

# ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

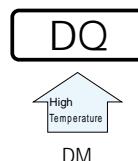


Horizontal Mounting Type, Wide Temperature Range

series



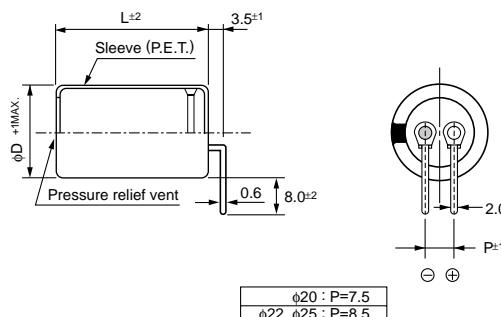
- Horizontal mounting version for  $\phi 20$ ,  $\phi 22$  and  $\phi 25$ .
- Suited for use in flat electronic devices where height space is limited.
- Adapted to the RoHS directive (2002/95/EC).



## ■ Specifications

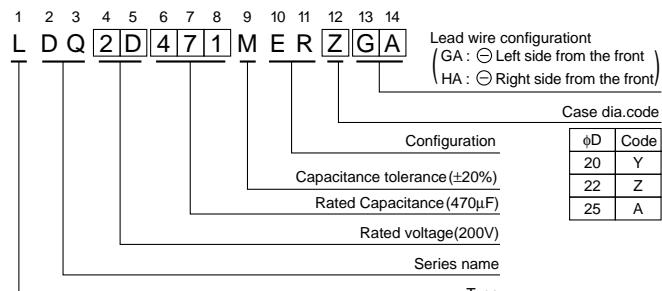
Item	Performance Characteristics												
Category Temperature Range	$-40 \sim +105^\circ\text{C}$ (200V), $-25 \sim +105^\circ\text{C}$ (400V)												
Rated Voltage Range	200~400V												
Rated Capacitance Range	68~1200 $\mu\text{F}$												
Capacitance Tolerance	$\pm 20\%$ at 120Hz, $20^\circ\text{C}$												
Leakage Current	$I \leq 3\sqrt{CV}$ ( $\mu\text{A}$ ) (After 5 minutes' application of rated voltage) [C : Rated Capacitance ( $\mu\text{F}$ ) V : Voltage (V)]												
$\tan \delta$	Measurement frequency : 120Hz, Temperature : $20^\circ\text{C}$ <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>400</td> </tr> <tr> <td><math>\tan \delta</math> (MAX.)</td> <td>0.15</td> <td>0.15</td> </tr> </table>			Rated voltage (V)	200	400	$\tan \delta$ (MAX.)	0.15	0.15				
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Stability at Low Temperature	Measurement frequency : 120Hz <table border="1"> <tr> <td>Rated voltage (V)</td> <td>200</td> <td>400</td> </tr> <tr> <td>Impedance ratio ZT/Z20(MAX.)</td> <td>Z - <math>25^\circ\text{C}</math>/Z+<math>20^\circ\text{C}</math></td> <td>3</td> <td>8</td> </tr> <tr> <td>Z - <math>40^\circ\text{C}</math>/Z+<math>20^\circ\text{C}</math></td> <td>12</td> <td>—</td> </tr> </table>			Rated voltage (V)	200	400	Impedance ratio ZT/Z20(MAX.)	Z - $25^\circ\text{C}$ /Z+ $20^\circ\text{C}$	3	8	Z - $40^\circ\text{C}$ /Z+ $20^\circ\text{C}$	12	—
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Endurance	After an application of DC voltage (in the range of rated DC voltage even after over-lapping the specified ripple current) for 2000 hours at $105^\circ\text{C}$ , capacitors meet the characteristic requirements listed at right.												
Shelf Life	After storing the capacitors under no load at $105^\circ\text{C}$ for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at $20^\circ\text{C}$ , they will meet the requirements listed at right.												
Marking	Printed with white color letter on black sleeve.												

## ■ Drawing



$\phi 20 : P=7.5$   
 $\phi 22, \phi 25 : P=8.5$

## Type numbering system (Example : 200V 470 $\mu\text{F}$ )



## ■ Dimensions

Cap.( $\mu\text{F}$ ) Code	$\phi D$	200V (2D)			400V (2G)		
		20	22	25	20	22	25
68	680				$20 \times 30$	0.56	
82	820				$20 \times 30$	0.64	
100	101				$20 \times 35$	0.70	
120	121				$20 \times 40$	0.75	$22 \times 35$
150	151				$20 \times 45$	0.83	$22 \times 40$
180	181				$20 \times 50$	0.95	$22 \times 45$
220	221					$22 \times 50$	1.10
270	271	$20 \times 30$	1.10			$22 \times 60$	1.22
330	331	$20 \times 35$	1.20				$25 \times 50$
390	391	$20 \times 40$	1.31				1.44
470	471	$20 \times 45$	1.45	$22 \times 35$	1.45		
560	561	$20 \times 50$	1.58	$22 \times 40$	1.60	$25 \times 35$	1.60
680	681			$22 \times 45$	1.78	$25 \times 40$	1.78
820	821			$22 \times 60$	2.04	$25 \times 45$	2.04
1000	102				$25 \times 50$	2.30	
1200	122				$25 \times 60$	2.65	
							Case size $\phi D \times L$ (mm) Rated ripple

\* Other rating also available on request.

Rated Ripple (Arms) at  $105^\circ\text{C}$ , 120Hz

## ● Frequency coefficient of rated ripple current

Frequency (Hz)	50	60	120	300	1k	10k	50k~
Coeff.	200V	0.81	0.85	1.00	1.17	1.32	1.45
	400V	0.77	0.82	1.00	1.16	1.30	1.43

Minimum order quantity : 50pcs.

CAT.8100V