



# Single Digit LED Displays BS-A/C, BF-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 $\lambda_p$ (nm) | $\Delta \lambda$ (nm)    | Pd (mw) | If (mA) | Ifp (mA) | Vf (v)                        |      | Iv. Typ. Per.Seg. (mcd) |             |
|                             |                   |                       |                        |                                   |                          |         |         |          | Typ.                          | Max. |                         |             |
| 1.50" Single-Digit          | BS-AB31RD         | BS-CB31RD             | GaAsP/Red              | 655                               | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-49       |
|                             | BS-AB35RD         | BS-CB35RD             | GaP/ Bright Red        | 700                               | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                             | BS-AB35RE         | BS-CB35RE             |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB32RD         | BS-CB32RD             | GaP/ Green             | 568                               | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                             | BS-AB33RD         | BS-CB33RD             | GaAsP/GaP/ Yellow      | 585                               | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                             | BS-AB34RD         | BS-CB34RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                             |                   | GaAsP/GaP/ Orange     |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB36RD         | BS-CB36RD             | GaAlAs/ SH Super Red   | 660                               | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
| BS-AB3FRD                   | BS-CB3FRD         | GaAlAs/ DDH Super Red | 660                    | 20                                | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.50" Overflow Single-Digit | BF-AB31RD         | BF-CB31RD             | GaAsP/Red              | 655                               | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-50       |
|                             | BF-AB35RD         | BF-CB35RD             | GaP/ Bright Red        | 700                               | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                             | BF-AB35RE         | BF-CB35RE             |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BF-AB32RD         | BF-CB32RD             | GaP/ Green             | 568                               | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                             | BF-AB33RD         | FS-CB33RD             | GaAsP/GaP/ Yellow      | 585                               | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                             | BF-AB34RD         | BF-CB34RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                             |                   | GaAsP/GaP/ Orange     |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BF-AB36RD         | BF-CB36RD             | GaAlAs/ SH Super Red   | 660                               | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
| BF-AB3FRD                   | BF-CB3FRD         | GaAlAs/ DDH Super Red | 660                    | 20                                | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.50" Single-Digit          | BS-AB41RD         | BS-CB41RD             | GaAsP/Red              | 655                               | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-51       |
|                             | BS-AB45RD         | BS-CB45RD             | GaP/ Bright Red        | 700                               | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                             | BS-AB45RE         | BS-CB45RE             |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB42RD         | BS-CB42RD             | GaP/ Green             | 568                               | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                             | BS-AB43RD         | BS-CB43RD             | GaAsP/GaP/ Yellow      | 585                               | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                             | BS-AB44RD         | BS-CB44RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                             |                   | GaAsP/GaP/ Orange     |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB46RD         | BS-CB46RD             | GaAlAs/ SH Super Red   | 660                               | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
|                             | BS-AB4FRD         | BS-CB4FRD             | GaAlAs/ DDH Super Red  | 660                               | 20                       | 160     | 30      | 150      | 4.0                           | 5.0  | 15.0                    |             |
|                             | BS-AB51RD         | BS-CB51RD             | GaAsP/Red              | 655                               | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     |             |
| BS-AB55RD                   | BS-CB55RD         | GaP/ Bright Red       | 700                    | 90                                | 80                       | 15      | 50      | 4.4      | 5.0                           | 3.5  |                         |             |
| BS-AB55RE                   | BS-CB55RE         |                       |                        |                                   |                          |         |         |          |                               |      |                         |             |
| BS-AB52RD                   | BS-CB52RD         | GaP/ Green            | 568                    | 30                                | 160                      | 30      | 150     | 4.4      | 5.0                           | 5.0  |                         |             |
| BS-AB53RD                   | BS-CB53RD         | GaAsP/GaP/ Yellow     | 585                    | 35                                | 160                      | 30      | 150     | 4.2      | 5.0                           | 4.0  |                         |             |
| BS-AB54RD                   | BS-CB54RD         | GaAsP/GaP/ Hi-Eff.Red | 635                    | 45                                | 160                      | 30      | 150     | 4.0      | 5.0                           | 5.0  |                         |             |
|                             | GaAsP/GaP/ Orange |                       |                        |                                   |                          |         |         |          |                               |      |                         |             |
| BS-AB56RD                   | BS-CB56RD         | GaAlAs/ SH Super Red  | 660                    | 20                                | 160                      | 30      | 150     | 3.4      | 5.0                           | 10.0 |                         |             |
| BS-AB5FRD                   | BS-CB5FRD         | GaAlAs/ DDH Super Red | 660                    | 20                                | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.80" Single-Digit          | BS-AB01RD         | BS-CB01RD             | GaAsP/Red              | 655                               | 40                       | 240     | 40      | 200      | 5.1                           | 6.0  | 4.5                     | SD-53       |
|                             | BS-AB05RD         | BS-CB05RD             | GaP/ Bright Red        | 700                               | 90                       | 120     | 15      | 50       | 6.6                           | 7.5  | 5.5                     |             |
|                             | BS-AB05RE         | BS-CB05RE             |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB02RD         | BS-CB02RD             | GaP/ Green             | 568                               | 30                       | 240     | 30      | 150      | 6.6                           | 7.5  | 7.0                     |             |
|                             | BS-AB03RD         | BS-CB03RD             | GaAsP/GaP/ Yellow      | 585                               | 35                       | 240     | 30      | 150      | 6.3                           | 7.5  | 6.0                     |             |
|                             | BS-AB04RD         | BS-CB04RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 240     | 30      | 150      | 6.0                           | 7.5  | 7.0                     |             |
|                             |                   | GaAsP/GaP/ Orange     |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BS-AB06RD         | BS-CB06RD             | GaAlAs/ SH Super Red   | 660                               | 20                       | 240     | 30      | 150      | 5.1                           | 7.5  | 12.0                    |             |
| BS-AB0FRD                   | BS-CB0FRD         | GaAlAs/ DDH Super Red | 660                    | 20                                | 240                      | 30      | 150     | 6.0      | 7.5                           | 17.0 |                         |             |
| 1.80" Overflow Single-Digit | BF-AB01RD         | BF-CB01RD             | GaAsP/Red              | 655                               | 40                       | 240     | 40      | 200      | 5.1                           | 6.0  | 4.5                     | SD-54       |
|                             | BF-AB05RD         | BF-CB05RD             | GaP/ Bright Red        | 700                               | 90                       | 120     | 15      | 50       | 6.6                           | 7.5  | 5.5                     |             |
|                             | BF-AB05RE         | BF-CB05RE             |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BF-AB02RD         | BF-CB02RD             | GaP/ Green             | 568                               | 30                       | 240     | 30      | 150      | 6.6                           | 7.5  | 7.0                     |             |
|                             | BF-AB03RD         | BF-CB03RD             | GaAsP/GaP/ Yellow      | 585                               | 35                       | 240     | 30      | 150      | 6.3                           | 7.5  | 6.0                     |             |
|                             | BF-AB04RD         | BF-CB04RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 240     | 30      | 150      | 6.0                           | 7.5  | 7.0                     |             |
|                             |                   | GaAsP/GaP/ Orange     |                        |                                   |                          |         |         |          |                               |      |                         |             |
|                             | BF-AB06RD         | BF-CB06RD             | GaAlAs/ SH Super Red   | 660                               | 20                       | 240     | 30      | 150      | 5.1                           | 7.5  | 12.0                    |             |
| BF-AB0FRD                   | BF-CB0FRD         | GaAlAs/ DDH Super Red | 660                    | 20                                | 240                      | 30      | 150     | 6.0      | 7.5                           | 17.0 |                         |             |



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7-segment,  $\pm 1$  overflow

|                                                                                                                                                         |                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>SD-49 BS-<math>\overset{A}{\underset{C}{B}}3 \times RD</math></b></p> <p><b>SD-50 BF-<math>\overset{A}{\underset{C}{B}}3 \times RD</math></b></p> | <p><b>SD-51 BS-<math>\overset{A}{\underset{C}{B}}4 \times RD</math></b></p> <p><b>SD-52 BS-<math>\overset{A}{\underset{C}{B}}5 \times RD</math></b></p> |
| <p><b>SD-53 BS-<math>\overset{A}{\underset{C}{B}}0 \times RD</math></b></p> <p><b>SD-54 BF-<math>\overset{A}{\underset{C}{B}}0 \times RD</math></b></p> |                                                                                                                                                         |

NOTES: 1.All Dimensions are in millimeters( inches).  
3.Specifications are subject to change without notice.

2.Tolerance is  $\pm 0.25\text{mm}(.010^\circ)$ .  
4.NP:No Pin. 5.NC:No Connect.

**AMERICAN BRIGHT**