

# SINGLE DIGIT LED DISPLAYS

| 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. |                         |             |
| 1.00" Alpha-Numeric Displays | BS-AA21RD    | BS-CA21RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-43       |
|                              | BS-AA25RD    | BS-CA25RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AA25RE    | BS-CA25RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA22RD    | BS-CA22RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AA23RD    | BS-CA23RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AA24RD    | BS-CA24RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                              |              |                       | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA26RD    | BS-CA26RD             | GaAlAs/ SH Super Red   | 660                                  | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
| BS-AA2FRD                    | BS-CA2FRD    | GaAlAs/ DDH Super Red | 660                    | 20                                   | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.00" Single-Digit           | BS-AA31RD    | BS-CA31RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-44       |
|                              | BS-AA35RD    | BS-CA35RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AA35RE    | BS-CA35RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA32RD    | BS-CA32RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AA33RD    | BS-CA33RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AA34RD    | BS-CA34RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                              |              |                       | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA36RD    | BS-CA36RD             | GaAlAs/ SH Super Red   | 660                                  | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
|                              | BS-AA3FRD    | BS-CA3FRD             | GaAlAs/ DDH Super Red  | 660                                  | 20                       | 160     | 30      | 150      | 4.0                           | 5.0  | 15.0                    |             |
|                              | BS-AA41RD    | BS-CA41RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-45       |
|                              | BS-AA45RD    | BS-CA45RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AA45RE    | BS-CA45RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA42RD    | BS-CA42RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AA43RD    | BS-CA43RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AA44RD    | BS-CA44RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
| GaAsP/GaP/ Orange            |              |                       |                        |                                      |                          |         |         |          |                               |      |                         |             |
| BS-AA46RD                    | BS-CA46RD    | GaAlAs/ SH Super Red  | 660                    | 20                                   | 160                      | 30      | 150     | 3.4      | 5.0                           | 10.0 |                         |             |
| BS-AA4FRD                    | BS-CA4FRD    | GaAlAs/ DDH Super Red | 660                    | 20                                   | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.00" Alpha-Numeric Displays | BS-AA51RD    | BS-CA51RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-46       |
|                              | BS-AA55RD    | BS-CA55RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AA55RE    | BS-CA55RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA52RD    | BS-CA52RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AA53RD    | BS-CA53RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AA54RD    | BS-CA54RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                              |              |                       | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AA56RD    | BS-CA56RD             | GaAlAs/ SH Super Red   | 660                                  | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
| BS-AA5FRD                    | BS-CA5FRD    | GaAlAs/ DDH Super Red | 660                    | 20                                   | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |
| 1.20" Single-Digit           | BS-AB11RD    | BS-CB11RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-47       |
|                              | BS-AB15RD    | BS-CB15RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AB15RE    | BS-CB15RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AB12RD    | BS-CB12RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AB13RD    | BS-CB13RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AB14RD    | BS-CB14RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
|                              |              |                       | GaAsP/GaP/ Orange      |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AB16RD    | BS-CB16RD             | GaAlAs/ SH Super Red   | 660                                  | 20                       | 160     | 30      | 150      | 3.4                           | 5.0  | 10.0                    |             |
|                              | BS-AB1FRD    | BS-CB1FRD             | GaAlAs/ DDH Super Red  | 660                                  | 20                       | 160     | 30      | 150      | 4.0                           | 5.0  | 15.0                    |             |
|                              | BS-AB21RD    | BS-CB21RD             | GaAsP/Red              | 655                                  | 40                       | 160     | 40      | 200      | 3.4                           | 4.0  | 2.5                     | SD-48       |
|                              | BS-AB25RD    | BS-CB25RD             | GaP/ Bright Red        | 700                                  | 90                       | 80      | 15      | 50       | 4.4                           | 5.0  | 3.5                     |             |
|                              | BS-AB25RE    | BS-CB25RE             |                        |                                      |                          |         |         |          |                               |      |                         |             |
|                              | BS-AB22RD    | BS-CB22RD             | GaP/ Green             | 568                                  | 30                       | 160     | 30      | 150      | 4.4                           | 5.0  | 5.0                     |             |
|                              | BS-AB23RD    | BS-CB23RD             | GaAsP/GaP/ Yellow      | 585                                  | 35                       | 160     | 30      | 150      | 4.2                           | 5.0  | 4.0                     |             |
|                              | BS-AB24RD    | BS-CB24RD             | GaAsP/GaP/ Hi-Eff.Red  | 635                                  | 45                       | 160     | 30      | 150      | 4.0                           | 5.0  | 5.0                     |             |
| GaAsP/GaP/ Orange            |              |                       |                        |                                      |                          |         |         |          |                               |      |                         |             |
| BS-AB26RD                    | BS-CB26RD    | GaAlAs/ SH Super Red  | 660                    | 20                                   | 160                      | 30      | 150     | 3.4      | 5.0                           | 10.0 |                         |             |
| BS-AB2FRD                    | BS-CB2FRD    | GaAlAs/ DDH Super Red | 660                    | 20                                   | 160                      | 30      | 150     | 4.0      | 5.0                           | 15.0 |                         |             |

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| <p><b>SD-43</b> <b>BS-<sup>A</sup><sub>C</sub>A2xRD</b></p> <p>13.70(.539)<br/>10°<br/>PIN 1.<br/>25.60(1.00)<br/>33.00(1.299)<br/>22.80(.897)<br/>Ø1.6(.063)<br/>8.80(.346)<br/>3.00(.118)MIN.<br/>18.00(.708)<br/>Ø0.50(.020)<br/>BS-AA2xRD<br/>6,18<br/>DP A1 A2 B C D1 D2 E F G1 G2 J K L M N P<br/>13 2 22 21 16 10 14 9 4 7 19 3 24 23 15 12 11<br/>NC: 1<br/>NP: 5,8,17,20.</p> | <p><b>SD-44</b> <b>BS-<sup>A</sup><sub>C</sub>A3xRD</b></p> <p>14.10(.555)<br/>10°<br/>PIN 1.<br/>25.40(1.00)<br/>33.90(1.335)<br/>24.00(.945)<br/>Ø2.5(.098)<br/>10.50(.413)<br/>3.00(.118)MIN.<br/>2.54(.100)<br/>BS-AA3xRD<br/>4,11<br/>A B C D E F G DP<br/>9 8 5 2 1 12 14 6<br/>NP: 3,7,10,13</p>  |
| <p><b>SD-45</b> <b>BS-<sup>A</sup><sub>C</sub>A4xRD</b></p> <p>14.70(.579)<br/>10°<br/>PIN 1.<br/>25.4(1.00)<br/>33.00(1.299)<br/>22.86(.900)<br/>Ø3.0(.118)<br/>9.00(.354)<br/>3.0(.118) MIN.<br/>2.54x6=15.24(.600)<br/>BS-AA4xRD<br/>4,11<br/>A B C D E F G DP<br/>9 8 5 2 1 12 14 6<br/>NP: 3,7,10,13.</p>   | <p><b>SD-46</b> <b>BS-<sup>A</sup><sub>C</sub>A5xRD</b></p> <p>13.60(.535)<br/>8°<br/>PIN 1.<br/>25.4(1.00)<br/>33.00(1.299)<br/>22.76(.896)<br/>Ø1.84(.072)<br/>8.90(.350)<br/>3.00(.118)MIN.<br/>18.00(.708)<br/>BS-AA5xRD<br/>5,15<br/>DP1 DP2 A1 A2 B C D1 D2 E F G1 G2 J K L M N P<br/>11 1 2 18 17 14 8 12 7 4 6 16 3 20 19 13 10 9<br/>NP: 3,7,10,13.</p> |
| <p><b>SD-47</b> <b>BS-<sup>A</sup><sub>C</sub>B1xRD</b></p> <p>17.30(.681)<br/>10°<br/>PIN 1.<br/>30.40(1.20)<br/>40.70(1.602)<br/>28.80(1.134)<br/>Ø3.0(.118)<br/>9.00(.354)<br/>3.00(.118) MIN.<br/>2.54(.100)<br/>BS-AB1xRD<br/>1,8<br/>A B C D E F G DP<br/>7 6 4 3 2 9 10 5</p>   | <p><b>SD-48</b> <b>BF-<sup>A</sup><sub>C</sub>B2xRD</b></p> <p>17.30(.681)<br/>10°<br/>PIN 1.<br/>30.40(1.20)<br/>40.70(1.602)<br/>28.80(1.134)<br/>Ø3.0(.118)<br/>9.00(.354)<br/>3.00(.118) MIN.<br/>2.54(.100)<br/>BS-AB2xRD<br/>1,5<br/>A B C D E F G DP<br/>7 6 4 3 2 9 10 8</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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