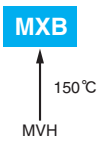
# Alchip™-MXB Series

- Endurance : 1,000 hours at 150℃
- Rated voltage range : 25 & 35V, Nominal capacitance range : 330 to 2,400μF
- For automobile modules and other high temperature applications.
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES).
- Vibration resistant structure.
- RoHS2 Compliant
- AEC-Q200 compliant : Please contact Chemi-Con for more details, test data, information.



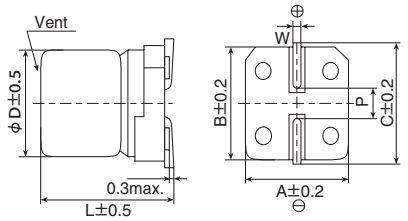
## ◆SPECIFICATIONS

| Items | Characteristics | | | |
|---|---|---|---|---|
| Category Temperature Range | -40 to +150℃ | | | |
| Rated Voltage Range | 25, 35$V_{dc}$ | | | |
| Capacitance Tolerance | ±20%(M) | | | (at 20℃, 120Hz) |
| Leakage Current | I=0.03CV<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) | | | (at 20℃ after 2 minutes) |
| Dissipation Factor (tan δ ) | Rated voltage($V_{dc}$) | 25V | 35V | |
| | tan δ (Max.) | 0.16 | 0.14 | |
| | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. | | | (at 20℃, 120Hz) |
| Low Temperature Characteristics (Max. impedance Ratio) | Rated voltage($V_{dc}$) | 25V | 35V | |
| | Z(-25℃)/Z(+20℃) | 2 | 2 | |
| | Z(-40℃)/Z(+20℃) | 4 | 3 | (at 120Hz) |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage is applied for 1,000 hours at 150℃. | | | |
| | Capacitance change | ≦±30% of the initial value | | |
| | D.F. (tan δ ) | ≦300% of the initial specified value | | |
| | Leakage current | ≦The initial specified value | | |
| Shelf Life | The following specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 150℃ without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. | | | |
| | Capacitance change | ≦±30% of the initial value | | |
| | D.F. (tan δ ) | ≦300% of the initial specified value | | |
| | Leakage current | ≦The initial specified value | | |

## ◆DIMENSIONS [mm]

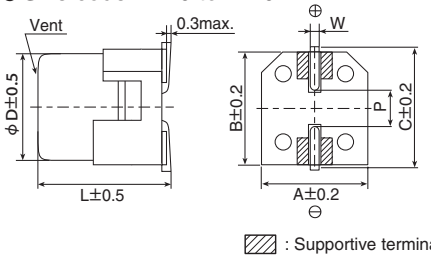
● Terminal Code : A

● Size code : KE0 to MN0




● Terminal Code : G(Vibration resistant structure)

● Size code : KE0 to MN0




: Supportive terminals

| Size code | φD | L | A | B | C | W | P |
|---|---|---|---|---|---|---|---|
| KE0 | 12.5 | 13.5 | 13.0 | 13.0 | 13.7 | 1.0 to 1.3 | 4.2 |
| KG5 | 12.5 | 16.0 | 13.0 | 13.0 | 13.7 | 1.0 to 1.3 | 4.2 |
| LH0 | 16 | 16.5 | 17.0 | 17.0 | 18.0 | 1.0 to 1.3 | 6.5 |
| LN0 | 16 | 21.5 | 17.0 | 17.0 | 18.0 | 1.0 to 1.3 | 6.5 |
| MH0 | 18 | 16.5 | 19.0 | 19.0 | 20.0 | 1.0 to 1.3 | 6.5 |
| MN0 | 18 | 21.5 | 19.0 | 19.0 | 20.0 | 1.0 to 1.3 | 6.5 |

## ◆PART NUMBERING SYSTEM

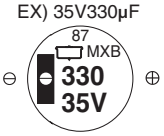
| 1 | 2 3 4 | 5 6 7 | 8 | 9 10 | 11 12 13 | 14 | 15 16 17 | 18 |
|---|---|---|---|---|---|---|---|---|
| E | MXB | | | RA | | M | | S |

- 18 S : Supplement code
- 15 16 17 : Size code
- 14 M : Capacitance tolerance code
- 11 12 13 : Capacitance code (ex. 560μF:561, 1,000μF:102)
- 9 10 RA : Taping code
- 8 : Terminal code (A, G)
- 5 6 7 : Voltage code (ex. 25V:250, 35V:350)
- 2 3 4 MXB : Series code
- 1 E : Category

Please refer to "Product code guide (surface mount type)"

## ◆MARKING

EX) 35V330μF




Product specifications in this catalog are subject to change without notice.Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

# Alchip™-MXB Series

## ◆STANDARD RATINGS

| WV ($V_{dc}$) | Cap (μF) | Size code | ESR (Ω max./100kHz) | | Rated ripple current (mArms/150℃, 100kHz) | Part No. |
|---|---|---|---|---|---|---|
| | | | 20℃ | −40℃ | | |
| 25 | 560 | KE0 | 0.14 | 2.1 | 860 | EMXB250□RA561MKE0S |
| | 750 | KG5 | 0.11 | 1.5 | 1,000 | EMXB250□RA751MKG5S |
| | 1,000 | LH0 | 0.10 | 1.5 | 1,120 | EMXB250□RA102MLH0S |
| | 1,500 | MH0 | 0.10 | 1.5 | 1,210 | EMXB250□RA152MMH0S |
| | 1,800 | LN0 | 0.058 | 0.87 | 1,460 | EMXB250□RA182MLN0S |
| | 2,400 | MN0 | 0.058 | 0.87 | 1,560 | EMXB250□RA242MMN0S |
| 35 | 330 | KE0 | 0.27 | 8.1 | 670 | EMXB350□RA331MKE0S |
| | 390 | KG5 | 0.21 | 6.3 | 800 | EMXB350□RA391MKG5S |
| | 560 | LH0 | 0.16 | 4.8 | 920 | EMXB350□RA561MLH0S |
| | 750 | MH0 | 0.13 | 3.9 | 1,000 | EMXB350□RA751MMH0S |
| | 910 | LN0 | 0.10 | 3.0 | 1,260 | EMXB350□RA911MLN0S |
| | 1,200 | MN0 | 0.084 | 1.7 | 1,320 | EMXB350□RA122MMN0S |

□ : Enter the appropriate terminal code.

## ◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 120 | 1k | 10k | 100k |
|---|---|---|---|---|
| 330 to 560 | 0.50 | 0.85 | 0.94 | 1.00 |
| 750 to 1,800 | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,400 | 0.75 | 0.90 | 0.95 | 1.00 |

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.

Please contact us for lifetime estimation.

Product specifications in this catalog are subject to change without notice.Request our product specifications before purchase and/or use. Please use our products based on the information contained in this catalog and product specifications.

■ Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.

■ Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.

■ The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.

■ The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.
Please make sure that you take appropriate safety measures such as use of redundant design and malfunction prevention measures in order to prevent fatal accidents and/or fires in the event any of our products malfunction.

■ We strongly recommend our customers to purchase Nippon Chemi-Con products only through our official sales channels. We assume no responsibility for any defects or damages caused by using products purchased from outside our official sales channel or of counterfeit goods. In addition, we will ask the customer to pay the investigation cost for products purchased outside our official sales channel.

■ We reserve the right to discontinue production and delivery of products. We do not guarantee that all the products included in this catalog will be available in the future.
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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

Part Numbering System
Part Numbering System (Appendix)
Standardization
Available Items by Manufacturing Locations
Environmental Measures
Technical Note
Precautions and Guidelines
Recommended Soldering Conditions
Taping, Lead-preforming and Packaging
Available Terminals for Snap-in and Screw Mount Type

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CAT. No. E1001A 2026