



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

16-segment,  $\pm 1$  overflow, 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. |                         |             |       |
| 0.52" Dual-Digit             | BD-A531RD    | BD-C531RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-19       |       |
|                              | BD-A535RD    | BD-C535RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |       |
|                              | BD-A535RE    | BD-C535RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A532RD    | BD-C532RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |       |
|                              | BD-A533RD    | BD-C533RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |       |
|                              | BD-A534RD    | BD-C534RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A536RD    | BD-C536RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |       |
| BD-A53DRD                    | BD-C53DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |       |
| 0.54" Alpha-Numeric Displays | BD-E521RD    | BD-F521RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-20       |       |
|                              | BD-E525RD    | BD-F525RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |       |
|                              | BD-E525RE    | BD-F525RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-E522RD    | BD-F522RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |       |
|                              | BD-E523RD    | BD-F523RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |       |
|                              | BD-E524RD    | BD-F524RD            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-E526RD    | BD-F526RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |       |
| BD-E52DRD                    | BD-F52DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |       |
| 0.56" Dual-Digit             | BD-A511RD    | BD-C511RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.8                     | DD-21       |       |
|                              | BD-A515RD    | BD-C515RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.5                     |             |       |
|                              | BD-A515RE    | BD-C515RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A512RD    | BD-C512RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.5                     |             |       |
|                              | BD-A513RD    | BD-C513RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.5                     |             |       |
|                              | BD-A514RE    | BD-C514RE            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.5                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A516RD    | BD-C516RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.5                     |             |       |
| BD-A51DRD                    | BD-C51DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.5  |                         |             |       |
| 0.56" Overflow Dual-Digit    | BG-A511RD    | BG-C511RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.9                     | DD-22       |       |
|                              | BG-A515RD    | BG-C515RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.6                     |             |       |
|                              | BG-A515RE    | BG-C515RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BG-A512RD    | BG-C512RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.8                     |             |       |
|                              | BG-A513RD    | BG-C513RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.8                     |             |       |
|                              | BG-A514RE    | BG-C514RE            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.6                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BG-A516RD    | BG-C516RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.8                     |             |       |
| BG-A51DRD                    | BG-C51DRD    | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.8  |                         |             |       |
| 0.56" Dual-Digit             | BD-A541RD    | BD-C541RD            | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.9                     | DD-23       |       |
|                              | BD-A545RD    | BD-C545RD            | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.6                     |             |       |
|                              | BD-A545RE    | BD-C545RE            |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A542RD    | BD-C542RD            | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.8                     |             |       |
|                              | BD-A543RD    | BD-C543RD            | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.8                     |             |       |
|                              | BD-A544RE    | BD-C544RE            | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.6                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-A546RD    | BD-C546RD            | GaAlAs/ SH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 6.8                     |             |       |
|                              | BD-A54DRD    | BD-C54DRD            | GaAlAs/ DH Super Red   | 660                               | 20                       | 80      | 30      | 150      | 1.7                           | 2.5  | 7.8                     |             |       |
|                              | BD-E541RD-A  | BD-F541RD-A          | GaAsP/Red              | 655                               | 40                       | 80      | 40      | 200      | 1.7                           | 2.0  | 0.9                     |             | DD-24 |
|                              | BD-E545RD-A  | BD-F545RD-A          | GaP/ Bright Red        | 700                               | 90                       | 40      | 15      | 50       | 2.2                           | 2.5  | 1.6                     |             |       |
|                              | BD-E545RE-A  | BD-F545RE-A          |                        |                                   |                          |         |         |          |                               |      |                         |             |       |
|                              | BD-E542RD-A  | BD-F542RD-A          | GaP/ Green             | 568                               | 30                       | 80      | 30      | 150      | 2.2                           | 2.5  | 3.8                     |             |       |
|                              | BD-E543RD-A  | BD-F543RD-A          | GaAsP/GaP/ Yellow      | 585                               | 35                       | 80      | 30      | 150      | 2.1                           | 2.5  | 2.8                     |             |       |
|                              | BD-E544RE-A  | BD-F544RE-A          | GaAsP/GaP/ Hi-Eff.Red  | 635                               | 45                       | 80      | 30      | 150      | 2.0                           | 2.5  | 3.6                     |             |       |
|                              |              |                      | GaAsP/GaP/ Orange      |                                   |                          |         |         |          |                               |      |                         |             |       |
| BD-E546RD-A                  | BD-F546RD-A  | GaAlAs/ SH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 6.8  |                         |             |       |
| BD-E54DRD-A                  | BD-F54DRD-A  | GaAlAs/ DH Super Red | 660                    | 20                                | 80                       | 30      | 150     | 1.7      | 2.5                           | 7.8  |                         |             |       |



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16-segment,  $\pm 1$  overflow, 7-segment

|                                                             |                                                               |
|-------------------------------------------------------------|---------------------------------------------------------------|
| <p><b>DD-19</b> <b>BD-<math>\frac{A}{C}</math>53xRD</b></p> | <p><b>DD-20</b> <b>BD-<math>\frac{E}{F}</math>52xRD</b></p>   |
| <p><b>DD-21</b> <b>BD-<math>\frac{A}{C}</math>51xRD</b></p> | <p><b>DD-22</b> <b>BG-<math>\frac{A}{C}</math>51xRD</b></p>   |
| <p><b>DD-23</b> <b>BD-<math>\frac{A}{C}</math>54xRD</b></p> | <p><b>DD-24</b> <b>BD-<math>\frac{E}{F}</math>54xRD-A</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.

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