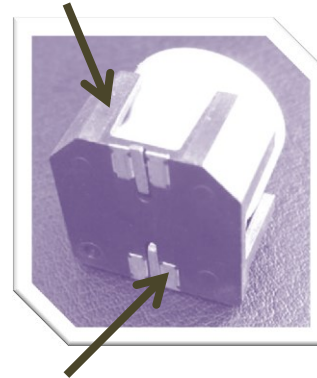




FEATURES:

- VB- VIBRATION BASE
- AEC-Q200
- SURFACE MOUNT
- ROHS COMPLIANT

EXTENDED BASE



ADDITIONAL SOLDERING AREA

APPLICATIONS:

- AUTOMOTIVE
- POWER
- INDUSTRIAL

SPEC:	VALUE:
MPN	:50 TZV 1500 M JDE VB 18X21.5
VDC	50
CAPACITANCE	1500μF +/- 20%
RC	1.5A rms / 105c/100KHz
ESR	0.06 Ω 20°C, 100KHz
SIZE	18X18X21.5
MOUNTING	6 PIN SOLDER TYPE (VIBRATION BASE)
TYPE	SMD
LIFE	8,000 HRS, 105C
TEMPERATURE RANGE	-55°C TO +105°C
LEAKAGE CURRENT	I= .01CV OR 3μA (After 2 Min at rated voltage) (Whichever is greater)
DISSIPATION FACTOR	0.10

◆PART NUMBER

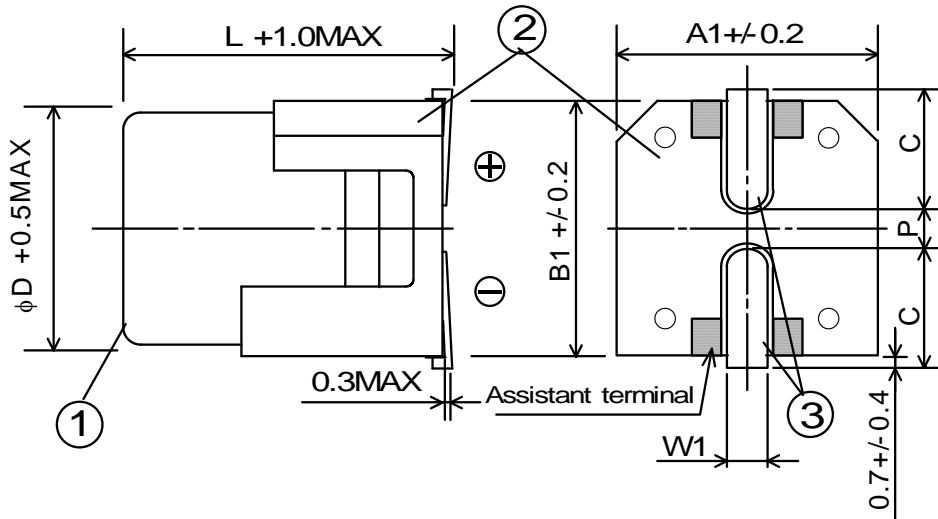
□□□
Rated Voltage
TZV
Series
□□□□□
Capacitance
M
Capacitance Tolerance
□□□
Option
D×L
Case Size

50
TZV
1500
M
JDE
VB
18X21.5

ALUMINUM ELECTROLYTIC CAPACITORS	Style	CE 32
	Operating Temperature Range	-55°C ~ +105°C
	Reference Standard	JIS C 5102, AEC-Q200

50 WV 1500 MFD (TZV SERIES)	①Case	Aluminum	Nylon Laminated Aluminum Case
	②Terminal base board	Heat resisting plastic	
	③Lead Wire	CP Wire	Tin plated

1. Dimensions unit : mm



2. Electrical Performance

Table-1

NOMINAL CAPACITANCE (μF)	CAPACITANCE TOLERANCE (%) 20°C, 120Hz	RATED VOLTAGE (V.DC)	SURGE VOLTAGE (V.DC)	LEAKAGE CURRENT ($\mu\text{A MAX}$) 20°C	D.F. $\tan \delta$ MAX 20°C 120Hz	RATED RIPPLE CURRENT (mA rms) 105°C 100kHz	ESR (ΩMAX) 20°C 100kHz
				2min			
1500	-20~+20	50	63.0	750	0.10	1500	0.06

IMPEDANCE RATIO 120Hz			DIMENSIONS (mm)						
Z-25°C/Z20°C	Z-40°C/Z20°C	Z-55°C/Z20°C	ϕD	L	A1	B1	C	W1	P
2	3	3	18	21.5	19	19	7	1.1 \pm 0.3	6.8

3. Marking : Unless otherwise specified, capacitor shall be clearly marked the following items on its body.

- (1) Rated Voltage H (Symbol of 50V)
- (2) Series TZ
- (3) Nominal Capacitance 1500
- (4) Lot Number
- (5) Polarity (Negative Polarity Marking is Black)

4. Vent

On capacitors whose diameter is 6.3mm and greater, a safety vent shall be provided.

TZV SERIES	Rubycon RUBYCON CORPORATION
------------	---------------------------------------

5. Load life Test

Capacitor under test shall be applied the rated voltage continuously through 1000 ohm series protective resistor (with rated ripple current) at $105\pm 2^{\circ}\text{C}$ for 8000^{+72}_0 hours. After the test and returned in standard condition for 2 hours or more, and the capacitor shall meet following requirements.

Capacitance Change : within $\pm 30\%$ of the initially measured value.
 Dissipation Factor : less than 300% of the specified value.
 Leakage Current : less than the specified value.
 Appearance : notable changes shall not be found.

6. Shelf life Test

Capacitors shall be stored at $105\pm 2^{\circ}\text{C}$ with no voltage applied for 1000^{+48}_0 hours. After the test and returned in standard condition for 1 to 2 hours and the capacitor shall meet following requirements. (If any doubt arises on the judgment, the capacitors shall be subjected to voltage treatment specified in JIS C 5141,5.2.)

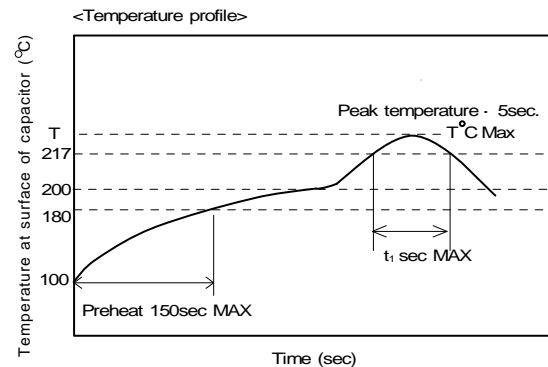
Capacitance Change : within $\pm 25\%$ of the initially measured value.
 Dissipation Factor : less than 200% of the specified value.
 Leakage Current : less than the specified value.
 Appearance : notable changes shall not be found.

7. Reflow soldering condition.

7-1 Capacitors shall be proof the following reflow soldering condition.

- (1) Temperature at surface of capacitor shall not exceed $T^{\circ}\text{C}$.
(Temperature measurement point is top of case.)
- (2) Period that temperature at surface of capacitor becomes more than 217°C shall not exceed t_1 seconds.
- (3) Holding time in the peak temperature shall be as short as possible.
- (4) Preheat shall be made at 100°C to 180°C and for maximum 150 seconds.
- (5) Reflow soldering process shall be 1 cycle.

Size	$T^{\circ}\text{C}$	t_1 (sec.)
$\phi 18 \times 21.5$	245	80



7-2 Notes

(1) Reflow soldering condition (reflow time, temperature) depends on following points.

- Kind of reflow oven. • Kind of PW-board.
- Mounting condition (part size, PW-board size etc.) of parts on the PW-board.

Please confirm your reflow profile.

(2) The thermocouple (Type CA $\phi 0.1\text{mm}$ dia) shall be fixed to the surface of capacitor by adhesives

8. Correction factor for ripple current

The maximum permissible ripple current is the maximum A.C. current at 100kHz and can be applied at maximum operating temperature.

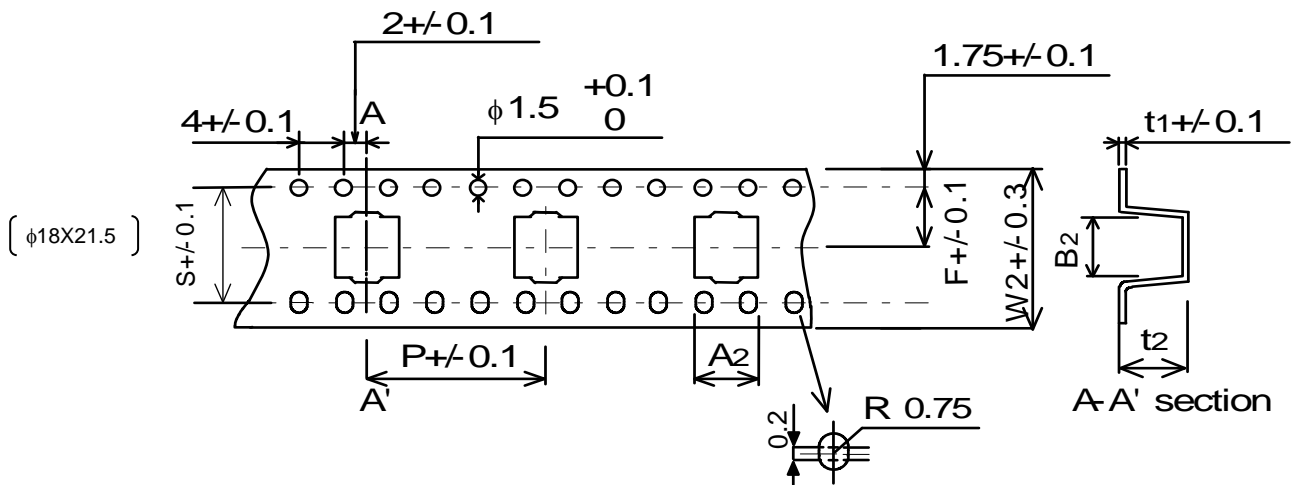
The combined value of D.C. voltage and the peak A.C. voltage shall not exceed the rated voltage and shall not be reverse voltage.

< Frequency Coefficient >

Freq. (Hz)	120	1k	10k	100k \leq
Multiplier	0.60	0.85	0.95	1.00

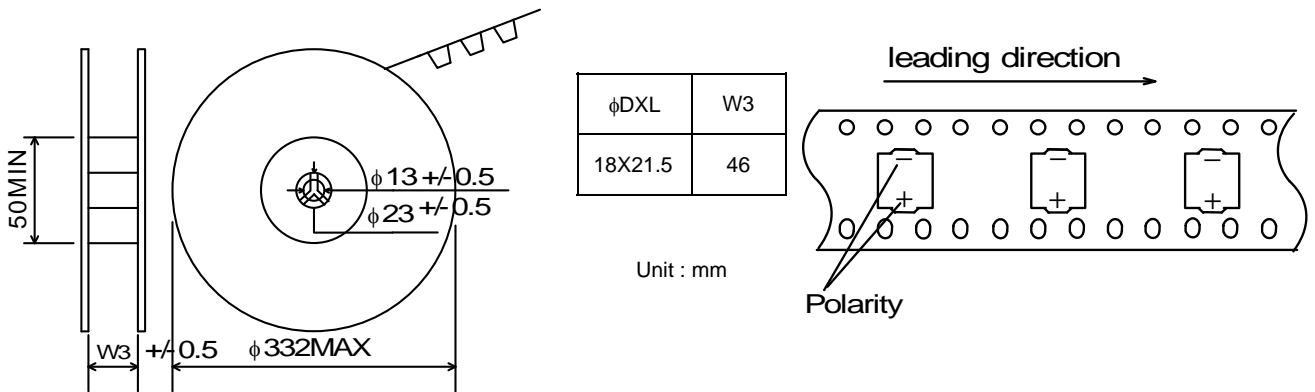
9.Packing

9-1. Carrier Tape



(mm)								
φDXL	W2	A2	B2	P	t2	F	t1	S
18X21.5	44.0	19.5	19.5	32.0	22.4	20.2	0.5	40.4

9-2. Reel size



φDXL	W3
18X21.5	46

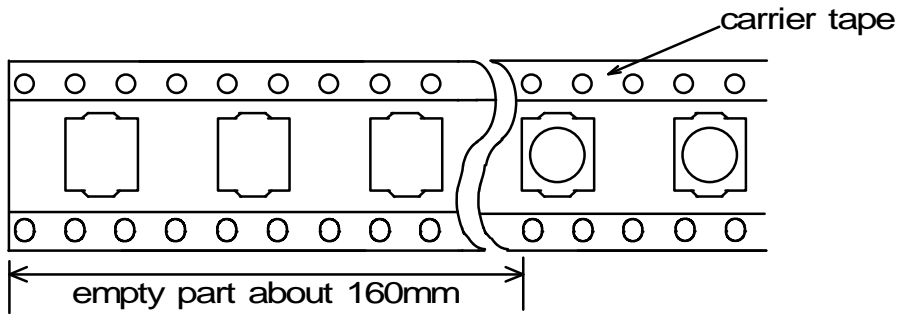
Unit : mm

9-3. Quantity.

φDXL	One reel
18X21.5	75 pcs

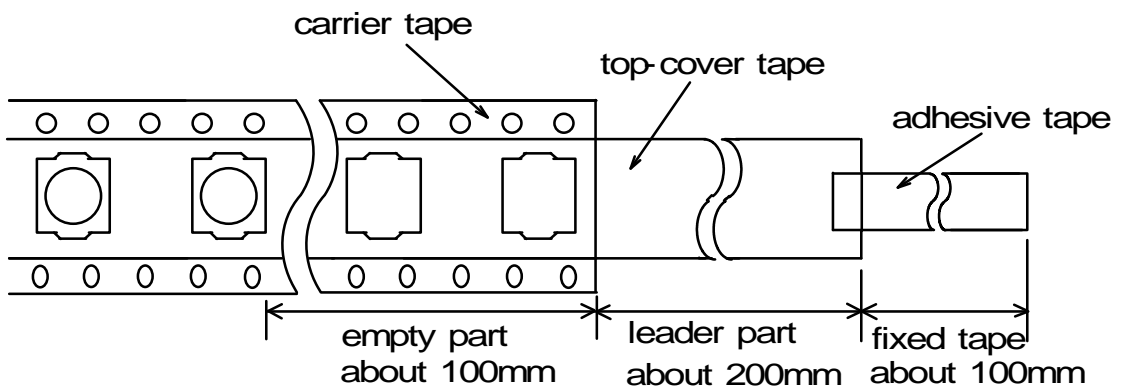
9-4. Packing form of the carrier tape.

(a) Carrier tape after the last component.



Carrier tape shall be inserted into reel without cover tape directly.

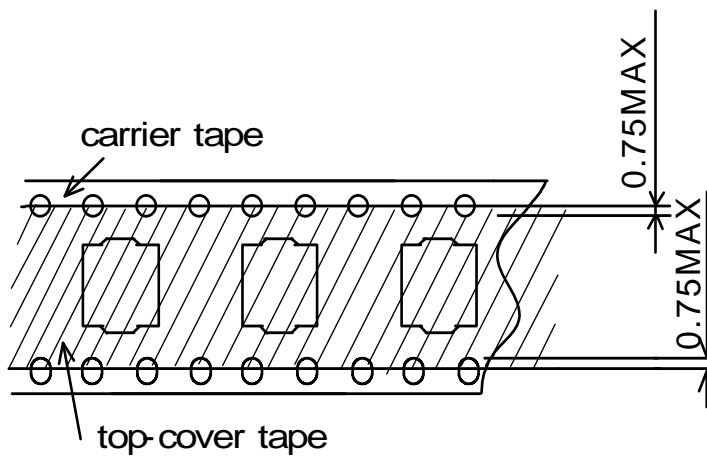
(b) Leader tape before the first component.



9-5. Deviation between carrier tape and top-cover tape.

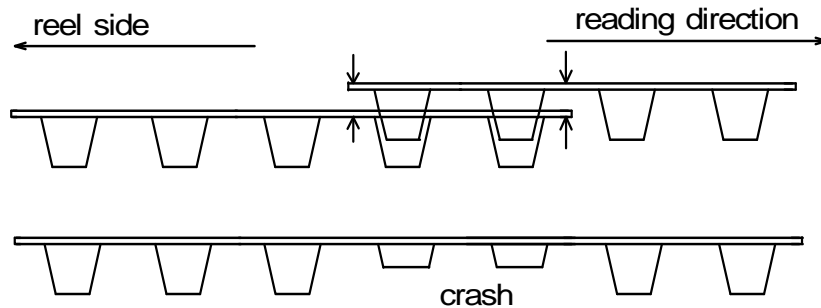
Deviation between carrier tape and top-cover tape shall not exceed 0.5mm.

Top-cover tape whose cover the feeding hole shall not exceed 0.75mm.



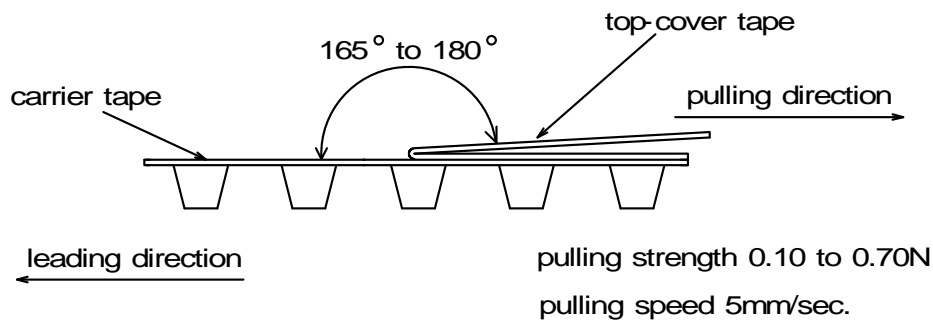
9-6. Connection of the carrier tape.

- (a) Two pieces of embossed part of the each carrier tape shall be piled up without packing the capacitor in it and crashed by jigs. About connected part, carrier tape of the reel side shall be below one of leader side.



- (b) Number of connection per reel shall be within three places.

9-7. Adhesion test.



9-8. Carrier tape shall be reeled whose embossed part is inside. (Top-cover tape shall be outside.)

10. Notes on use of aluminum electrolytic capacitors

- (1) Charge and discharge
Do not use for the circuit that repeats quick charge or discharge.
- (2) External stress
Do not apply excessive force of pushing, pulling bending, and/or twisting to the main body, lead wire and terminals.
- (3) Insulation
Case and cathode terminal are not insulated.
- (4) Adhesives and coating materials
Do not use the adhesives and coating materials that contain halogenated organic solvents or chloroprene as polymer.
- (5) Storage
Keep at a normal temperature and humidity. During a long storage time, leakage current will be increased. To prevent heat rise or any trouble that high leakage current possibly causes, voltage treatment is recommended for the capacitors that have been stored for a long time.

<Storage Condition>

*Aluminum electrolytic capacitors should not be stored in high temperatures or where there is a high level of humidity. The suitable storage condition is 5°C-35°C and less than 75% in relative humidity.

*Aluminum electrolytic capacitors should not be stored in damp conditions such as water, saltwater spray or oil spray.

*Do not store aluminum electrolytic capacitors in an environment full of hazardous gas (hydrogen sulfide, sulfurous acid gas, nitrous acid, chlorine gas, ammonia or bromine gas).

*Aluminum electrolytic capacitors should not be stored under exposure to ozone, ultraviolet rays or radiation.

(6) Fumigation and halogenated flame retardant

It may cause corrosion of internal electrodes, aluminum cases and terminal surface when the following conditions exist.

*Fumigation of wooden pallets before shipment to disinfect vermin.

*Existence of components or parts that contain halogenated flame retardant agent (bromine etc.) together with capacitors.

*When halogenated detergents or antiseptics for preventing infection of epidemic diseases contact directly to capacitors.

(7) PC board cleaning after soldering

Please consult us when cleaning is subjected.

◆ Guide to application except the above are described in our catalog and EIAJ RCR-2367C.

EIAJ RCR-2367C: "Safety Application Guide for fixed aluminum electrolytic capacitors for use in electronic equipment."

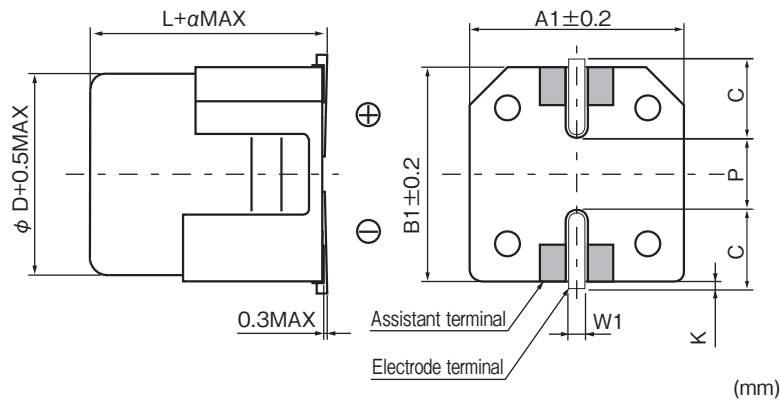
Published by Japan Electronics and Information Technology Industries Association.

◆Vibration proof packages with the supporting terminal

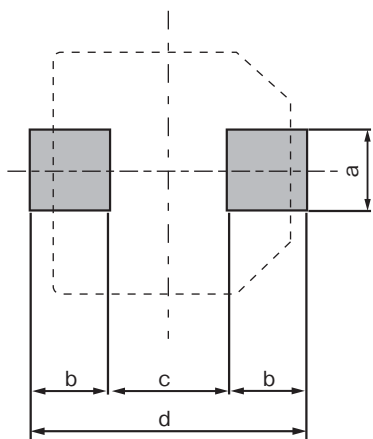
- For chip Aluminum electrolytic capacitors more than case size $\phi 8$, vibration proof packages supports.


◆PART NUMBER

□□□
 □□□
 □□□□□
 □
 □□□
 VB
 DXL
 Rated Voltage Series Capacitance Capacitance Tolerance Option Vibration proof package No. Case Size

◆DIMENSIONS


Size	A1	B1	C	W1	P	K	α
$\phi 8 \times 10.5$	8.3	8.3	3.1	0.9 ± 0.2	3.1	0.5 ± 0.4	0.5
$\phi 10 \times 10.5$	10.3	10.3	3.4	0.9 ± 0.2	4.5	0.5 ± 0.4	0.5
$\phi 12.5 \times 13.5$	13	13	4.9	1.1 ± 0.3	4.5	0.7 ± 0.4	1
$\phi 12.5 \times 16$	13	13	4.9	1.1 ± 0.3	4.5	0.7 ± 0.4	1
$\phi 16 \times 16.5$	17	17	6	1.1 ± 0.3	6.8	0.7 ± 0.4	1
$\phi 16 \times 21.5$	17	17	6	1.1 ± 0.3	6.8	0.7 ± 0.4	1
$\phi 18 \times 16.5$	19	19	7	1.1 ± 0.3	6.8	0.7 ± 0.4	1
$\phi 18 \times 21.5$	19	19	7	1.1 ± 0.3	6.8	0.7 ± 0.4	1

◆RECOMMENDED LAND SIZE


Size	a	b	c	d
$\phi 8 \times 10.5$	4.2	4.5	2.5	11.5
$\phi 10 \times 10.5$	4.2	4.8	3.9	13.5
$\phi 12.5$	6.4	6.2	3.9	16.3
$\phi 16$	7	7.8	4.7	20.3
$\phi 18$	7	8.8	4.7	22.3