

Type JAD micro fuse is designed for circuit protection against excessive current in portable electronic equipment, electronic circuit around battery etc. because the demand for high capacity batteries is increasing. Since it is designed as chip type, it is compact and the best suitable for portable use. Also, the ecology design of Type JAD is gentle because of complete lead-free.

FEATURES

1. A micro fuse in conformity to UL
2. Low fusing point element that is newly developed is applied.
Has excellent fusing and cutting characteristics.
3. Surface temperature rise is 100°C or less when applying twice rated current for fusing. This offers less influence on the peripheral units.
4. Small size of 3216 (3.2 × 1.6 × 1.6 mm), using resin mold and precision case
5. Suitable for automatic mounting
6. Precise dimensions allows high-density mounting and symmetrical construction of terminals provide "Self-Alignment".
7. Resistance to soldering heat : Reflow or flow soldering 10 seconds at 260°C
8. Standard package : 8 mm width tape carrier
9. LEAD FREE and RoHS Compliant

RATING

Item	Rating
Category Temperature Range	-40 ~+125°C
Rated Current	0.5-0.8-1.0-1.25-1.6-2.0-2.5-3.15-4.0A
Rated Voltage	24VDC
Voltage Drop	Refer to CATALOG NUMBERS AND RATING
Insulation Resistance (between terminals and case)	1000 MΩ or more
Fusing Characteristics	Fusing within 1 minute if the current is 200% of rated current.
Clearing Characteristics	Breaking voltage : 24 V
	Breaking current : 50 A

ORDERING INFORMATION

Type	Code	RV	Code	Rated current	Code	Rated current	Code	Package type	Special product code	Current
JAD	2402	24V	501	0.5 A	202	2.0 A	NA	φ180 ¹ J-ル	010	0.5 ~ 2.5 A
			801	0.8 A	252	2.5 A	ND	φ330 ¹ J-ル	013	3.15 A, 4.0 A
			102	1.0 A	322	3.15A				
			132	1.25A	402	4.0 A				
			162	1.6 A						

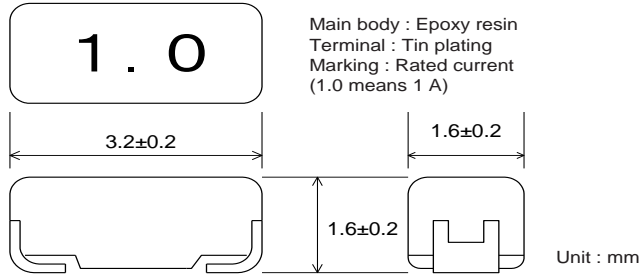
CATALOG NUMBERS AND RATING

February, 2011

Catalog number	Case size mm	Rated current A	Internal resistance mΩ	Voltage drop mV (Max.)	Rated voltage VDC	Breaking current A
JAD 2402 501 □□010	3.2 × 1.6	0.5	210	150	24	50
JAD 2402 801 □□010	3.2 × 1.6	0.8	106	150		
JAD 2402 102 □□010	3.2 × 1.6	1.0	76	130		
JAD 2402 132 □□010	3.2 × 1.6	1.25	56	120		
JAD 2402 162 □□010	3.2 × 1.6	1.6	49	120		
JAD 2402 202 □□010	3.2 × 1.6	2.0	38	120		
JAD 2402 252 □□010	3.2 × 1.6	2.5	33	120		
JAD 2402 322 □□013	3.2 × 1.6	3.15	23	120		
JAD 2402 402 □□013	3.2 × 1.6	4.0	20	120		

For the taping type, the packing code "NA" will be entered in □□.

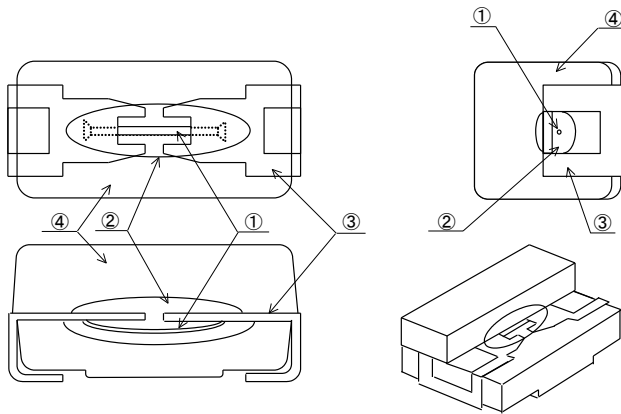
DIMENSIONS



MARKING

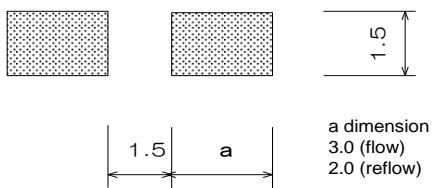
Code	Rated current
0.5	0.50A
0.8	0.80A
1.0	1.00A
1.25	1.25A
1.6	1.60A
2.0	2.00A
2.5	2.50A
3.15	3.15A
4.0	4.00A

CONSTRUCTION

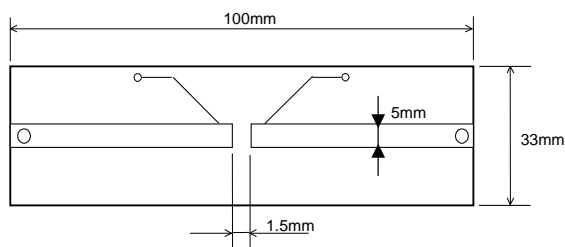


Number	Name	Material etc.
①	Fuse element	Lead alloy
②	Arc extinction material	Silicone resin
③	Terminal	Tin plating
④	Body	Epoxy resin

RECOMMENDED PAD DIMENSIONS



STANDARD TEST BODY



Glass epoxy body on one side
Board thickness : 1.6 mm
Copper layer :35μm

PERFORMANCE

No.	Item	Performance	Test method
1	Temperature rise	Temperature rise shall not exceed 70°C.	Apply rated current. (Ambient temperature : 10 ~ 30°C)
2	Current-carrying capacity	Shall not open within 1 hour.	Apply 100% of rated current at 70°C.
3	Voltage drop	Voltage drop is below the value specified in CATALOG NUMBERS AND RATING.	Apply rated current using 24 V power supply.
4	Fusing characteristics	Fusing within 1 min.	Apply 200% of rated current.
5	Insulation resistance	1000 MΩ or more	Insulation resistance between terminals and case
6	Electrode strength (Bending)	No mechanical damage. Shall meet the fusing characteristics. Variation of internal resistance should be less than ± 10%.	Board supporting width : 90 mm Bending speed : Approx. 0.5 mm/sec. Duration : 30 sec. Bending : 3 mm
7	Shear test	No mechanical damage. Shall meet the fusing characteristics. Variation of internal resistance should be less than ± 10%.	Applied force : 20 N (2.04 kgf) Duration : 10 sec
8	Substrate bending test	No mechanical damage. Shall meet the fusing characteristics. Variation of internal resistance should be less than ± 10%.	Supporting dimension : 1.2 mm Applied force : 10 N (1.02 kgf)
9	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
10	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.
11	Resistance to soldering heat	Marking shall be legible. No mechanical damage. Shall meet the electric performance.	Dipping Preconditioning : 100 ~ 150°C, 60 sec. Temperature : 260 ± 5°C, 10 ± 1 sec. Reflow soldering Preconditioning : 1 ~ 2 min, 180°C or less Peak : 250 ± 5°C, 5 sec. Holding : 230 ~ 250°C, 20 ~ 40 sec. Cooling : more than 2 min. Manual soldering Iron edge temperature : higher than 350°C Duration : 3 ~ 4 sec.
12	Solvent resistance	Marking shall be legible. No mechanical damage. Shall meet the fusing characteristics. Variation of internal resistance should be less than ± 10%.	Dipping rinse Solvent : Isopropyl alcohol Duration : 90 sec
13	Vibration	No mechanical damage. Variation of internal resistance should be less than ± 10%.	Frequency range : 10 ~ 50 ~ 10 Hz/min Vibration amplitude : 1.5 mm Duration : 2 hours in each of XYZ directions (total : 6 hours)
14	Shock	No mechanical damage. Variation of internal resistance should be less than ± 10%.	Peak value : 490 m/s ² (50 G) Duration : 11 ms 6 aspects x 3 times (total : 18 times)
15	Thermal shock	No mechanical damage. Variation of internal resistance should be less than ± 10%.	-55 ± 3°C : 30 min. Room temperature : 2 ~ 3 min or less 125 ± 2°C : 30 min. Room temperature : 2 ~ 3 min or less Repeat above step for 10 cycles
16	Atomizing salt water	No mechanical damage. Variation of internal resistance should be less than ± 10%.	Temperature : 35 ± 2°C Concentration (weight ratio) : 5 ± 1% Duration : 24 hours
17	Moisture resistance	No mechanical damage. Variation of internal resistance should be less than ± 10%.	Temperature : 85 ± 3°C Humidity : 85 ± 3% RH Duration : 1000 ⁺⁴⁸ ₋₀ hours
18	Moisture resistance load	No mechanical damage. Variation of internal resistance should be less than ± 10%. JAD322 and 402 with SGU element shall be within %.	Temperature : 85 ± 3°C Humidity : 85 ± 3% RH Applied voltage : rated current × 78% Duration : 1000 ⁺⁴⁸ ₋₀ hours
19	Load life	No mechanical damage. Variation of internal resistance should be less than ± 10%. JAD322 and 402 with SGU element shall be within %.	Temperature : 85 ± 3°C Applied current : Rated current × 78% Duration : 1000 ⁺⁴⁸ ₋₀ hours
20	Stability	No mechanical damage. Variation of internal resistance should be less than ± 10%.	Temperature : 125 ± 3°C Duration : 1000 ⁺⁴⁸ ₋₀ hours

