{A}{C}</math> 32xRD</b></p> <p>Top view dimensions: 9.10(360), 14.00(551), 7.50(295), 0.80(031), 2.54(100), 0.50(020), 1.1(043), 0.25(010), 5.08(200), 8.50(335), 3.00(118)MIN.</p> <p>Pinout: BF-A32xRD 1,6. Pins: B, C, H, J, D, DP. NC: 4, 5, 10.</p>     | <p><b>SD-14</b>      <b>BS- <math>\frac{A}{C}</math> 34xRD</b></p> <p>Top view dimensions: 6.20(244), 10.00(390), 12.90(508), 9.80(386), 1.2(047), 0.25(010), 7.62(300), 6.90(272), 3.00(118)MIN.</p> <p>Pinout: BS-A34xRD 3,8. Pins: A, B, C, D, E, F, G, DP. NC: 10, 9, 7, 5, 4, 2, 1, 6.</p>                                                     |
| <p><b>SD-15</b>      <b>BS- <math>\frac{A}{C}</math> 34xRD-A</b></p> <p>Top view dimensions: 6.20(244), 10.00(390), 12.90(508), 9.80(386), 1.2(047), 0.25(010), 7.62(300), 6.90(272), 3.00(118)MIN.</p> <p>Pinout: BS-A34xRD-A 1,6. Pins: A, B, C, D, E, F, G, DP. NC: 10, 9, 8, 5, 4, 2, 3, 7.</p> | <p><b>SD-16</b>      <b>BS- <math>\frac{A}{C}</math> 34xRD-B</b></p> <p>Top view dimensions: 6.3(248), 10.0(390), 23.6(929), 9.9(389), 1.2(047), 0.50(020), 7.62(300), 7.0(276), 4.5(177)TYP.</p> <p>Pinout: BS-A34xRD-B 4,13,17. Pins: A, B, C, D, E, F, G, H, I, J, K, L, M, N, P, DP. NC: 18, 15, 11, 8, 6, 3, 5, 12, 4, 2, 1, 10, 9, 7, 12.</p> |
| <p><b>SD-17</b>      <b>BS- <math>\frac{A}{C}</math> 40xRD</b></p> <p>Top view dimensions: 5.40(213), 10.16(400), 18.70(736), 9.80(386), 1.4(055), 0.25(01), 7.62(30), 5.10(201), 3.00(118)MIN.</p> <p>Pinout: BS-A40xxx 3,14. Pins: A, B, C, D, E, F, G, DP. NP: 4, 5, 6, 12.</p>                  | <p><b>SD-18</b>      <b>BF-U40xRD</b></p> <p>Top view dimensions: 8B, 10.10(400), 18.70(736), 9.80(386), 1.4(055), 0.25(010), 7.62(300), 7.80(307), 3.00(118)MIN.</p> <p>Pinout: BF-U40xRD 4,12. Pins: B, C, G, H, J, DP. NP: 2, 9.</p>                                                                                                             |

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

3.Specifications are subject to change without notice.

2.Tolerance isA 0.25mm(.010D).

4.NP:No Pin.

5.NC:No Connect.