

No. P-JHCN-E003

DATE 2024-11

PRODUCTS DATA SHEET

MICRO FUSE

Type JHCN

Size 7.3 mm x 5.8 mm

Conforms to AEC-Q200 Table.7

UL. cUL Recognized

RoHS directive compliant product <RoHS COMPLIANT LEAD FREE>



With the spread of HV and EV vehicles, the use of large-capacity batteries is increasing. The micro fuse JHC type N series was developed for circuit protection against overcurrent in automotive and industrial equipment.

By adopting a structure in which the fuse element and terminals are integrated, we have achieved a small size and high current rating even though it is a surface mount type.

By making it completely lead-free, it is designed to be environmentally friendly.

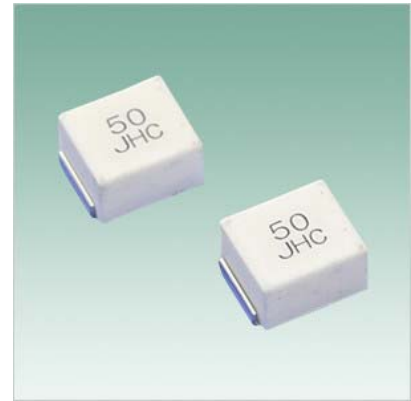


MATSUO ELECTRIC CO., LTD.

MICRO FUSE Type JHC N series

FEATURES

1. A high current rating is achieved by adopting a structure in which the fuse element and terminals are integrated.
2. 7.3 x 5.8 x 4.2 mm (0.29 x 0.23 x 0.17 inch) size small surface mount type.
3. The surface temperature rise is 75°C or less when the rated current is applied, making it a fuse that has little impact on the surroundings.
4. Alumina ceramics are used for the case, and a unique structure is used inside the case to improve safety during fusing.
5. Suitable for automatic mounting.
6. Complete lead-free.



CLEARING CHARACTERISTICS

Rated Current	Rated Voltage	Breaking Current
30 A~50 A	60 VDC	300 A
60 A	60 VDC	600 A
80 A ~100 A	35 VDC	600 A

CERTIFICATION

Conforms to AEC-Q200 Table.7

Certification Body	File No.	Range of Rated Current
UL cUL Recognized	E170721	30 A ~ 100 A

CATEGORY TEMPERATURE RANGE

-40 °C ~ +125 °C

INSULATION RESISTANCE

1000 MΩ (between terminals and case)

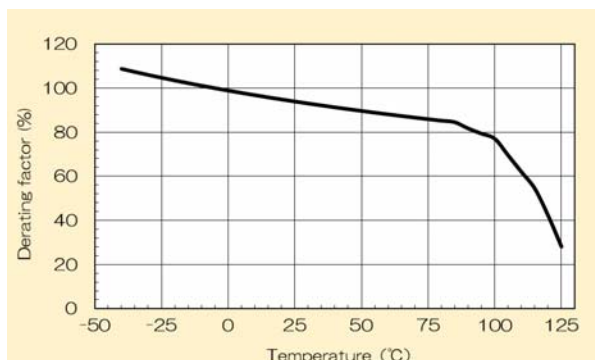
VOLTAGE DROP

Rated Current	Voltage drop
30 A~50 A	80 mV
60 A~80 A	90 mV
100 A	100 mV

DERATING (REFERENCE DATA)

Steady current flowing through the fuse must be reduced by the ambient temperature. Assuming that rated current value is 100%

Derating

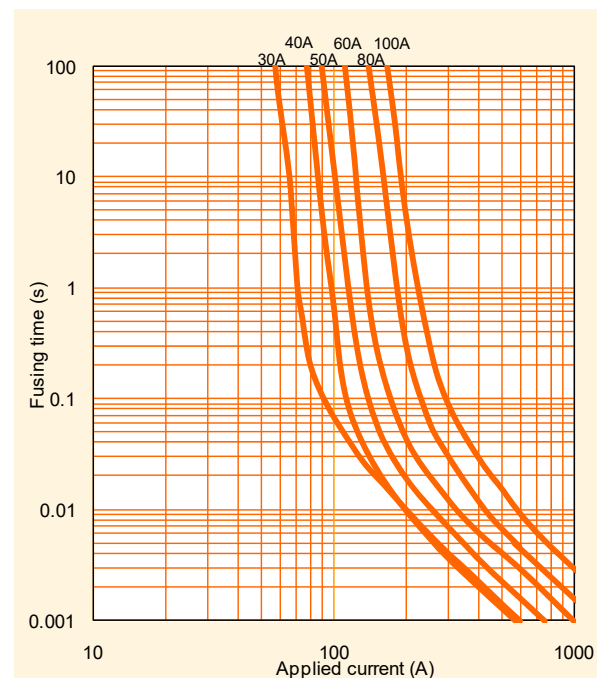


FUSING CHARACTERISTICS

% of current rating	Time
100 %	Not fusing more than 1 hour
250 %	Fusing within 1 minute

FUSING CHARACTERISTICS (REFERENCE DATA)

Fusing Characteristics



CATALOG NUMBERS AND RATING

Code	Catalog Numbers	Rated Current	Typical electrical resistance
JHC 30A	JHCN6002303 □44E	30 A	1.45mΩ
JHC 40A	JHCN6002403 □44E	40 A	1.11mΩ
JHC 50A	JHCN6002503 □44E	50 A	0.88mΩ
JHC 60A	JHCN6002603 □44E	60 A	0.78mΩ
JHC 80A	JHCN3502803 □44E	80 A	0.59mΩ
JHC 100A	JHCN3502104 □44E	100 A	0.49mΩ

• For the taping type, the packing code "R or N" will be entered in □.

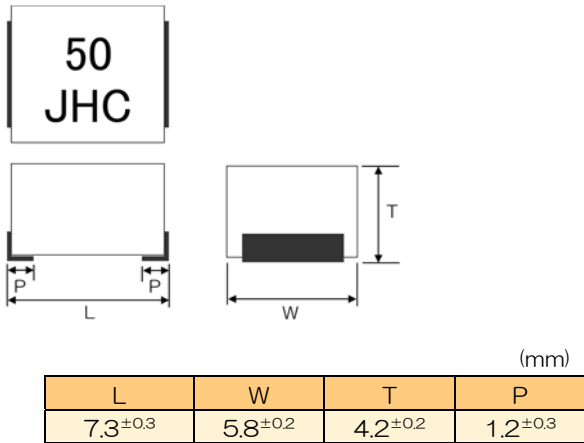
ORDERING INFORMATION

J H C N 6 0 0 2 5 0 3 R 4 4 E

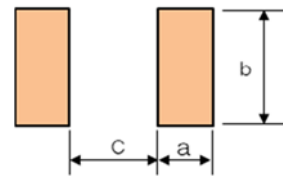
① ② ③ ④ ⑤ ⑥ ⑦

①Type	②Series	③Rated voltage	④Rated current	⑤Blank	⑥Package Code	⑦Case Code
Fusin Characteristics : Type 250% : JHC	N	35V : 3502 60V : 6002	30A : 303 40A : 403 50A : 503 60A : 603 80A : 803 100A : 104		Reel dimensions R: ϕ 180 N: ϕ 330	44E

DIMENSIONS



RECOMMENDED PAD DIMENSIONS

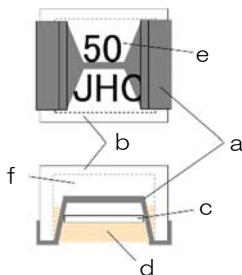


(mm)	
Size 7358	
a	2.7
b	5.8
c	4.4

Reflow

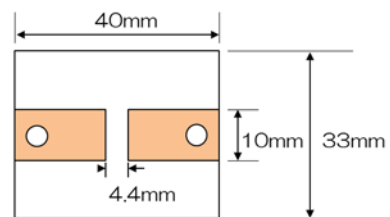
Please refer to the performance below for the temperature conditions of soldering.

CONSTRUCTION



No.	Name	Material, standard, and treatment
a	All-in-one fuse element with terminal	Copper Alloy (Tin plating terminal)
b	Ceramic case	Alumina ceramics
c	Ceramic plate	Alumina ceramics
d	Seal resin	Silicone resin
e	Marking	UV curable resin
f	Empty space	—

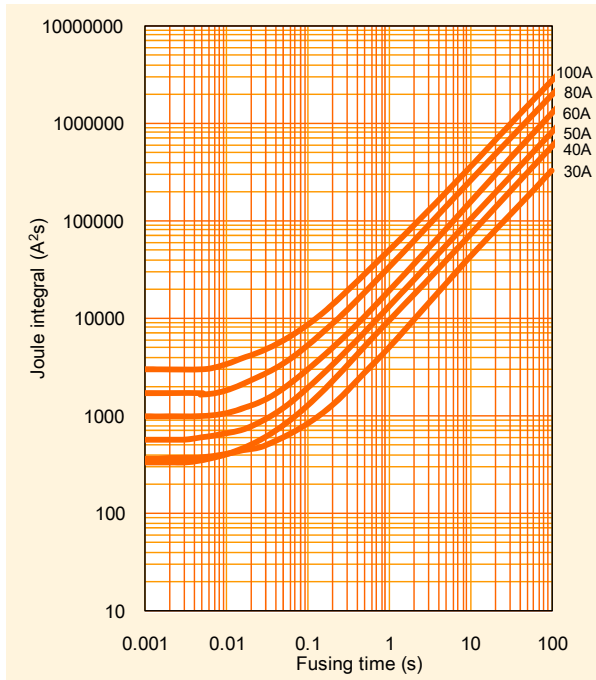
STANDARD TEST BODY



Single-sided glass epoxy board
Substrate thickness 1.6mm
Pattern copper foil thickness 400 μ m

I²t – t CHARACTERISTICS (REFERENCE DATA)

I²t – t Characteristics



APPLICATION CLASSIFICATION BY USE

The application classification by use which divided the market and use into four is set up supposing our products being used for a broad use.

Please confirm the application classification by use of each product that you intend to use.

Moreover, please be sure to inform to our Sales Department in advance in examination of the use of those other than the indicated use.

PERFORMANCE

Item	Performance	Test method
Temperature rise	Temperature rise shall not exceed 75°C.	Apply rated current.
Current-carrying capacity	Shall not open within 1 hour.	Apply rated current.
Clearing characteristics	Marking shall be legible. Shall not ignite, shall not explode the exterior	Rated Current : 30 A~50 A : 60 VDC, 300A Rated Current : 60 A : 60 VDC, 600A Rated Current : 80 A~ 100 A : 35 VDC, 600A
Voltage drop	Type JAJ : 99mV, Type JAK : 83mV	Apply rated current.
Fusing characteristics	Fusing within 1 min.	Ambient temperature : 10 ~ 30°C Apply 250% of rated current.
Insulation resistance	1 MΩ or more	Insulation resistance between terminals and case
Electrode strength (Bending)	No mechanical damage. Resistance change after the test shall be within ± 20%.	Board supporting width : 90 mm Bending : 3 mm Bending speed : Approx. 0.5 mm/sec. Duration : 60±5 sec.
Electrode strength (Shear test)	There is no peeling between the terminal and the substrate. Resistance change after the test shall be within ± 20%.	Applied force : 17.7 N Duration : 10 sec. Tool : R0.5 Pressurize from the side of the product
Substrate bending test	No mechanical damage. Resistance change after the test shall be within ± 20%.	Supporting dimension : 1.6 mm Applied force : 20 N Duration : 10 sec. Tool : R0.5 Direction of the press : thickness direction of product
Solderability (Solder Wetting time)	Solder Wetting time : within 3sec.	Solder : Sn-3Ag-0.5Cu Temperature : 245±3°C meniscograph method
		Solder : JISZ3282 H60A,H60S,H63A Temperature : 230±2°C meniscograph method
Solderability (new uniform coating of solder)	The dipping surface of the terminals shall be covered more than 95% with new solder.	Solder : Sn-3Ag-0.5Cu Temperature : 245±3°C Dipping : 3 sec.
		Solder : JISZ3282 H60A,H60S,H63A Temperature : 230±2°C Dipping : 3 sec.
Resistance to soldering heat	Marking shall be legible. No mechanical damage. Resistance change after the test shall be within ± 20%.	Measure after 1 hour left under room temperature and humidity. After soldering, leave it in normal temperature and humidity for 1 hour or more, and measure the resistance value. <Soldering conditions> Dipping (1 cycle) Preconditioning : 100~150°C / 60±5s Temperature : 265±3°C / 6~7s . Reflow soldering (2 cycles) Preconditioning : 1~2min 180°C or less Peak : max 250±5°C 5s Holding : 230~250°C 30~40s Cooling : more than 2min Manual soldering Temperature : 350±10°C Duration : 3~4s
Vibration	No mechanical damage. Resistance change after the test shall be within ± 20%.	Vibration amplitude : 5G (49m/s ²) , Vibration time : 20min Frequency range : 10~2000Hz Number of cycles: 12 cycles each in 3 directions of XYZ (36 in total)
Shock	No mechanical damage. Resistance change after the test shall be within ± 20%.	Peak acceleration : 1500G (14700m/s ²) Duration : 0.5ms, Wave form : Half-sine, Speed change : 4.7m/s 6 sides x 3 times (18 times in total)
Temperature cycle	No mechanical damage. Resistance change after the test shall be within ± 20%.	Perform 1000 cycles, with steps 1 and 2 below as one cycle. The transition time between stage 1 and stage 2 shall be within 3 min. Step1 : -55°C±3°C/30±3min Step2 : 125±2°C/30±3min
Moisture resistance	No mechanical damage. Resistance change after the test shall be within ± 20%.	Temperature : 85±3°C Humidity : 85±5%RH Duration : 1000 h
Load life	N No mechanical damage. Resistance change after the test shall be within ± 20%.	Temperature : 85±2°C, Current : rated current × 70%, Duration : 1000 h Temperature : 125±2°C, Current : rated current × 60%, Duration : 1000 h
Moisture resistance load	No mechanical damage. Resistance change after the test shall be within ± 20%.	Temperature : 85±3°C Humidity : 85±5%RH Current : rated current × 70% Duration : 1000 h
High temperature exposure (Stability)	No mechanical damage. Resistance change after the test shall be within ± 20%.	Temperature : 125±2°C No electricity, Duration : 1000 h
Solvent resistance	Marking shall be legible. No damage to the appearance. The resistance value after the test must be within ± 20% of the resistance value before the test.	Dipping rinse Solvent : Isopropyl alcohol Duration : 90 sec.
ESD resistance	No mechanical damage. Resistance change after the test shall be within ± 20%.	ESD-HBM circuit Rd=2kΩ, Cd=150pF Withstand voltage: 4000 - 6000V by contact discharge

Item	Performance	Test method
High and Low Temp	<p>No mechanical damage, and the resistance value cleared the following standard.</p> <p>(1) Step 1 (20±2°C): Initial resistance value</p> <p>(2) Step 2 (-40±3°C): Within -17% to +3% of Step 1 result</p> <p>(3) Step 3 (20±2°C): Within ±5% of Step 1 result</p> <p>(4) Step 4 (85±2°C): Within -3% to +17% of Step 1 result</p> <p>(5) Step 5 (125±2°C): Within +2% to +22% of Step 1 result</p> <p>(6) Step 6 (20±2°C): Within ±5% of Step 1 result</p>	<p>(1) Step 1 (20±2°C)</p> <p>(2) Step 2 (-40±3°C)</p> <p>(3) Step 3 (20±2°C)</p> <p>(4) Step 4 (85±2°C)</p> <p>(5) Step 5 (125±2°C)</p> <p>(6) Step 6 (20±2°C)</p> <p>In order from (1) to (6), changing the temp and measuring the resistance charge.</p>



Application Notes for Micro Fuse

1. Circuit Design

Before using HIGH CURRENT MICRO FUSE, be sure to fully check after confirming operating conditions and Micro Fuse characteristics.

When determining the rated current, be sure to observe the following items :

- (1) HIGH CURRENT MICRO FUSE should always be operated below the value considered in the rated derating rate and temperature derating rate for rated current.
- (2) HIGH CURRENT MICRO FUSE should always be operated below rate for rated current.
- (3) HIGH CURRENT MICRO FUSE should be selected with rated value to be certainly fused at overload current.
- (4) When HIGH CURRENT MICRO FUSE are used in inrush current applications, please confirm sufficiently inrush resistance of HIGH CURRENT MICRO FUSE.
- (5) Please do not apply the current exceeding the rated breaking current to HIGH CURRENT MICRO FUSE.
In addition, I would like confirmation beforehand not to have possibilities to cut it off normally when you use it by a high inductance circuit.
- (6) Use HIGH CURRENT MICRO FUSE under the condition of category temperature.
- (7) HIGH CURRENT MICRO FUSE should not be used in the AC power source and primary power source.
- (8) In a 25°C environment under normal circumstances, please design substrate wiring so that the surface temperature of a fuse does not exceed 80°C.
And, please use after checking that turn on operating current and overload current by an actual substrate in advance, and it is satisfactory.

Please confirm whether the selection of the rating of HIGH CURRENT MICRO FUSE was appropriate in the actual device (state of final product).
In that case, after considering the variation due to the product, repeat the tests for normal use and predictable abnormalities to confirm the validity of the selection.

2. Assembly and Mounting

During the entire assembly process, observe HIGH CURRENT MICRO FUSE body temperature and the heating time specified in the performance table. In addition, observe the following items :

- (1) Mounting and adjusting with soldering irons are not recommendable since temperature and time control is difficult.
- (2) Once HIGH CURRENT MICRO FUSE mounted on the board, they should never be remounted on boards or substrates.
- (3) During mounting, be careful not to apply any excessive mechanical stresses to the HIGH CURRENT MICRO FUSE.

3. Solvents

HIGH CURRENT MICRO FUSE has no effect when immersed in isopropyl alcohol for 90 seconds (at 20 ~ 30°C liquid temp.)

If organic solvents will be used to HIGH CURRENT MICRO FUSE, be sure to preliminarily check that the solvent will not damage HIGH CURRENT MICRO FUSE.

4. Ultrasonic Cleaning

Ultrasonic cleaning is not recommended for HIGH CURRENT MICRO FUSE. This may cause damage to HIGH CURRENT MICRO FUSE such as broken terminals which results in electrical characteristics effects, etc. depending on the conditions.

5. Caution During Usage

- (1) HIGH CURRENT MICRO FUSE with electricity should never be touched.
HIGH CURRENT MICRO FUSE with electricity may cause burning due to HIGH CURRENT MICRO FUSE high temperature.
Also, in case of touching HIGH CURRENT MICRO FUSE without electricity, please check the safety temperature of HIGH CURRENT MICRO FUSE.
- (2) Protective eye glasses should always be worn when performing fusing tests.
However, there is a fear that HIGH CURRENT MICRO FUSE will explode during test.
During fusing tests, please cover particles not to fly outward from the board or testing fixture. Caution is necessary during usage at all times.

6. Environmental Conditions

- (1) HIGH CURRENT MICRO FUSE should not be stored or operated in the presence of acids, or alkalis, or corrosive atmosphere.
- (2) HIGH CURRENT MICRO FUSE should not be vibrated, shocked, or pressed excessively.
- (3) HIGH CURRENT MICRO FUSE should not be operated in a flammable or explosive atmosphere.
- (4) HIGH CURRENT MICRO FUSE should not be used under dew condensation environment.
- (5) Covering HIGH CURRENT MICRO FUSE with resin after mounting it on the board may affect the electrical characteristics, so perform thorough evaluation in advance.

7. Emergency

In case of fire, smoking, or offensive odor during operation, please cut off the power in the circuit or pull the plug out.

8. Storage

- (1) HIGH CURRENT MICRO FUSE should not be stored in an environment with high temperature, low temperature, high humidity, condensation and dust and avoid direct sunlight.
HIGH CURRENT MICRO FUSE should not be stored in corrosive atmosphere such as H₂S (hydrogen sulfide) or SO₂ (sulfur dioxide).
Direct sunlight may cause decolorization and deformation of the exterior and taping.
Also, there is a fear that solderability will be remarkably lower in high humidity.
- (2) If the products are stored for an extended period of time, please contact Matsuo Sales Department for recommendation. The longer storage term causes packages and tapings to worsen. If the products are stored for longer term, please contact Matsuo Sales Department for advice.
- (3) The products in taping, package, or box should not be given any kind of physical pressure. Deformation of taping or package may affect automatic mounting.
- (4) The plastic reel (made of PS) used for packaging the product is intended for use in ambient temperatures (5-35°C). To prevent issues during automated insertion due to reel deformation or other factors, please keep the reel away from direct sunlight and heat sources, and ensure it does not reach high temperatures (above 60°C), including during transportation.

9. Disposal

When HIGH CURRENT MICRO FUSE are disposed of as waste or "scrap", they should be treated as "industrial waste".

10. Samples

HIGH CURRENT MICRO FUSE received as samples should not be used in production applications. A sample is provided for the special use (in such cases as the one for the form sample, the electric characteristic confirmation)



MATSUO ELECTRIC CO., LTD.

Please feel free to ask our Sales Department for more information on Micro Fuse.

Overseas Sales 5-3,3-Chome, Sennari-cho, Toyonaka-shi, Osaka 561-8558, Japan Tel:06-6332-0883 Fax:06-6332-0920
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URL <https://www.ncc-matsuo.co.jp/>

Specifications on this catalog are subject to change without prior notice. Please inquire of our Sales Department to confirm specifications prior to use.

適用用途分類 / APPLICATION CLASSIFICATION BY USE

Rev.6 (2023.03.01)

市場	適用用途分類	用途		推奨品種	推奨品種	推奨品種	推奨品種
		概要	代表的なアプリケーション例	チップタンタルコンデンサ	リード付タンタルコンデンサ	回路保護素子	フィルムコンデンサ
高信頼度機器	1	<ul style="list-style-type: none"> 高度な安全性や信頼性が要求される機器 製品の保守交換が不可能な機器、製品の故障が人命に直接かわる、または、致命的なシステムダウンを引き起こす可能性がある機器 	<ul style="list-style-type: none"> 宇宙開発機器関連(衛星、ロケット、人工衛星) 航空・防衛システム 原子力・火力・水力発電システム 	267型Pシリーズ	111型Pシリーズ	該当なし	該当なし
車載・産業機器	2	<ul style="list-style-type: none"> 信頼性が重視される機器 製品の保守交換が極めて困難な機器や、製品の故障が人命に影響する、あるいは故障の範囲が広範囲である機器 	<ul style="list-style-type: none"> 自動車および鉄道・船舶等の輸送機器の車両制御(エンジン制御, 駆動制御, ブレーキ制御) 新幹線・主要幹線の運行制御システム 	267型Nシリーズ 271型Nシリーズ 279型Mシリーズ	111型Nシリーズ 111型Mシリーズ 112型Mシリーズ 204型Nシリーズ 247型	JAG型Nシリーズ JAJ型Nシリーズ JAK型Nシリーズ JHC型Nシリーズ KAB型Nシリーズ KVA型Nシリーズ	431型 431型Aシリーズ 503型 553型 801型 802型
	3	<ul style="list-style-type: none"> 製品の保守交換が可能な機器や、製品の故障が人命に影響しないが故障によるシステムダウンの損失が大きく安全管理が要求される機器 	<ul style="list-style-type: none"> エアコン, カーナビ等の車室内搭載部品, 車載用通信機器 家庭用/ビル用等のセキュリティ管理システム 工業用ロボットや工作機械等の制御機器 	267型Mシリーズ 267型Eシリーズ 281型Mシリーズ TCA型	204型Mシリーズ	KAB型Mシリーズ	
汎用機器	4	<ul style="list-style-type: none"> 最先端技術を積極的に適用する小型・薄型品 製品の保守交換が可能な機器や、製品の故障によるシステムダウンが部分的な機器向けの市場で広く使用されることを想定した製品 	<ul style="list-style-type: none"> スマートフォン, 携帯電話, モバイルPC(タブレット), 電子辞書 デスクトップPC, ノートPC, ホームネットワーク アミューズメント機器(パチンコ, ゲーム機) 	251型Mシリーズ 281型Eシリーズ TCB型		JAE型, JAG型 JAJ型, JAK型 JHC型 KAB型 KAB Tシリーズ KVA型	503型Aシリーズ

Market	Application classification by use	Use		Recommendation Type	Recommendation Type	Recommendation Type	Recommendation Type
		Outline	Typical example of application	Chip Tantalum Capacitors	Leaded Tantalum Capacitors	Circuit Protection Components	Film Capacitors
High reliability apparatus	1	<ul style="list-style-type: none"> - Apparatus in which advanced safety and reliability are demanded. - Whether failure of the apparatus which cannot maintenance exchange products, and a product is direct for a human life, apparatus which changes or may cause a fatal system failure. 	<ul style="list-style-type: none"> - Space development apparatus relation (Satellite, Rocket, Artificial Satellite) - Aviation and a defensive system - Atomic power, fire power, and a water-power generation system 	Type 267 P Series	Type 111 P series	With no relevance	With no relevance
In-vehicle - Industrial apparatus	2	<ul style="list-style-type: none"> - Apparatus in which reliability is important. - The apparatus in which maintenance exchange of a product is very difficult, and failure of a product influence a human life, or the range of failure is wide range. 	<ul style="list-style-type: none"> - Vehicles control of transport machines, such as a car, and a railroad, a vessel (Engine control, drive control, brake control) - The operation control system of the Shinkansen and a main artery 	Type 267 N Series Type 271 N Series Type 279 M Series	Type 111 N series Type 111 M series Type 112 M series Type 204 N series Type 247	Type JAG N series Type JAJ N series Type JAK N series Type JHC N series Type KAB N series Type KVA N series	Type 431 Type 431 A series Type 503 Type 553 Type 801 Type 802
	3	<ul style="list-style-type: none"> - Apparatus which can maintenance exchange products, and apparatus in which the loss of the system failure is large although failure of a product does not influence a human life, and maintenance engineering is demanded 	<ul style="list-style-type: none"> - Vehicle indoor loading parts, such as an air-conditioner and car navigation, and in-vehicle communication facility - Security management system for home/buildings etc. - Control apparatus, such as Industrial use robots and a machine tool etc. 	Type 267 M Series Type 267 E Series Type 281 M Series Type TCA	Type 204 M series	Type KAB M series	
Apparatus in general	4	<ul style="list-style-type: none"> - The small size and the thin article which applies leading-edge technology positively - The product supposing being used widely in the market for the apparatus which can maintenance exchange products, and apparatus with a partial system failure by failure of product. 	<ul style="list-style-type: none"> - Smart phone, Mobile phone, Mobile PC (tablet), Electronic dictionary - Desktop PC, Notebook PC, Home network - Amusement apparatus (Pachinko, Game machine) 	Type 251 M Series Type 281 E Series Type TCB		Type JAE, Type JAG Type JAJ, Type JAK Type JHC Type KAB Type KAB T series Type KVA	Type 503 A series

テーピング数量・リール寸法 Taping Quantity And Carrier Tape Dimensions

チップタンタルコンデンサ Chip Tantalum Capacitors

定格：251型Mシリーズ, TCB型
Type : 251 M Series, TCB

ケース記号 Case Code	ケースサイズ Case size	W (mm)	F (mm)	E (mm)	P ₁ (mm)	P ₂ (mm)	P ₀ (mm)	φD ₀ (mm)	包装数/リール(個) Quantity/Reel (pcs)	
									φ180	φ330
U	1.0×0.5	8.0±0.3	3.5±0.05	1.75±0.1	2.0±0.05	2.0±0.05	4.0±0.1	1.55±0.03	10,000	3,000
M	1.6×0.8				4.0±0.1			1.5 ^{+0.1} ₀		
S	2.0×1.25									
A	3.2×1.6									

定格：267型Mシリーズ, 267型Eシリーズ, 267型Pシリーズ, 271Nシリーズ
279型Mシリーズ, 281型Mシリーズ, 281型Eシリーズ
Type : 267 M Series, 267 E Series, 267 P Series, 271 N Series
279 M Series, 281 M Series, 281 E Series

ケース記号 Case Code	ケースサイズ Case size	W (mm)	F (mm)	E (mm)	P ₁ (mm)	P ₂ (mm)	P ₀ (mm)	D ₀ (mm)	包装数/リール(個) Quantity/Reel (pcs)	
									φ180	φ330
A	3.2×1.6	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.5 ^{+0.1} ₀	2,000	9,000
B	3.5×2.8				8.0±0.1				8,000	
C3	6.0×3.2	12.0±0.3	5.5±0.05	8.0±0.1	500				3,000	
D3	7.3×4.4		5.7±0.05		1.5±0.1				2,500	
H	7.3×4.4		5.7±0.1	1,500						
E	7.3×5.8	5.5±0.05	1.75±0.05			2,000				

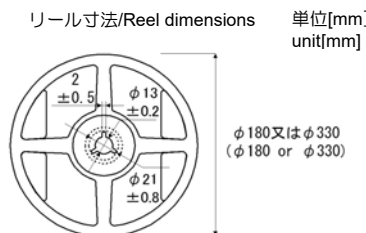
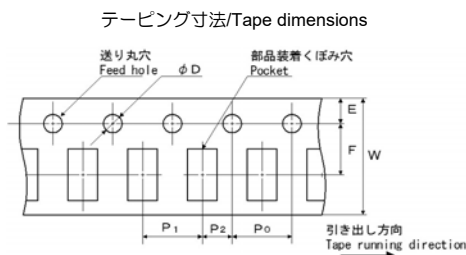
定格：267型Nシリーズ, TCA型
Type : 267 N Series, TCA

ケース記号 Case Code	ケースサイズ Case size	W (mm)	F (mm)	E (mm)	P ₁ (mm)	P ₂ (mm)	P ₀ (mm)	D ₀ (mm)	包装数/リール(個) Quantity/Reel (pcs)	
									φ180	φ330
A	3.2×1.6	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	2.0±0.05	4.0±0.1	φ1.5 ^{+0.1} ₀	2,000	9,000
B	3.5×2.8				8.0±0.1				8,000	
C	6.0×3.2	12.0±0.3	5.5±0.05	8.0±0.1	500				3,000	
D	7.3×4.4		5.7±0.05		1.5±0.1				2,500	

回路保護素子 Circuit Protection Components

定格：JAE型, JAG型, JAG型Nシリーズ, JAJ型, JAJ型Nシリーズ, JAK型, JAK型Nシリーズ, JHC型, JHC型Nシリーズ
KAB型, KAB型Nシリーズ, KAB型Mシリーズ, KAB型Tシリーズ, KVA型, KVA型Nシリーズ
Type : JAE, JAG, JAG N Series, JAJ, JAJ N Series, JAK, JAK N Series, JHC, JHC N Series
KAB, KAB N Series, KAB M Series, KAB T Series, KVA, KVA N Series

ケース記号 Case Code	ケースサイズ Case size	W (mm)	F (mm)	E (mm)	P ₁ (mm)	P ₂ (mm)	P ₀ (mm)	D ₀ (mm)	包装数/リール(個) Quantity/Reel (pcs)	
									φ180	φ330
29	1.6×0.8	8.0±0.3	3.5±0.05	1.75±0.05	4.0±0.1	2.0±0.05	4.0±0.1	φ1.55±0.03	5,000	-
31	2.0×1.25								φ1.5±0.1	2,000
52	3.2×1.6			φ1.5±0.1	2,000			-		
44E	7.3×5.8	12±0.3	5.5±0.05	1.75±0.1	8.0±0.1			φ1.5 ^{+0.1} ₀	500	1,500
59F	11.0×7.3	24±0.3	11.5±0.05		12.0±0.1			-	500	



チップタンタルコンデンサテーピング形状記号
Chip Tantalum Capacitors Tape code

φ180リール φ180Reel	φ330リール φ330Reel	極性 Anode notation
L	P	送り穴側 + Feed hole +
R	N	送り穴側 - Feed hole -