

## Lithium Batteries



BR1225/BN

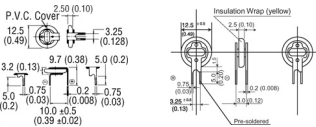


Fig. 1

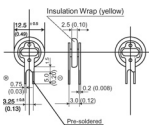


Fig. 2

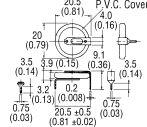


Fig. 3

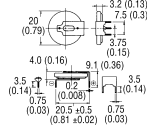


Fig. 4

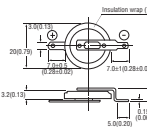


Fig. 5

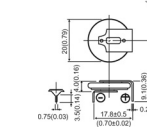


Fig. 6

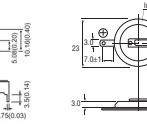


Fig. 7

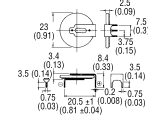


Fig. 8

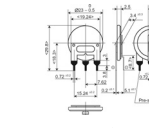


Fig. 9

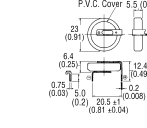


Fig. 10

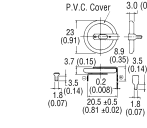


Fig. 11

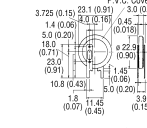


Fig. 12

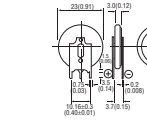


Fig. 13

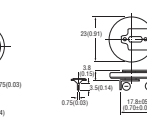


Fig. 14

Panasonic coin-type lithium batteries are high energy, high reliability batteries for a variety of applications. The full 3 volts in these high energy batteries is about twice that of conventional dry batteries. Panasonic coin-type lithium batteries are available in two types — poly-carbonmonofluoride lithium batteries (BR Series) for users requiring extended reliability and safety, and manganese dioxide lithium batteries (CR Series) for users requiring high voltage and strong load pulse characteristics.

### Features

- ▶ High Voltage: 3V
- ▶ Small Self-Discharge
- ▶ Compact and Lightweight
- ▶ High Energy Density Per Unit Weight

### Applications

- ▶ Extremely Safe
- ▶ Strong Load Pulse Characteristics

### Applications

- ▶ Calculators
- ▶ Cameras
- ▶ Compact, Low-Power Consuming Cordless Appliances

### Applications

- ▶ Electronic Watches (Digital and Analog)
- ▶ Memory Back-Up in All Type of Devices (With Tab Terminals)

## (CF) N/LI Batteries: Poly Carbon Monofluoride

| Stock No. | Mfr.'s Type | Fig. | Electrical Characteristics (20°C) |     |                     |                        |             | Recomnd. Drain |          | Dimensions    |             |            | EACH |      |       |       |      |
|-----------|-------------|------|-----------------------------------|-----|---------------------|------------------------|-------------|----------------|----------|---------------|-------------|------------|------|------|-------|-------|------|
|           |             |      | JIS                               | IEC | Nominal Voltage (V) | Nominal Capacity (mAh) | Pulse (mAh) | Standard (mA)  | Low (μA) | Diameter (mm) | Height (mm) | Weight (g) | 1-4  | 5-9  | 10-24 | 25-49 | 50+  |
| 70196903  | BR1216/BN   | *    | —                                 | —   | 3                   | 25                     | 5           | 0.03           | 1        | 12.5          | 1.60        | 0.6        | 1.76 | 1.50 | 1.16  | 1.07  | 1.01 |
| 70196890  | BR1225/BN   | *    | —                                 | —   | 3                   | 48                     | 5           | 0.03           | 1        | 12.5          | 2.50        | 0.9        | 1.66 | 1.33 | 1.13  | 1.05  | .97  |
| 70196874  | BR1225-HBN  | 1    | —                                 | —   | 3                   | 48                     | 5           | 0.03           | 1        | 12.5          | 2.50        | 0.8        | 2.35 | 2.12 | 1.92  | 1.76  | 1.64 |
| 70196897  | BR1225-HCN  | 1    | —                                 | —   | 3                   | 48                     | 5           | 0.03           | 1        | 12.5          | 3.20        | 0.8        | 2.59 | 2.13 | 1.82  | 1.68  | 1.51 |
| 70196900  | BR1225-VCN  | 2    | —                                 | —   | 3                   | 48                     | 5           | 0.03           | 1        | 12.5          | 3.20        | 0.8        | 2.56 | 2.11 | 1.80  | 1.66  | 1.50 |
| 70196837  | BR1225-2HC  | *    | —                                 | —   | 3                   | 48                     | 5           | 0.03           | 1        | 12.0          | 2.50        | 0.8        | 4.77 | 4.29 | 3.90  | 3.58  | 3.34 |
| 70196889  | BR2032/BN   | —    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.20        | 2.5        | 1.43 | 1.32 | 1.23  | 1.19  | 1.11 |
| 70196899  | BR2032-HEN  | 3    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.90        | 2.5        | 2.66 | 2.18 | 1.87  | 1.72  | 1.57 |
| 70196882  | BR2032-HFN  | 3    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.20        | 2.5        | 2.42 | 2.18 | 1.98  | 1.81  | 1.69 |
| 70196902  | BR2032-HGN  | 4    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 4.00        | 2.5        | 1.63 | 1.48 | 1.40  | 1.34  | 1.22 |
| 70196883  | BR2032-VCN  | —    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.20        | 2.5        | 2.42 | 2.18 | 1.98  | 1.81  | 1.69 |
| 70196884  | BR2032-F2N  | 5    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.20        | 2.5        | 2.42 | 2.18 | 1.98  | 1.82  | 1.69 |
| 70196885  | BR2032-GUFN | 6    | —                                 | —   | 3                   | 190                    | 10          | 0.03           | 4        | 20.0          | 3.20        | 2.5        | 2.42 | 2.18 | 1.98  | 1.82  | 1.69 |
| 70196891  | BR2325/BN   | *    | —                                 | —   | 3                   | 165                    | 10          | 0.03           | 3        | 23.0          | 2.50        | 3.0        | 1.85 | 1.47 | 1.25  | 1.15  | 1.05 |
| 70196901  | BR2325-HBN  | 7    | —                                 | —   | 3                   | 165                    | 10          | 0.03           | 3        | 23.0          | 3.40        | 3.0        | 2.75 | 2.56 | 2.17  | 2.02  | 1.88 |
| 70196886  | BR2325-HCN  | 8    | —                                 | —   | 3                   | 165                    | 10          | 0.03           | 3        | 23.0          | 2.50        | 3.0        | 2.46 | 2.22 | 2.01  | 1.85  | 1.72 |
| 70196895  | BR2325-HGN  | 7    | —                                 | —   | 3                   | 165                    | 10          | 0.03           | 3        | 23.0          | 3.40        | 3.0        | 3.12 | 2.56 | 2.17  | 2.02  | 1.88 |
| 70196898  | BR2325-VGN  | 9    | —                                 | —   | 3                   | 165                    | 10          | 0.03           | 3        | 23.0          | 3.20        | 3.0        | 2.19 | 1.76 | 1.50  | 1.42  | 1.26 |
| 70196894  | BR2325-2HC  | 10   | —                                 | —   | 6                   | 165                    | 10          | 0.03           | 3        | 23.0          | 6.40        | 3.0        | 4.61 | 3.81 | 3.42  | 3.15  | 3.07 |
| 70196904  | BR2330/BN   | 11   | —                                 | —   | 3                   | 255                    | 10          | 0.03           | 5        | 23.0          | 3.90        | 3.2        | 2.35 | 1.95 | 1.66  | 1.55  | 1.43 |
| 70196888  | BR2330-GUN  | *    | —                                 | —   | 3                   | 255                    | 10          | 0.03           | 5        | 23.0          | 3.00        | 3.2        | 2.88 | 2.60 | 2.36  | 2.16  | 2.02 |
| 70196887  | BR2330-GVN  | 12   | —                                 | —   | 3                   | 255                    | 10          | 0.03           | 5        | 23.1          | 3.90        | 3.2        | 2.88 | 2.60 | 2.36  | 2.16  | 2.02 |
| 70196892  | BR2330-HEN  | 13   | —                                 | —   | 3                   | 255                    | 10          | 0.03           | 5        | 23.0          | 3.00        | 3.2        | 2.46 | 2.22 | 2.11  | 1.99  | 1.77 |
| 70196893  | BR2330-VCN  | 14   | —                                 | —   | 3                   | 255                    | 10          | 0.03           | 5        | 23.0          | 3.00        | 3.2        | 2.48 | 2.25 | 2.12  | 2.02  | 1.79 |
| 70196905  | BR3032/BN   | *    | —                                 | —   | 3                   | 500                    | 10          | 0.03           | 10       | 30.0          | 3.20        | 5.5        | 4.07 | 3.29 | 2.86  | 2.37  | 2.17 |

\*Plain cell.

## ML Coin Batteries — Manganese Lithium Rechargeable

NEW

### Features

- ▶ Charge at Voltage Levels Even Under 3V
- ▶ Large Capacity for Hour-After-Hour Back up
- ▶ Excellent Withstand Voltage, Overcharge and Overdischarge Withstanding Characteristics

### Applications

- ▶ Mobile Telephones
- ▶ Memory Cards
- ▶ Pagers
- ▶ Other Small-Size Communications Devices

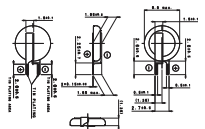


Fig. 1

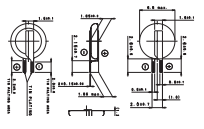


Fig. 2

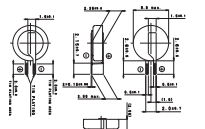


Fig. 3

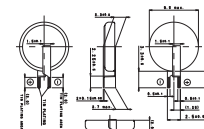


Fig. 4

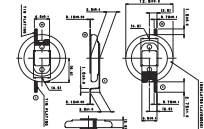


Fig. 5

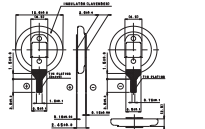


Fig. 6

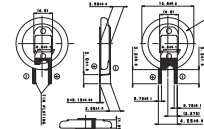


Fig. 7

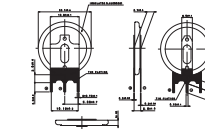


Fig. 8

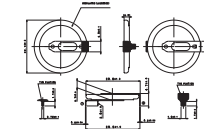


Fig. 9

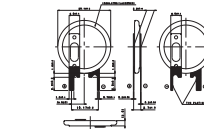


Fig. 10

| Stock No. | Mfr.'s Type  | Fig. | Voltage (V) | Capacity (mAh) | Drain (mAh) | Diameter (mm) | Height (mm) | EACH |      |       |       |       |
|-----------|--------------|------|-------------|----------------|-------------|---------------|-------------|------|------|-------|-------|-------|
|           |              |      |             |                |             |               |             | 1-4  | 5-9  | 10-24 | 25-49 | 50-99 |
| 70233948  | ML-614S/FN   | 1    | 3           | 3.4            | 2.5         | 6.0           | 1.4         | 2.25 | 2.16 | 2.04  | 1.96  | 1.89  |
| 70233949  | ML-614S/ZTN  | 1    | 3           | 3.4            | 2.5         | 6.0           | 1.4         | 1.96 | 1.88 | 1.77  | 1.71  | 1.65  |
| 70233950  | ML-614S/DN   | 2    | 3           | 3.4            | 2.5         | 6.0           | 1.4         | 2.25 | 2.16 | 2.04  | 1.96  | 1.89  |
| 70233951  | ML-621S/DN   | 3    | 3           | 5.0            | 2.5         | 6.0           | 2.1         | 2.25 | 2.16 | 2.04  | 1.96  | 1.89  |
| 70233952  | ML-621S/ZTN  | 3    | 3           | 5.0            | 2.5         | 6.0           | 2.1         | 2.25 | 2.16 | 2.04  | 1.96  | 1.89  |
| 70233953  | ML-920S/DN   | 4    | 3           | 11.0           | 2.5         | 9.5           | 2.0         | 1.96 | 1.88 | 1.77  | 1.71  | 1.65  |
| 70233954  | ML-1220/F1AN | 5    | 3           | 17.0           | 2.5         | 12.0          | 2.0         | 2.50 | 2.40 | 2.26  | 2.18  | 2.11  |
| 70233955  | ML-1220/V1AN | 6    | 3           | 17.0           | 2.5         | 12.0          | 2.0         | 2.63 | 2.52 | 2.38  | 2.29  | 2.21  |
| 70233956  | ML-1220/F1BN | 7    | 3           | 17.0           | 2.5         | 12.0          | 2.0         | 2.63 | 2.52 | 2.38  | 2.29  | 2.21  |
| 70233957  | ML-2020/F1AN | —    | 3           | 45.0           | 2.5         | 20.0          | 2.0         | 2.63 | 2.52 | 2.38  | 2.29  | 2.21  |
| 70233958  | ML-2020/G1AN | 8    | 3           | 45.0           | 2.5         | 20.0          | 2.0         | 2.96 | 2.84 | 2.68  | 2.58  | 2.49  |
| 70233959  | ML-2020/H1CN | 9    | 3           | 45.0           | 2.5         | 20.0          | 2.0         | 2.96 | 2.84 | 2.68  | 2.58  | 2.49  |
| 70233960  | ML-2020/V1AN | 10   | 3           | 45.0           | 2.5         | 20.0          | 2.0         | 2.96 | 2.84 | 2.68  | 2.58  | 2.49  |