

Lithium Battery Tab Configuration List

Lithium

International English

NOTICE TO READERS

It is the responsibility of each user to ensure that each battery application system is adequately designed safe and compatible with all conditions encountered during use, and in conformance with existing standards and requirements. Any circuits contained herein are illustrative only and each user must ensure that each circuit is safe and otherwise completely appropriate for the desired application.

This literature contains information concerning cells and batteries manufactured by Matsushita Battery Industrial Co., Ltd. This information is generally descriptive only and is not intended to make or imply any representation guarantee or warranty with respect to any cells and batteries. Cell and battery designs are subject to modification without notice. All descriptions and warranties are solely as contained in formal offers to sell or quotations made by Matsushita Battery Industrial Co., Ltd., Panasonic Sales Companies and Panasonic Agencies.

1. Cylindrical Type Lithium Batteries P.3-P.5

Dimensions

2. Coin Type Lithium Batteries P.7-P.21

Poly-carbonmonofluoride(BR) Series Dimentions

Manganese Dioxide(CR) Series Dimentions

High Operating Temperature Poly-carbonmonofluoride(BR-A) Series
Dimensions

3. Vanadium Lithium Rechargeable Batteries(VL series) P.23-P.27

Dimensions

4. Manganese Lithium Rechargeable Batteries(ML series) P.29-P.33

Dimensions

<Notes>

(1) This handbook sets forth the tab configurations of lithium batteries. Details of product prices, delivery lead time and other transaction conditions will be determined through discussions to be held separately.

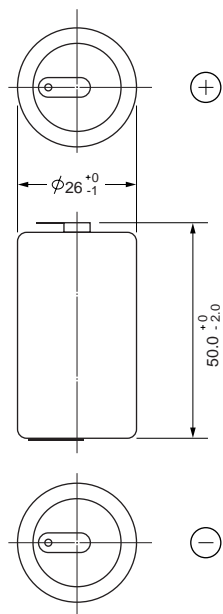
(2) The contents of this handbook are subject to change without notice due to improvements or discontinuation. Before studying the use of the lithium batteries described in this handbook in your products, check with Matsushita Battery Industrial Co., Ltd. Industrial/Systems Sales & Marketing Division for their availabilities ahead of time.

(3) With lithium batteries, different product number suffixes are used for different destinations. Inquire separately for details.

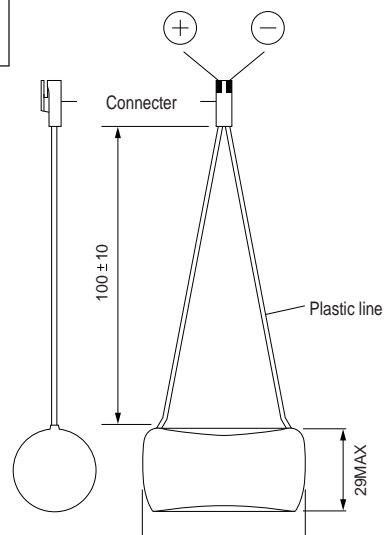
■ Cylindrical Type Lithium Batteries

| Bare cell | Model Number | Specifications | | Tab configuration | Page/Fig No. |
|-----------|--------------|--------------------|-----------------------|-------------------|--------------|
| | | Nominal Voltage(V) | Nominal Capacity(mAh) | | |
| BR-C | BR-CT2P | 3 | 5,000 | Tab (12mm) | 4 /No.1 |
| | BR-CC7P | 3 | 5,000 | Connector | 4 /No.2 |
| BR-A | BR-AT2P | 3 | 1,800 | Tab (12mm) | 4 /No.3 |
| | BR-AE2P | 3 | 1,800 | Tab pin | 4 /No.4 |
| BR-2/3A | BR-2/3AT2P | 3 | 1,200 | Tab (12mm) | 5 /No.5 |
| | BR-2/3AE2P | 3 | 1,200 | Tab pin | 5 /No.6 |
| | BR-2/3AC2P | 3 | 1,200 | Connector | 5 /No.7 |
| BR-2/3A | BR-E3C3C | 6 | 1,200 | Connector | 5 /No.8 |
| | BR-P2P | 6 | 1,200 | — | 5 /No.9 |

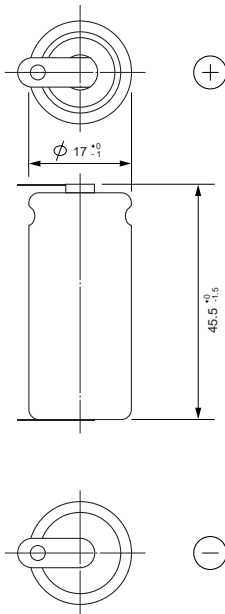
BR-CT2P
Fig No.1



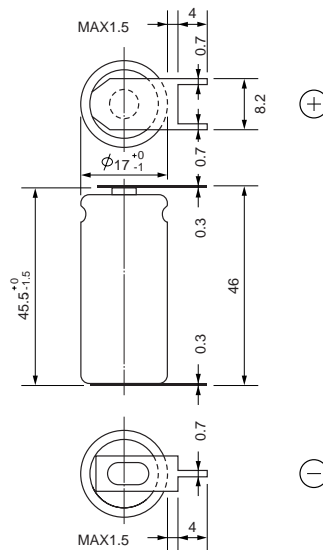
BR-CC7P
Fig No.2



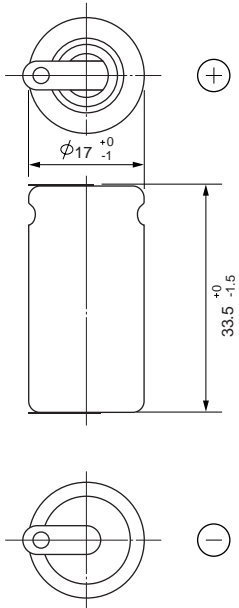
BR-AT2P
Fig No.3



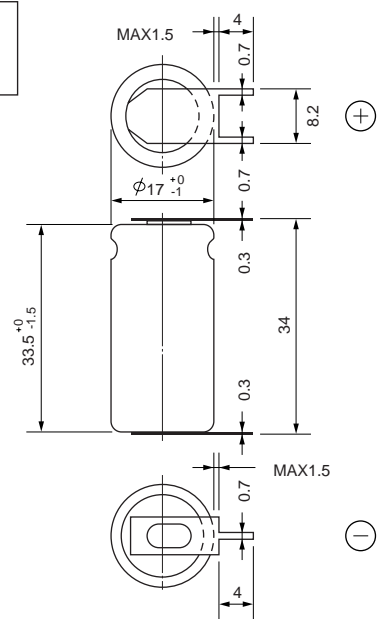
BR-AE2P
Fig No.4



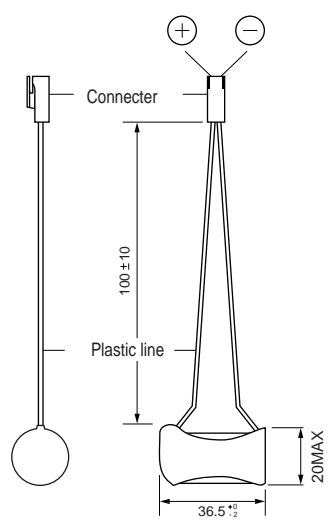
BR-2/3AT2P
Fig No.5



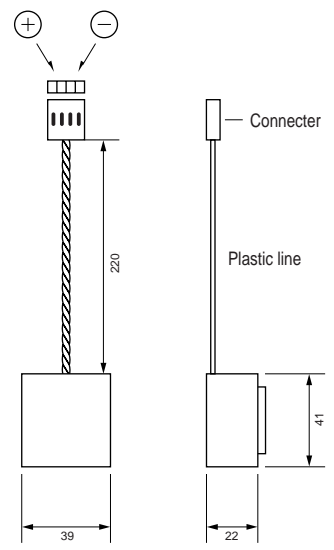
BR-2/3AE2P
Fig No.6



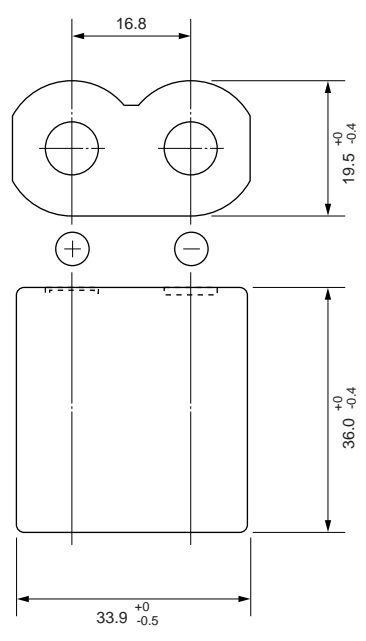
BR-2/3AC2P
Fig No.7



BR-E3C3C
Fig No.8



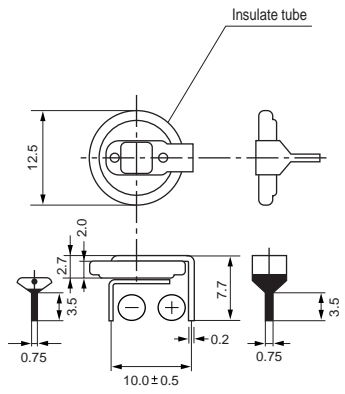
BR-P2P
Fig No.9



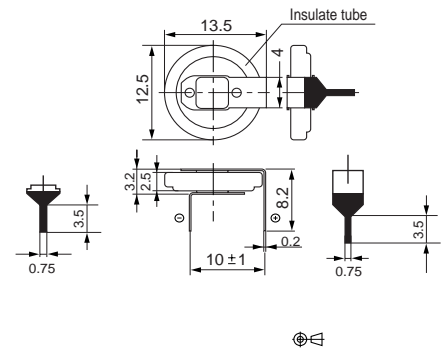
■ Coin Type Lithium Batteries (Poly-carbonmonofluoride(BR) series/Manganese Dioxide (CR) series)

| Type | Model Number | | Insulate tube With / Without | | Specifications | | Page/Fig No. |
|--------|--------------|--------|---------------------------------|-------|--------------------|-----------------------|--------------|
| | | | | | Nominal Voltage(V) | Nominal Capacity(mAh) | |
| H | BR1220 | CR1220 | /1HF | /1HE | 3 | 35 | 8/No.10 |
| | BR1225 | | /H1A | /H9A | 3 | 48 | 8/No.11 |
| | BR1632 | CR1632 | /1HF | /1HE | 3 | BR 120 CR 125 | 8/No.12 |
| | | CR2025 | /1HF | | 3 | 165 | 8/No.13 |
| | BR2032 | CR2032 | /1HF | /1HE | 3 | BR 190 CR 220 | 8/No.14 |
| | BR2325 | | /1HC | /1HB | 3 | 165 | 8/No.15 |
| | BR2330 | CR2330 | /1HF | /1HE | 3 | BR 255 CR 265 | 9/No.16 |
| | | CR2354 | /1HF | /1HE | 3 | 560 | 9/No.17 |
| | | CR2477 | /1HF | /1HE | 3 | 1,000 | 9/No.18 |
| V | BR1220 | CR1220 | /1VC | /1VB | 3 | 35 | 10/No.19 |
| | BR1225 | | /1VC | /1VB | 3 | 48 | 10/No.20 |
| | BR1632 | CR1632 | /V1A | | 3 | BR 120 CR 125 | 10/No.21 |
| | | CR2025 | /1VC | | 3 | 165 | 10/No.22 |
| | BR2032 | CR2032 | /1VC | /1VB | 3 | BR 190 CR 220 | 10/No.23 |
| | BR2325 | | /1VC | /1VB | 3 | 165 | 10/No.24 |
| | BR2330 | CR2330 | /1VC | /1VB | 3 | BR 255 CR 265 | 11/No.25 |
| | | CR2354 | /1VC | /1VB | 3 | 560 | 11/No.26 |
| | | CR2477 | /1VC | /1VB | 3 | 1,000 | 11/No.27 |
| F | | CR1216 | | /1F5U | 3 | 25 | 12/No.28 |
| | | CR1220 | /1FC | | 3 | 35 | 12/No.29 |
| | BR1225 | | /F1A | | 3 | 48 | 12/No.30 |
| | | | CR1616 | | /1F2 | 3 | 55 |
| | BR1632 | CR1632 | /1F2 | | 3 | BR 120 CR 125 | 12/No.32 |
| | BR2016 | CR2016 | /1F2 | | 3 | BR 75 CR 90 | 12/No.33 |
| | | CR2025 | /1F2 | | 3 | 165 | 13/No.34 |
| | BR2032 | CR2032 | /1F2 | | 3 | BR 190 CR 220 | 13/No.35 |
| | BR2330 | CR2330 | /1F3 | | 3 | BR 255 CR 265 | 13/No.36 |
| | | CR2354 | /1F2 | | 3 | 560 | 13/No.37 |
| | | CR2477 | /1F2 | | 3 | 1,000 | 13/No.38 |
| | BR3032 | CR3032 | /1F2 | | 3 | 500 | 13/No.39 |
| G | | CR2025 | /1GVF | | 3 | 165 | 14/No.40 |
| | BR2032 | CR2032 | /1GVF | /1GV | 3 | BR 190 CR 220 | 14/No.41 |
| | BR2032 | CR2032 | | /1GS | 3 | BR 190 CR 220 | 14/No.42 |
| | BR2032 | CR2032 | /1GUF | /1GU | 3 | BR 190 CR 220 | 14/No.43 |
| | BR2330 | CR2330 | /1GVF | /1GV | 3 | BR 255 CR 265 | 14/No.44 |
| | BR2330 | CR2330 | /1GUF | /1GU | 3 | BR 255 CR 265 | 14/No.45 |
| | | CR2354 | /G1A | | 3 | 560 | 15/No.46 |
| | | CR2354 | /1GUF | /1GU | 3 | 560 | 15/No.47 |
| | | CR2477 | /1GVF | /1GV | 3 | 1,000 | 15/No.48 |
| BR3032 | CR3032 | /1GUF | | 3 | 500 | 15/No.49 | |
| Others | BR2016 | CR2016 | /1T2 | | 3 | BR 75 CR 90 | 16/No.50 |
| | | CR2025 | /1T2 | | 3 | 165 | 16/No.51 |
| | BR2032 | CR2032 | /1T2 | | 3 | BR 190 CR 220 | 16/No.52 |
| | BR2330 | CR2330 | /1T3 | | 3 | BR 255 CR 265 | 16/No.53 |

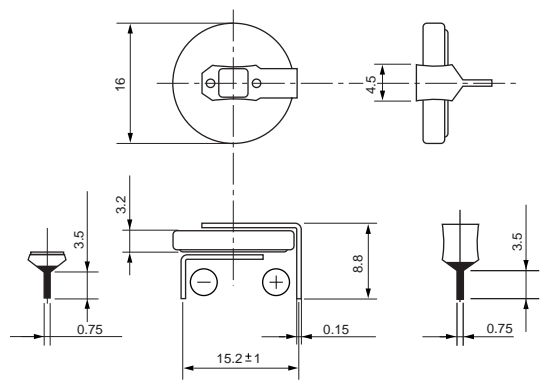
BR,CR1220
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Fig No.10



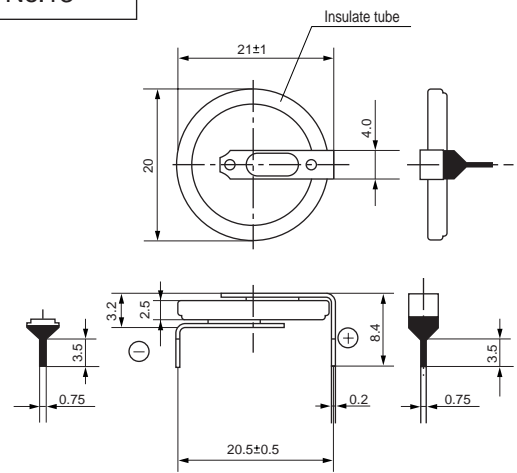
BR1225
/H1A/H9A
Fig No.11



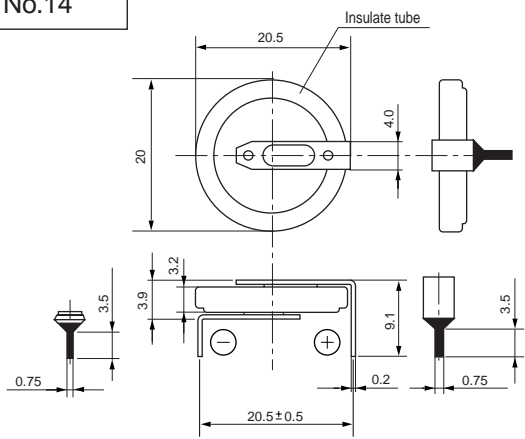
BR,CR1632
/1HF/1HE
Fig No.12



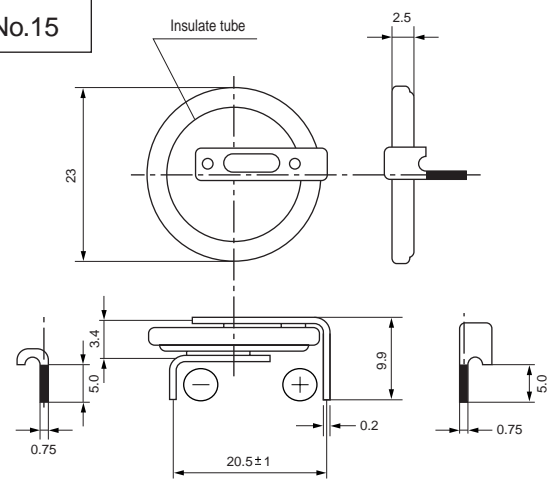
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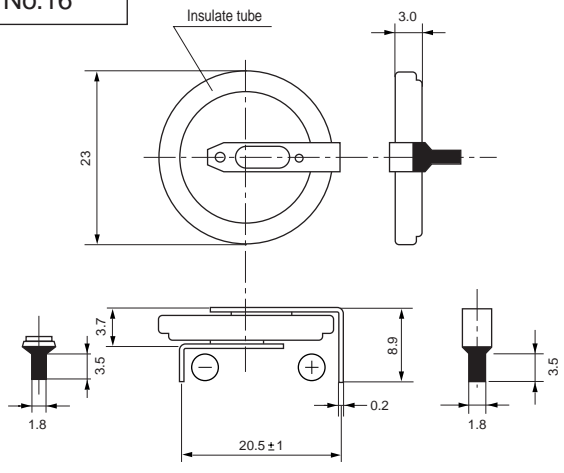
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Fig No.14



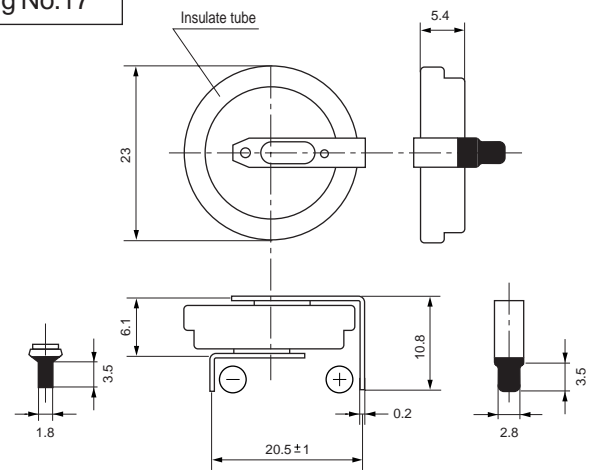
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Fig No.15



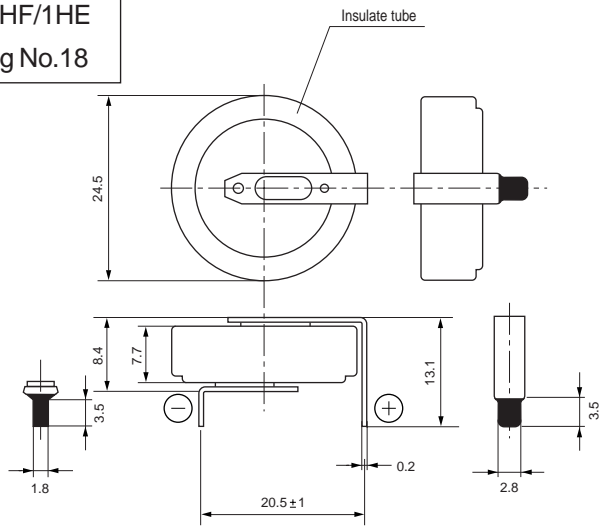
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Fig No.16



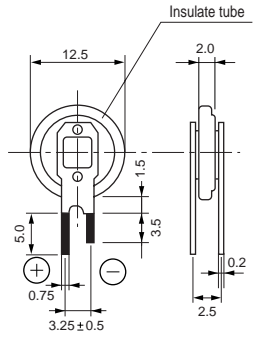
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Fig No.17



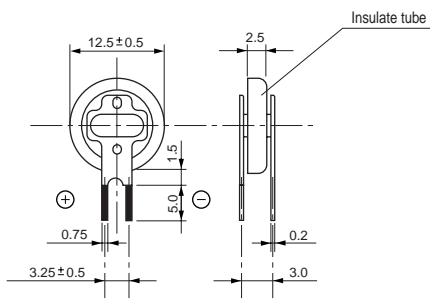
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/1HF/1HE
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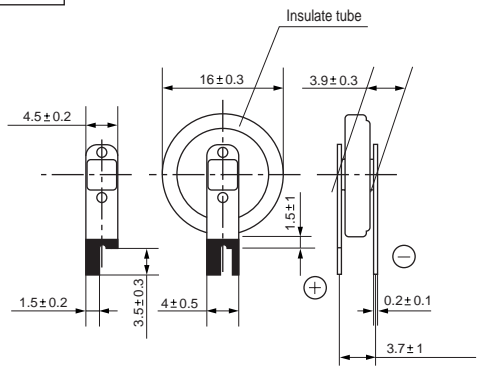
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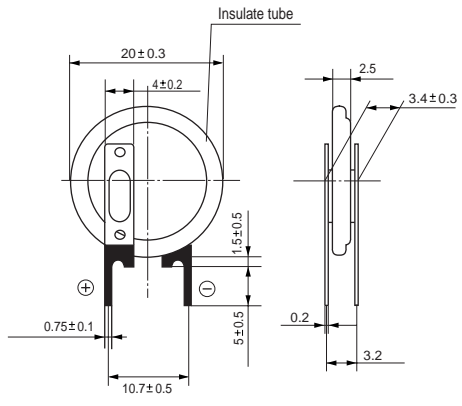
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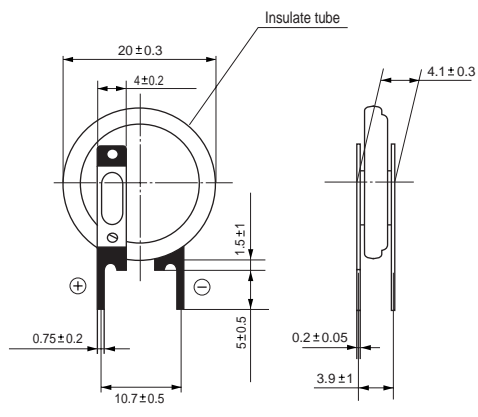
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/V1A
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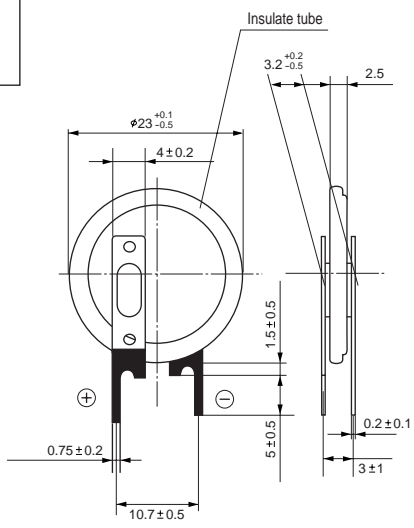
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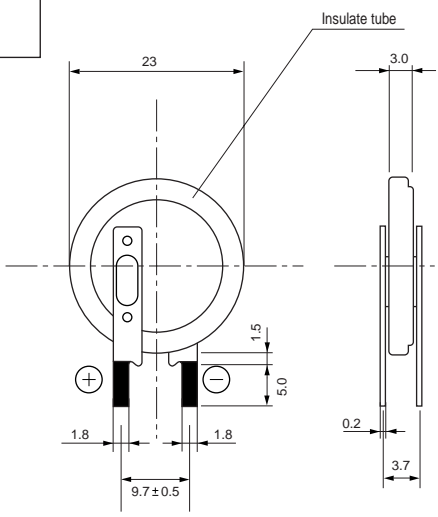
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/1VC/1VB
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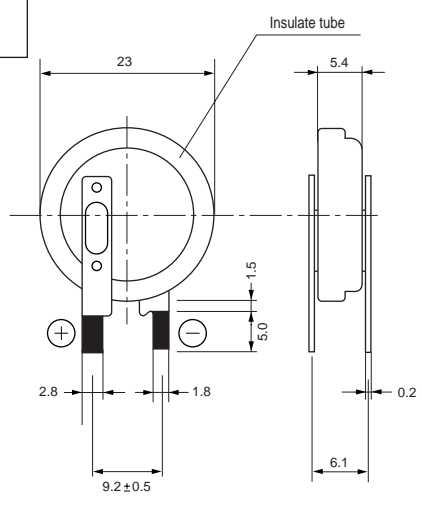
BR2325
/1VC/1VB
Fig No.24



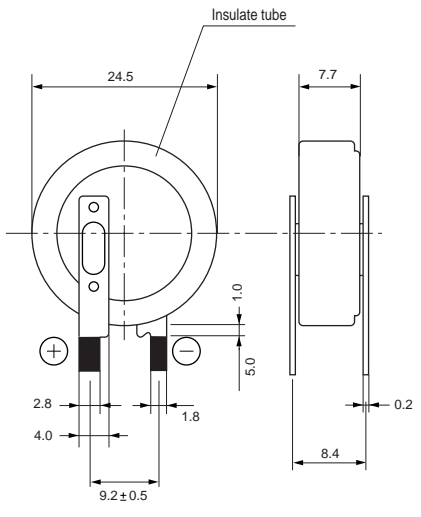
BR,CR2330
/1VC/1VB
Fig No.25



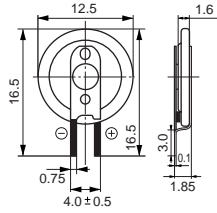
CR2354
/1VC/1VB
Fig No.26



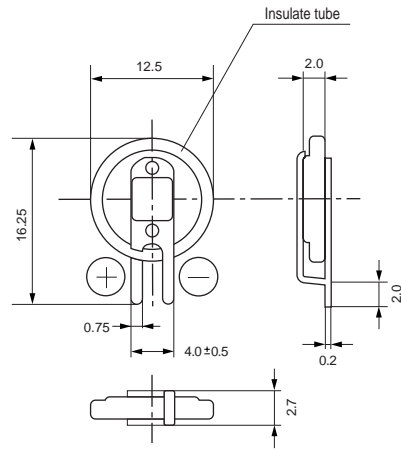
CR2477
/1VC/1VB
Fig No.27



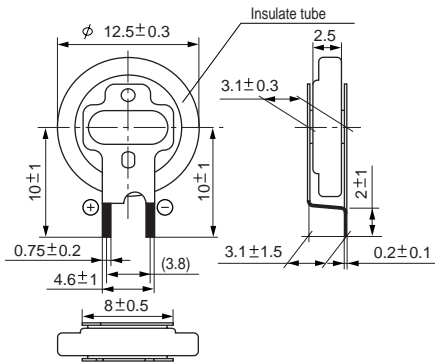
CR1216/1F5U
Fig No.28



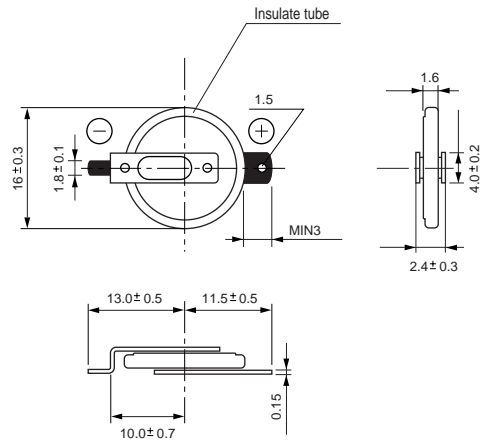
CR1220/1FC
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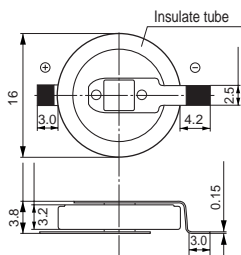
BR1225/F1A
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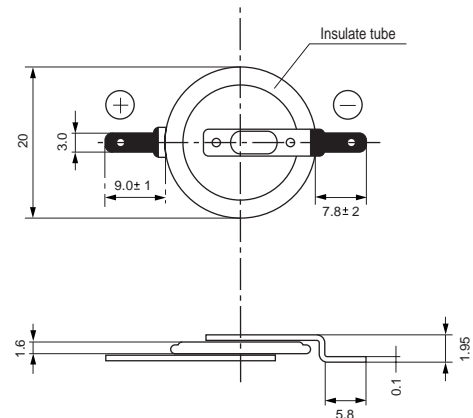
CR1616/1F2
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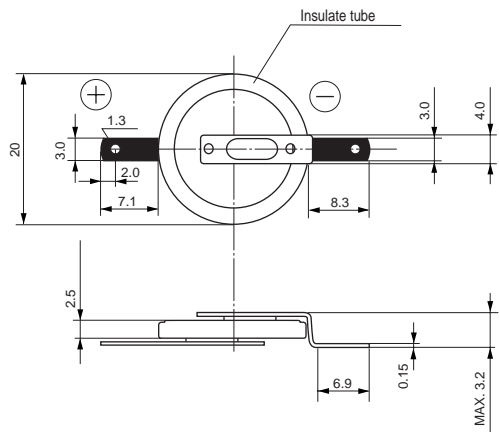
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/1F2
Fig No.32



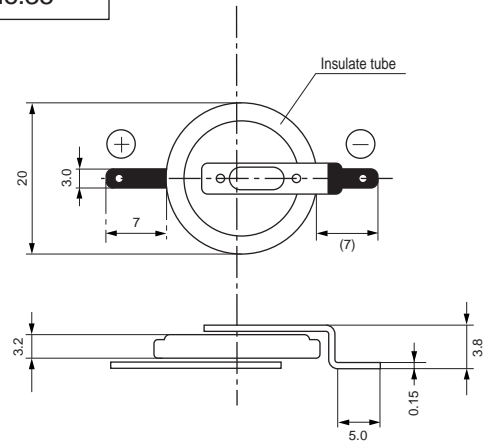
BR,CR2016
/1F2
Fig No.33



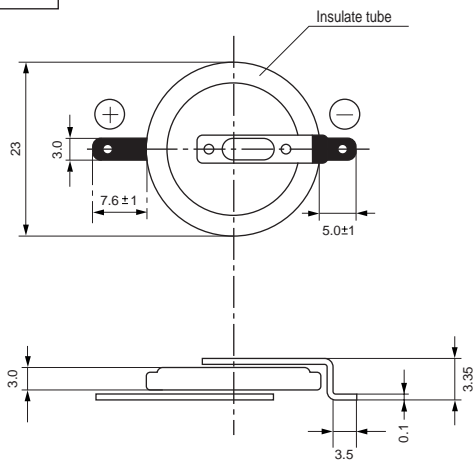
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Fig No.34



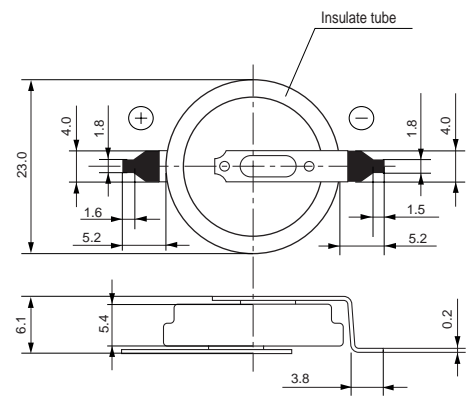
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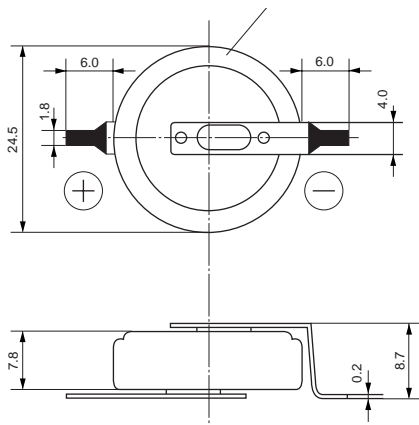
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/1F3
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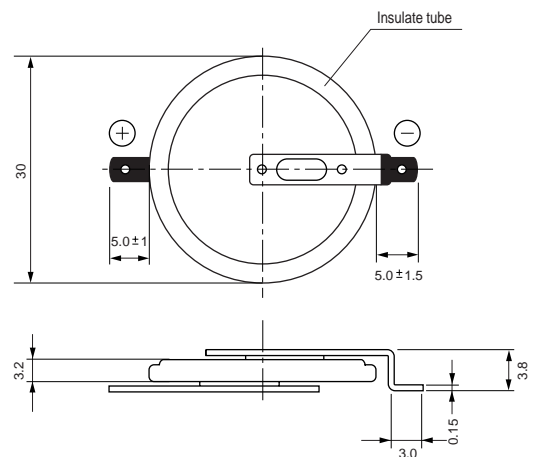
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Fig No.37



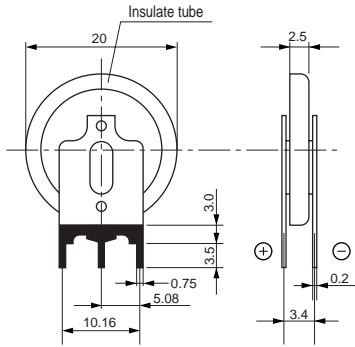
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Fig No.38



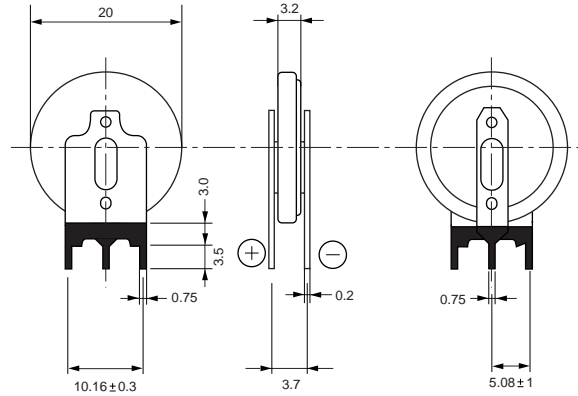
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Fig No.39



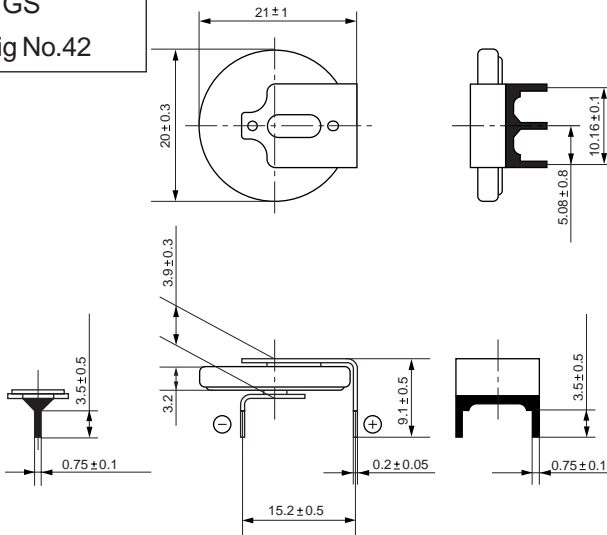
CR2025/1GVF
Fig No.40



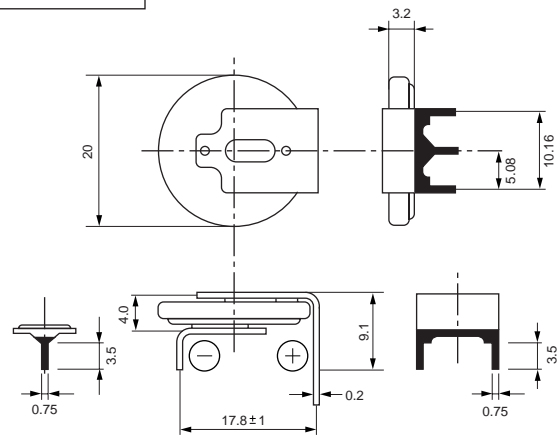
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Fig No.41



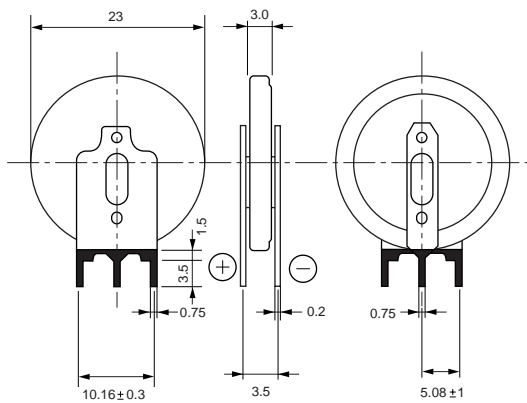
BR,CR2032
/1GS
Fig No.42



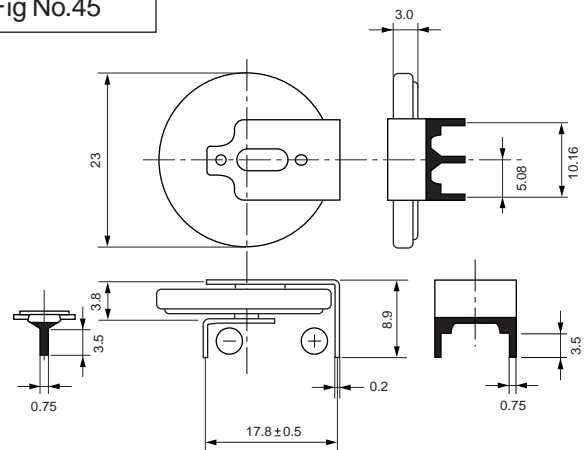
BR,CR2032
/1GUF/1GU
Fig No.43



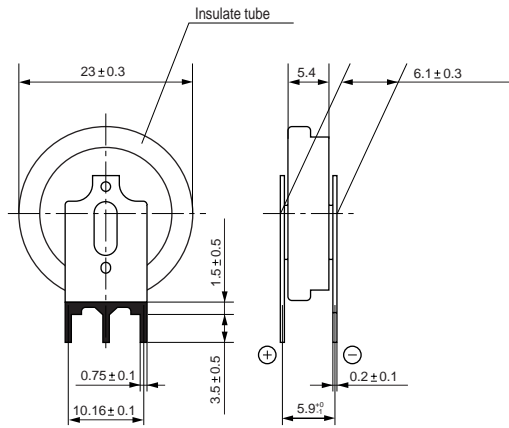
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/1GVF/1GV
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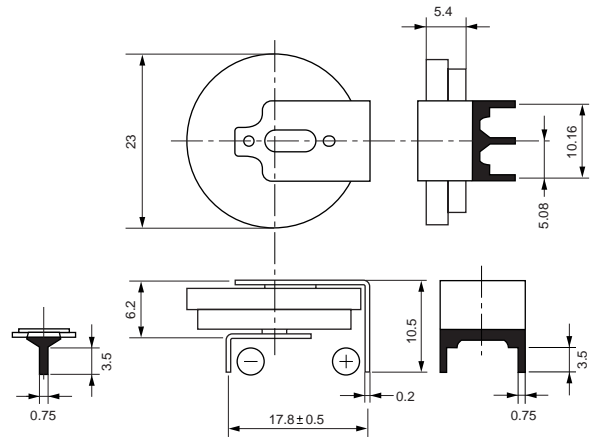
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/1GUF/1GU
Fig No.45



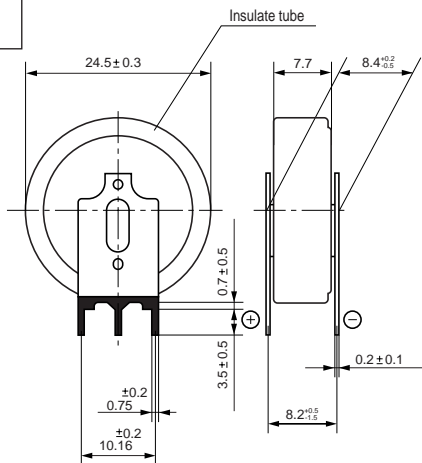
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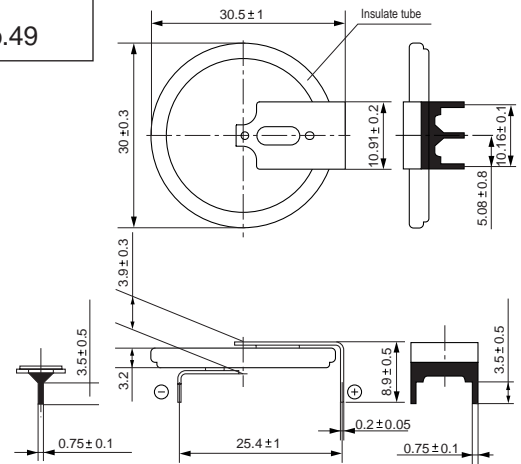
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Fig No.47



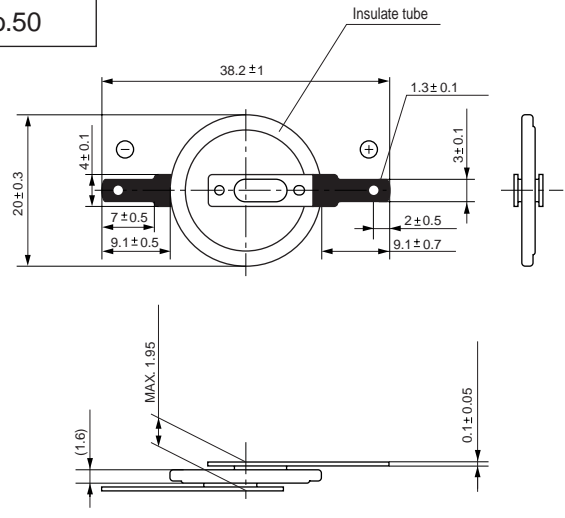
CR2477
/1GVF/1GV
Fig No.48



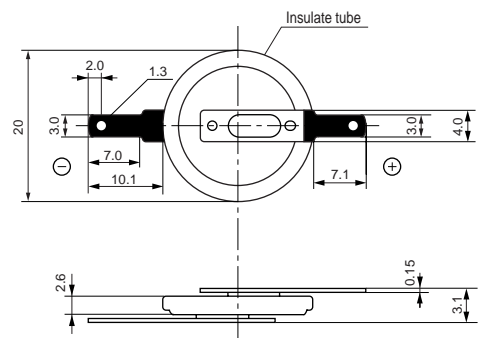
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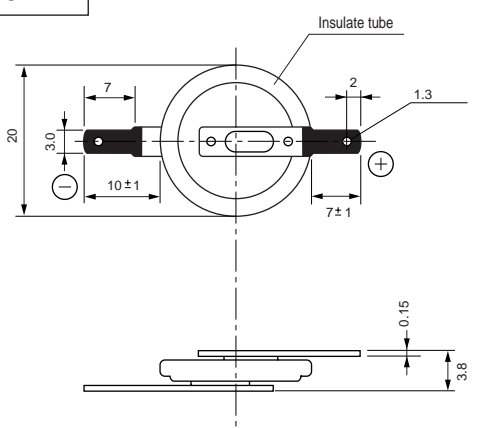
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Fig No.50



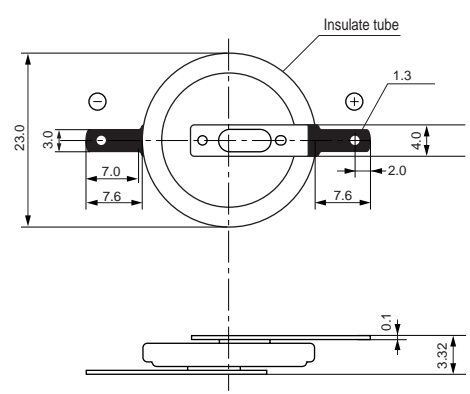
CR2025/1T2
Fig No.51



BR,CR2032
/1T2
Fig No.52



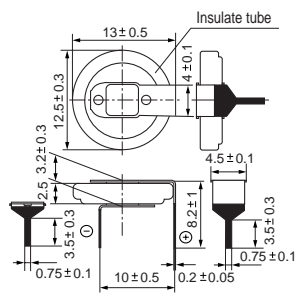
BR,CR2330
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Fig No.53



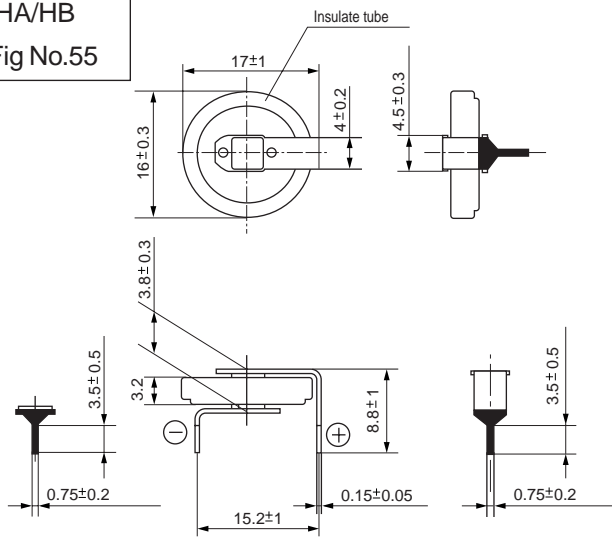
■ Coin Type Lithium Batteries (High Operating Temperature Poly-carbonmonofluoride(BR-A) series)

| Type | Model Number | Insulate tube | | Specifications | | Page/Fig No. |
|------|--------------|---------------|---------|--------------------|-----------------------|--------------|
| | | With | Without | Nominal Voltage(V) | Nominal Capacity(mAh) | |
| H | BR1225A | /HB | /HA | 3 | 48 | 18/No.54 |
| | BR1632A | /HA | /HB | 3 | 120 | 18/No.55 |
| | BR2330A | /HA | /HB | 3 | 255 | 18/No.56 |
| | BR2477A | /HB | /HC | 3 | 1,000 | 18/No.57 |
| V | BR1632A | /VA | | 3 | 120 | 19/No.58 |
| | BR2330A | /VA | | 3 | 255 | 19/No.59 |
| | BR2477A | /VA | | 3 | 1,000 | 19/No.60 |
| F | BR1225A | /FA | | 3 | 48 | 20/No.61 |
| | BR1632A | /FA | | 3 | 120 | 20/No.62 |
| | BR2330A | /FA | | 3 | 255 | 20/No.63 |
| | BR2477A | /FB | | 3 | 1,000 | 20/No.64 |
| G | BR1632A | | /GA | 3 | 120 | 21/No.65 |
| | BR2330A | /GC | /GA | 3 | 255 | 21/No.66 |
| | BR2330A | /GD | | 3 | 255 | 21/No.67 |
| | BR2477A | /GB | | 3 | 1,000 | 21/No.68 |

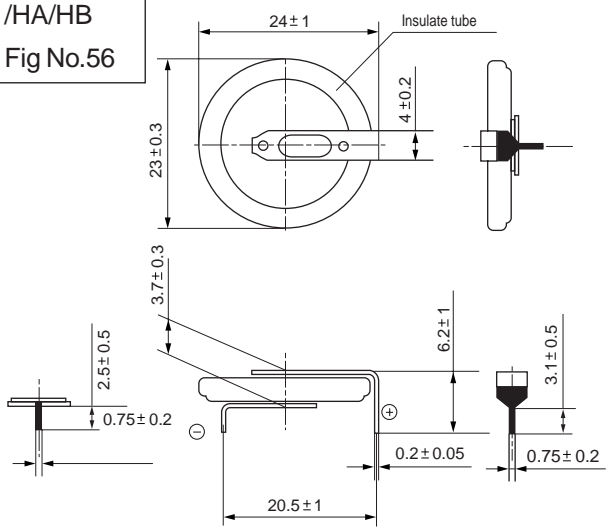
BR1225A
/HB/HA
Fig No.54



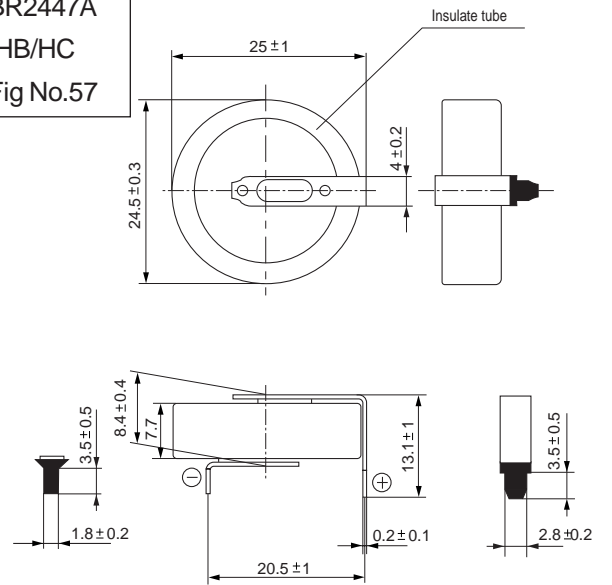
BR1632A
/HA/HB
Fig No.55



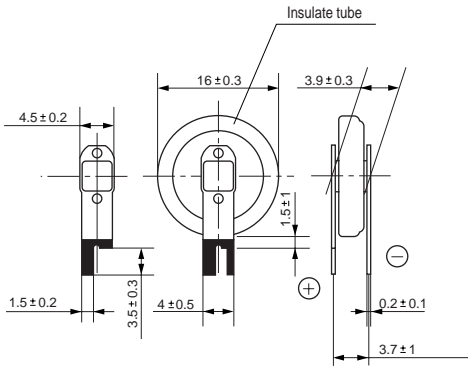
BR2330A
/HA/HB
Fig No.56



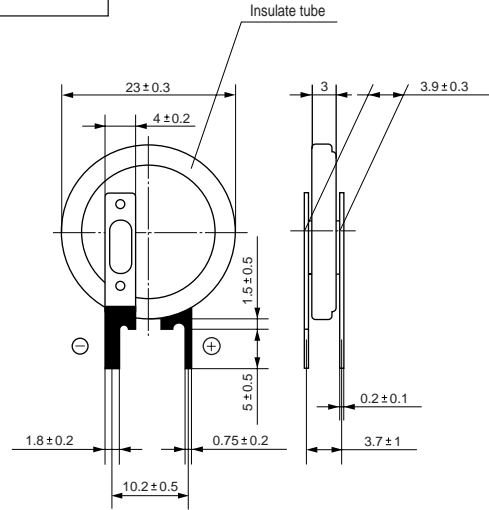
BR2447A
/HB/HC
Fig No.57



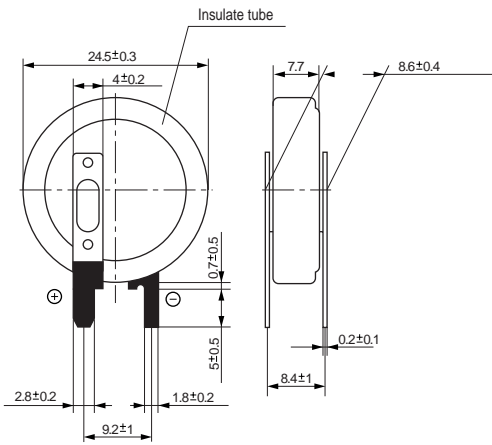
BR1632A/VA
Fig No.58



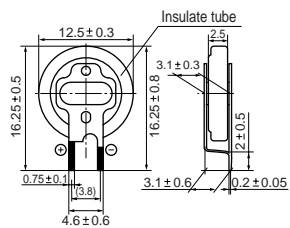
BR2330A/VA
Fig No.59



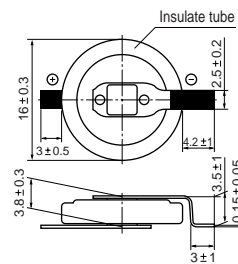
BR2477A/VA
Fig No.60



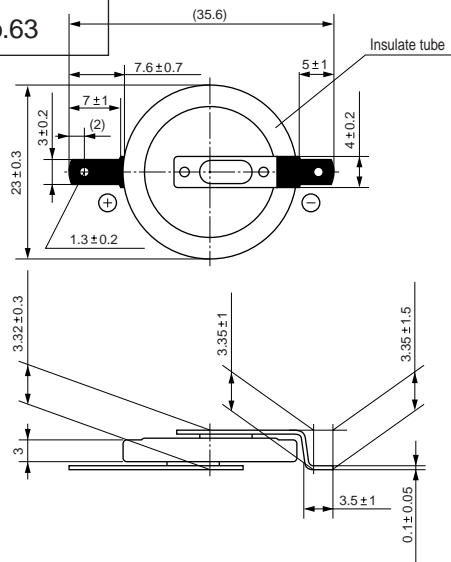
BR1225A/FA
Fig No.61



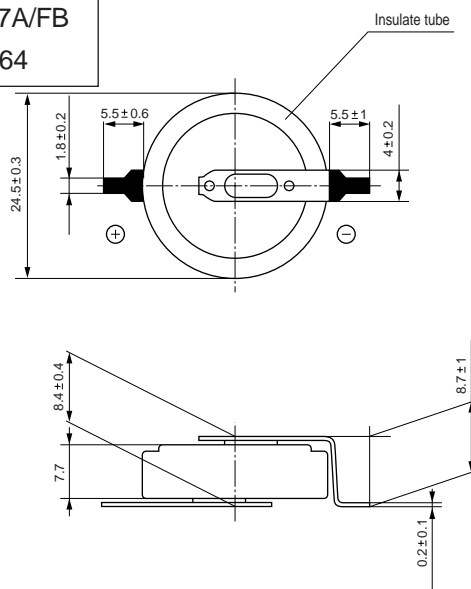
BR1632A/FA
Fig No.62

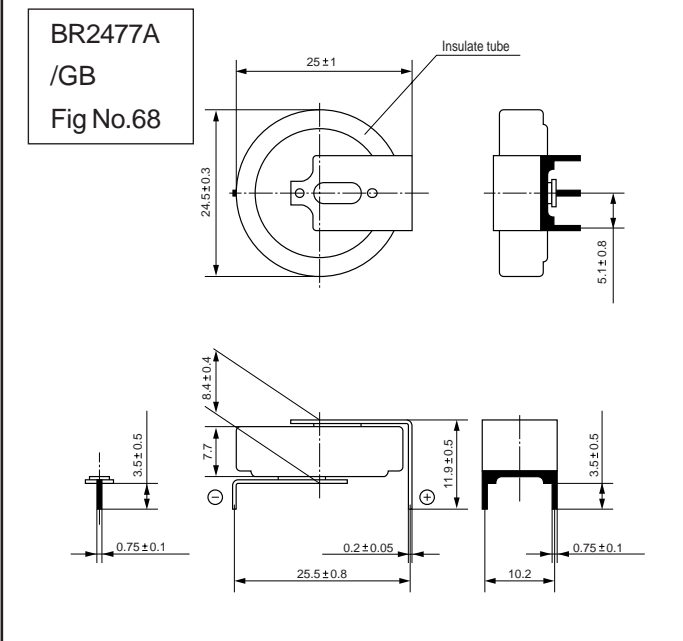
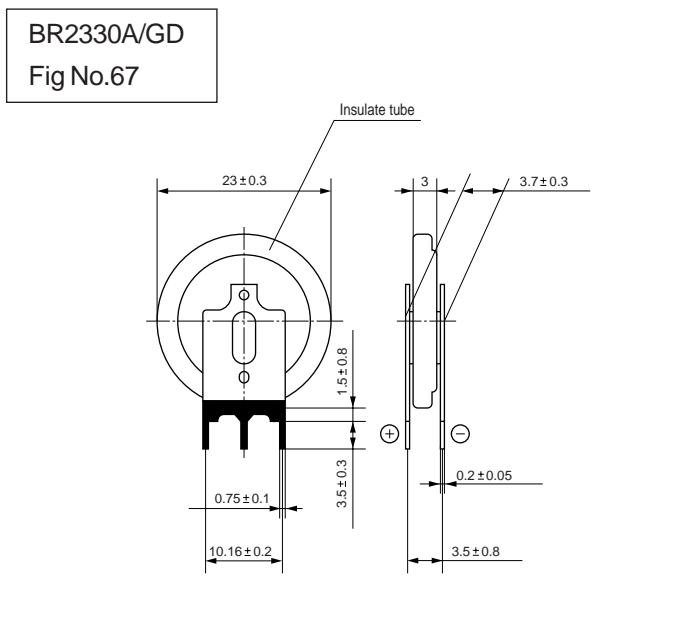
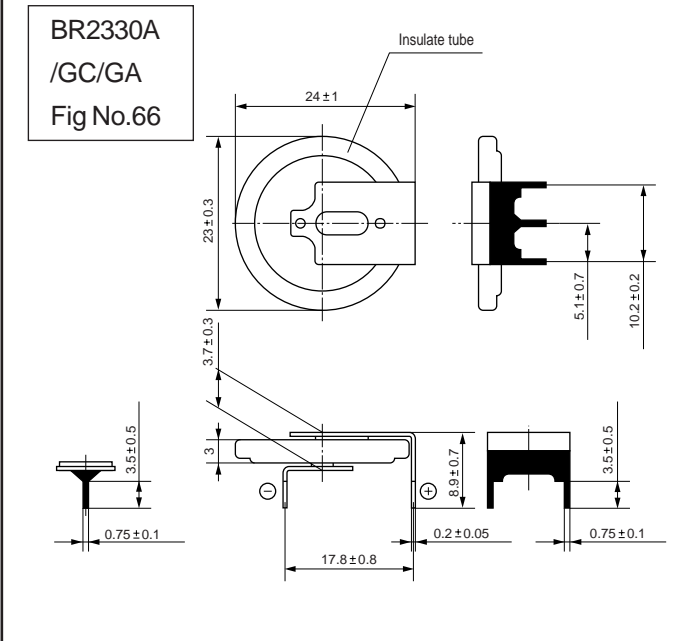
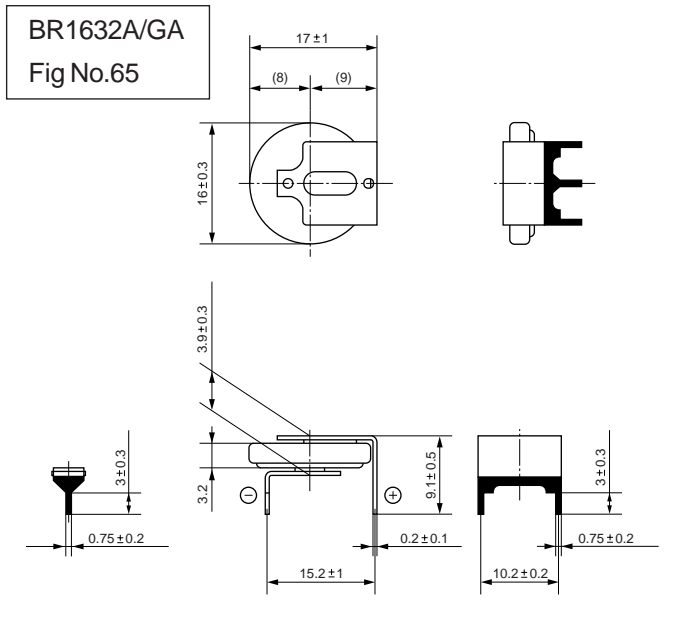


BR2330A/FA
Fig No.63



BR2477A/FB
Fig No.64

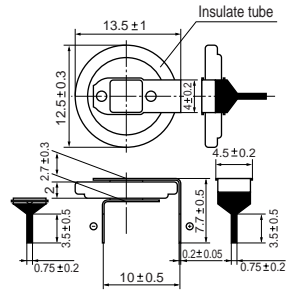




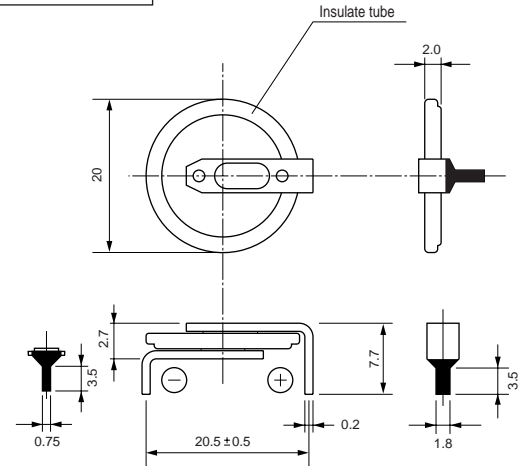
■ Vanadium Lithium (VL series) Rechargeable Batteries

| Type | Model Number | Insulate tube | | Specifications | | Page/Fig No. |
|-----------|--------------|---------------|---------|--------------------|-----------------------|--------------|
| | | With | Without | Nominal Voltage(V) | Nominal Capacity(mAh) | |
| H | VL1220 | /1HF | /1HE | 3 | 7 | 24/No.69 |
| | VL2020 | /1HF | | 3 | 20 | 24/No.70 |
| | VL2320 | /1HF | | 3 | 30 | 24/No.71 |
| | VL2330 | /1HF | | 3 | 50 | 24/No.72 |
| | VL3032 | /1HF5 | | 3 | 100 | 24/No.73 |
| V | VL1220 | /1VC | /1VB | 3 | 7 | 25/No.74 |
| | VL2020 | /1VC | | 3 | 20 | 25/No.75 |
| | VL2320 | /1VC | | 3 | 30 | 25/No.76 |
| | VL2330 | /1VC | | 3 | 50 | 25/No.77 |
| | | | | | | |
| F | VL621 | | /F9D | 3 | 1.5 | 26/No.78 |
| | VL1216 | | /1F5U | 3 | 5.0 | 26/No.79 |
| | VL1220 | /1FC | | 3 | 7.0 | 26/No.80 |
| | VL2020 | /1F2 | | 3 | 20 | 26/No.81 |
| | VL2320 | /1F2 | | 3 | 30 | 26/No.82 |
| | VL2330 | /1F3 | | 3 | 50 | 26/No.83 |
| | VL3032 | /1F2 | | 3 | 100 | 27/No.84 |
| | | | | | | |
| G | VL2020 | /1GU7 | | 3 | 20 | 27/No.85 |
| | VL3032 | /1GUF | | 3 | 100 | 27/No.86 |
| Connecter | VL2330 | /1S22 | | 3 | 50 | 27/No.87 |
| | VL2330 | /2S22 | | 6 | 50 | 27/No.88 |

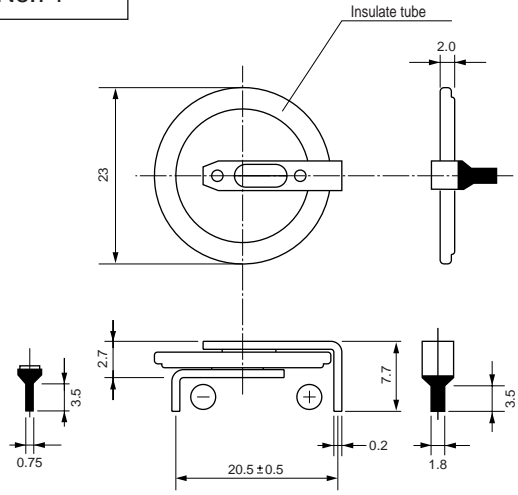
VL1220
/1HF/1HE
Fig No.69



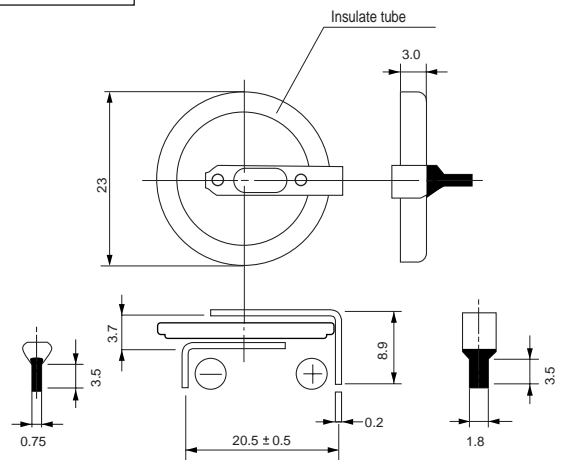
VL2020/1HF
Fig No.70



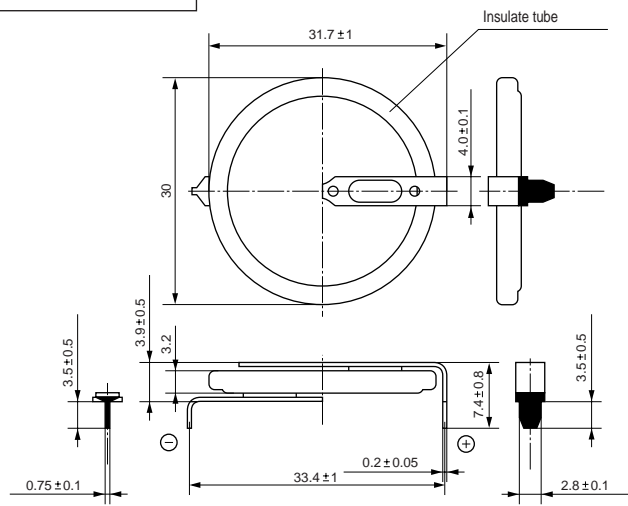
VL2320/1HF
Fig No.71



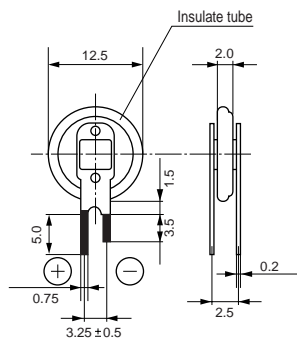
VL2330/1HF
Fig No.72



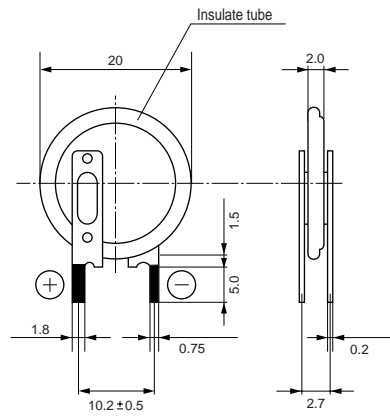
VL3032/1HF5
Fig No.73



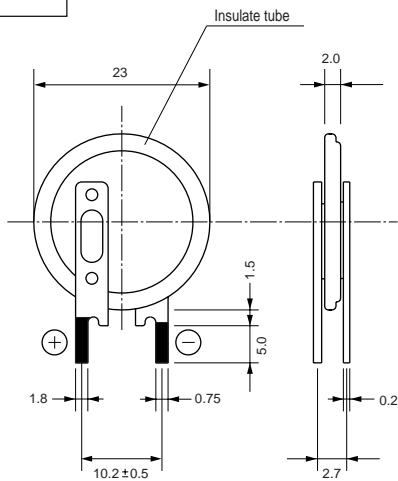
VL1220
/1VC/1VB
Fig No.74



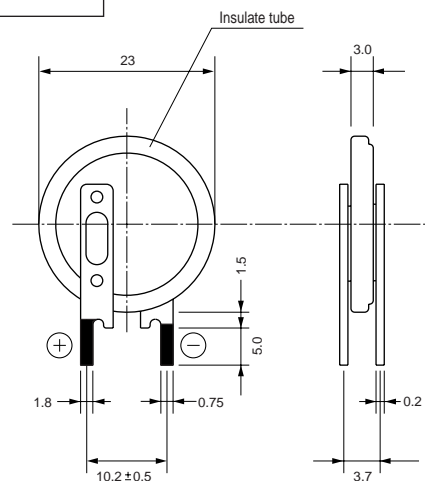
VL2020/1VC
Fig No.75



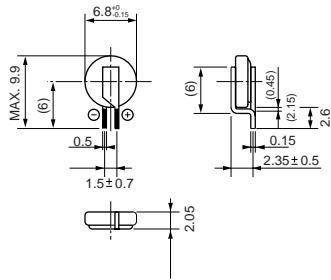
VL2320/1VC
Fig No.76



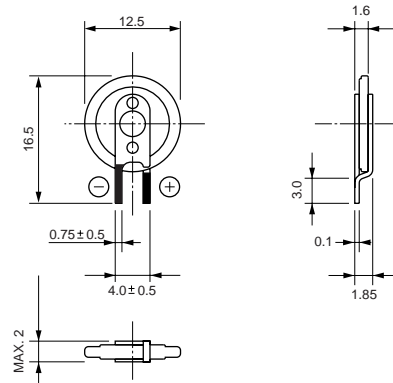
VL2330/1VC
Fig No.77



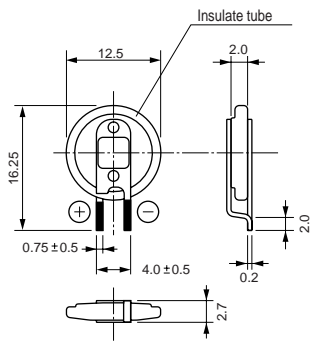
VL621/F9D
Fig No.78



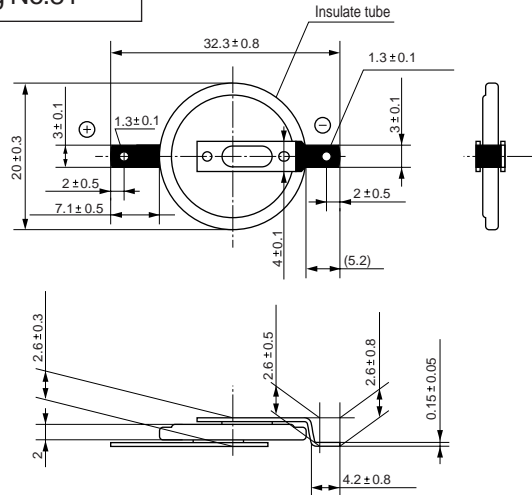
VL1216/1F5U
Fig No.79



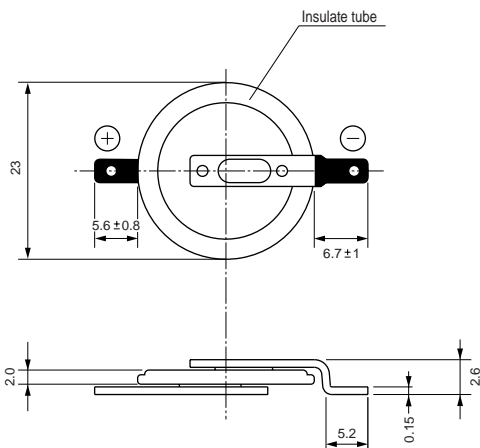
VL1220/1FC
Fig No.80



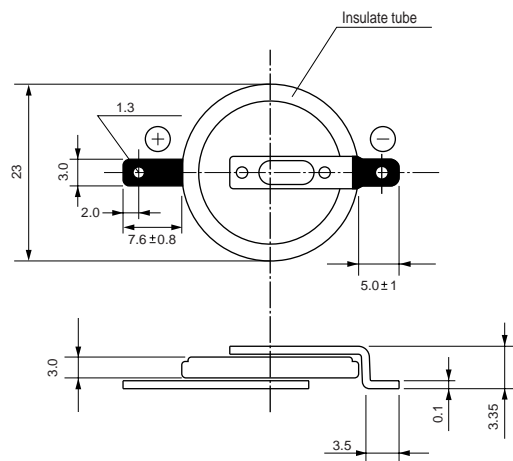
VL2020/1F2
Fig No.81



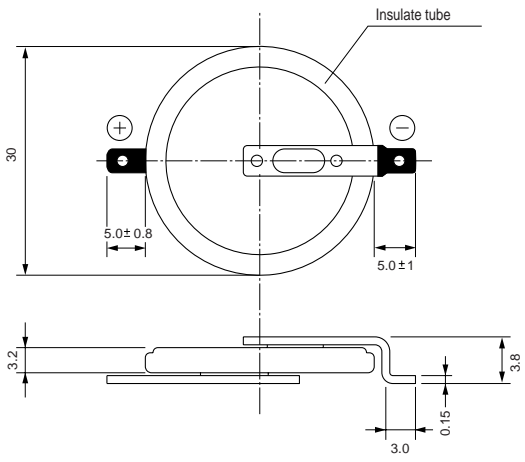
VL2320/1F2
Fig No.82



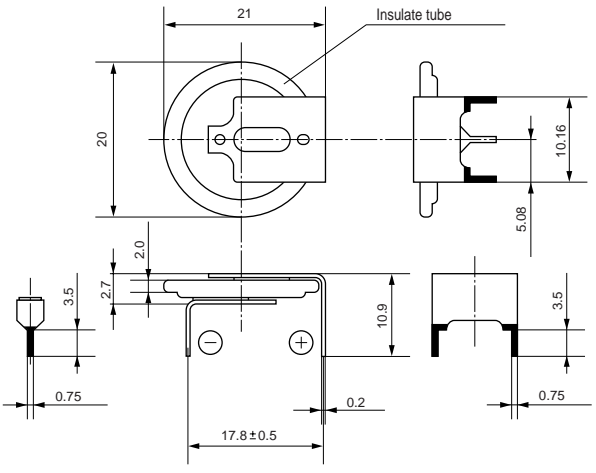
VL2330/1F3
Fig No.83



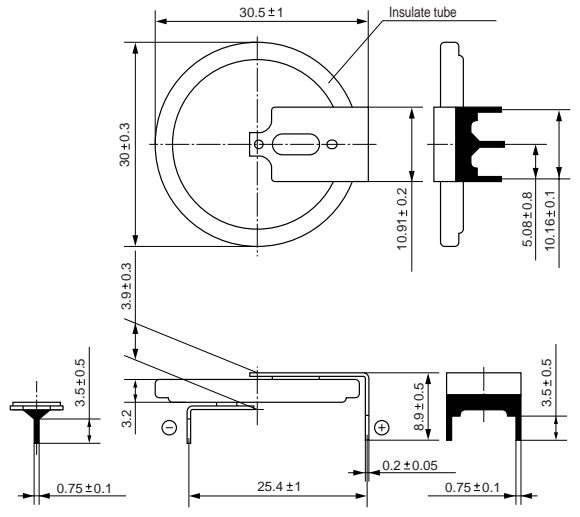
VL3032/1F2 **F** Type
Fig No.84



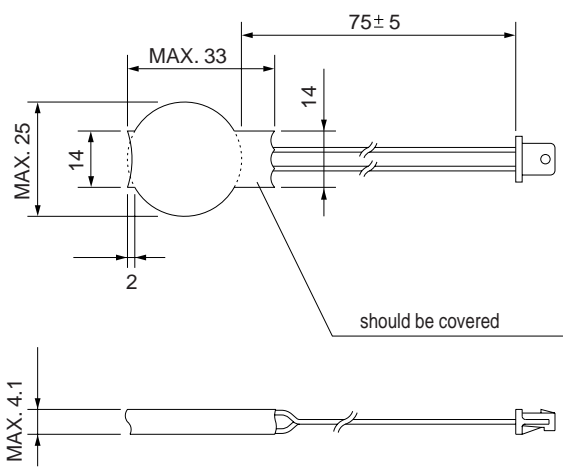
VL2020/1GU7 **G** Type
Fig No.85



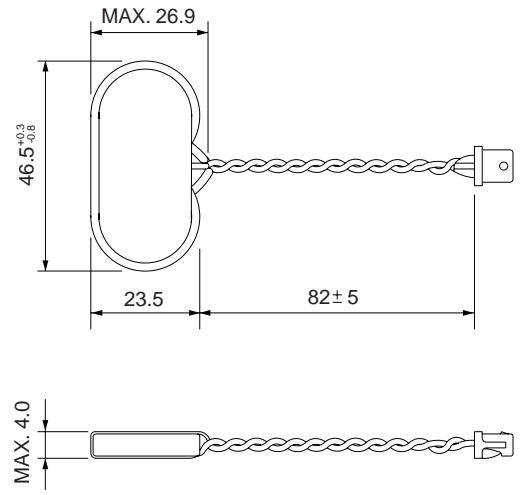
VL3032/1GUF **G** Type
Fig No.86



VL2330/1S22 **Connector**
Fig No.87



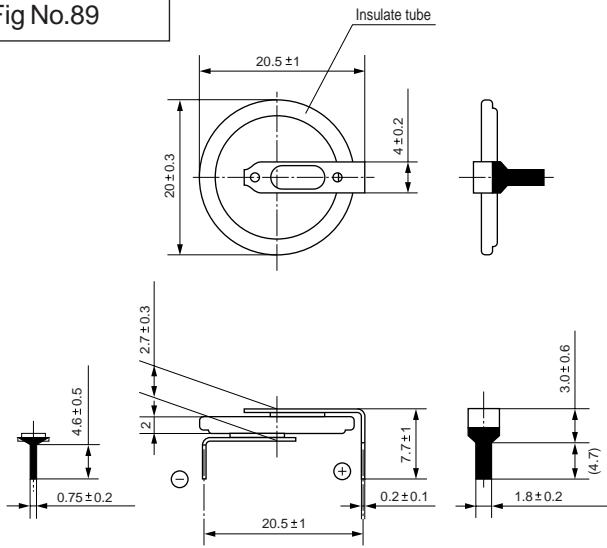
VL2330/2S22 **Connector**
Fig No.88



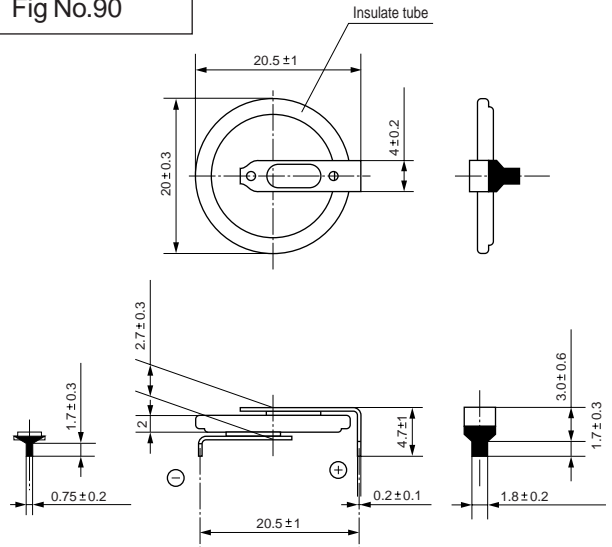
■Manganese Lithium (ML series) Rechargeable Batteries

| Type | Model Number | Insulate tube With / Without | Specifications | | Page/Fig No. | |
|------|--------------|---------------------------------|--------------------|-----------------------|--------------|-----------|
| | | | Nominal Voltage(V) | Nominal Capacity(mAh) | | |
| H | ML2020 | /H1B | 3 | 45 | 30/No.89 | |
| | ML2020 | /H1C | 3 | 45 | 30/No.90 | |
| V | ML621S | /V9A | 3 | 5 | 30/No.91 | |
| | ML1220 | /V1A | 3 | 17 | 30/No.92 | |
| | ML2020 | /V1A | 3 | 45 | 30/No.93 | |
| F | ML414S | /F9D (Under development) | 3 | 1.3 | 31/No.94 | |
| | ML612S | /F9D | 3 | 2.6 | 31/No.95 | |
| | ML612S | /FDD | 3 | 2.6 | 31/No.96 | |
| | ML614S | /F9F | 3 | 3.4 | 31/No.97 | |
| | ML614S | /F9D | 3 | 3.4 | 31/No.98 | |
| | ML616S | /F9D | 3 | 2.9 | 31/No.99 | |
| | ML616S | /FDD | 3 | 2.9 | 32/No.100 | |
| | ML621S | /F9D | 3 | 5 | 32/No.101 | |
| | ML621S | /FDD | 3 | 5 | 32/No.102 | |
| | ML920S | /F9D | 3 | 11 | 32/No.103 | |
| | ML920S | /F9F | 3 | 11 | 32/No.104 | |
| | ML1220 | /F1A | 3 | 17 | 32/No.105 | |
| | ML1220 | /F1B | 3 | 17 | 33/No.106 | |
| | G | ML2020 | /G1A | 3 | 45 | 33/No.107 |

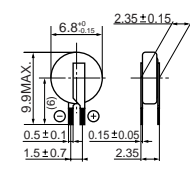
ML2020/H1B **H** Type
Fig No.89



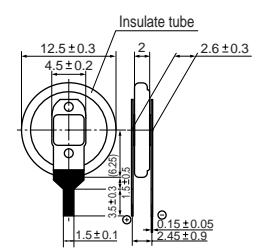
ML2020/H1C **H** Type
Fig No.90



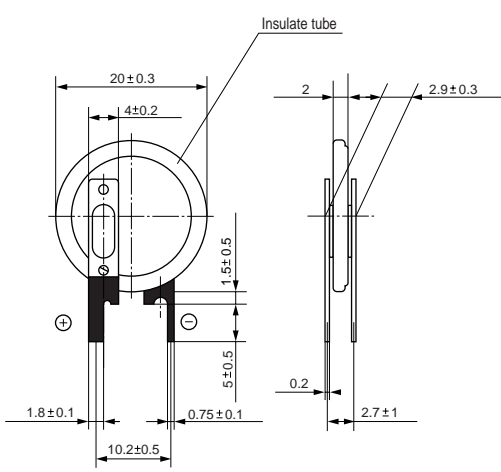
ML621S/V9A **V** Type
Fig No.91



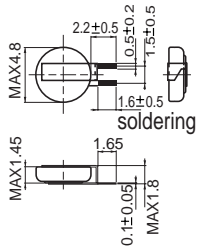
ML1220/V1A **V** Type
Fig No.92



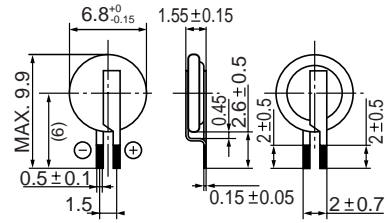
ML2020/V1A **V** Type
Fig No.93



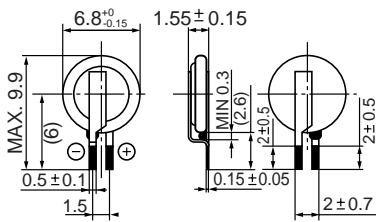
ML414S/F9D
Fig No.94



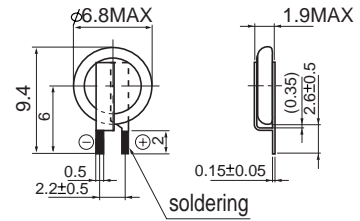
ML612S/F9D
Fig No.95



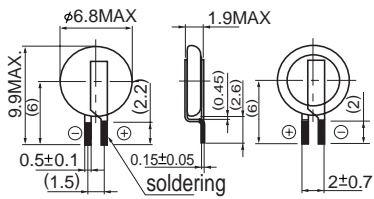
ML612S/FDD
Fig No.96



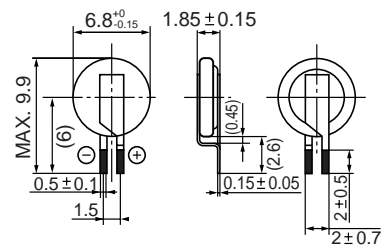
ML614S/F9F
Fig No.97



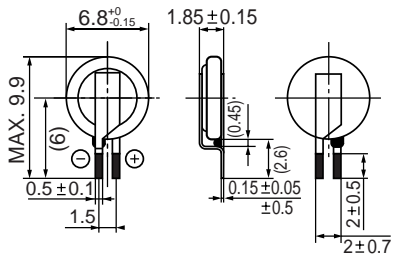
ML614S/F9D
Fig No.98



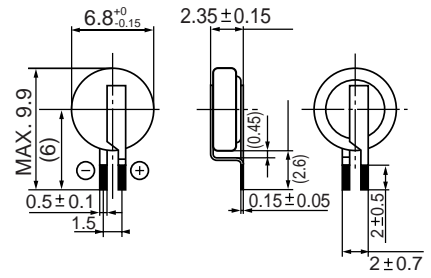
ML616S/F9D
Fig No.99



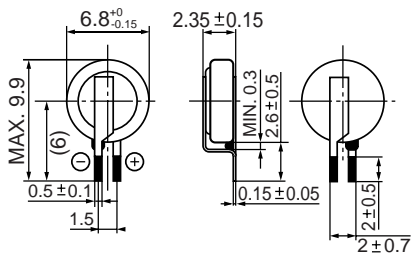
ML616S/FDD
Fig No.100



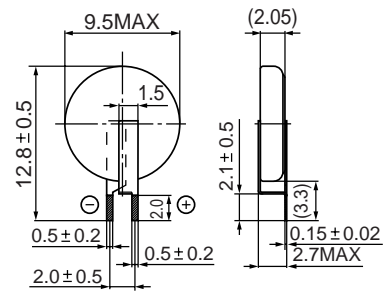
ML621S/F9D
Fig No.101



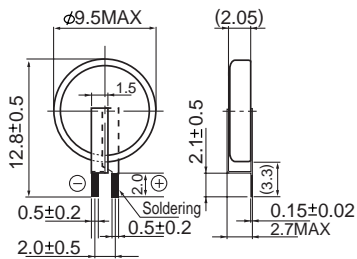
ML621S/FDD
Fig No.102



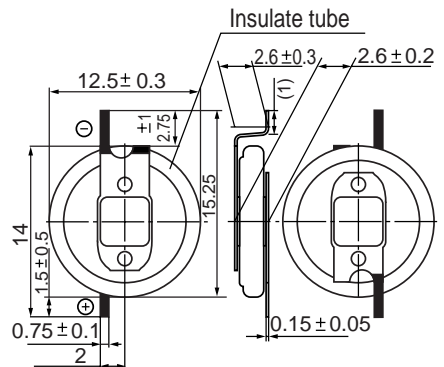
ML920S/F9D
Fig No.103



ML920S/F9F
Fig No.104



ML1220/F1A
Fig No.105



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