

### High-Reliability ,High-Ripple Current, Long-Life Capacitors, Series KPL.

High-Reliability High-Ripple Capacitors

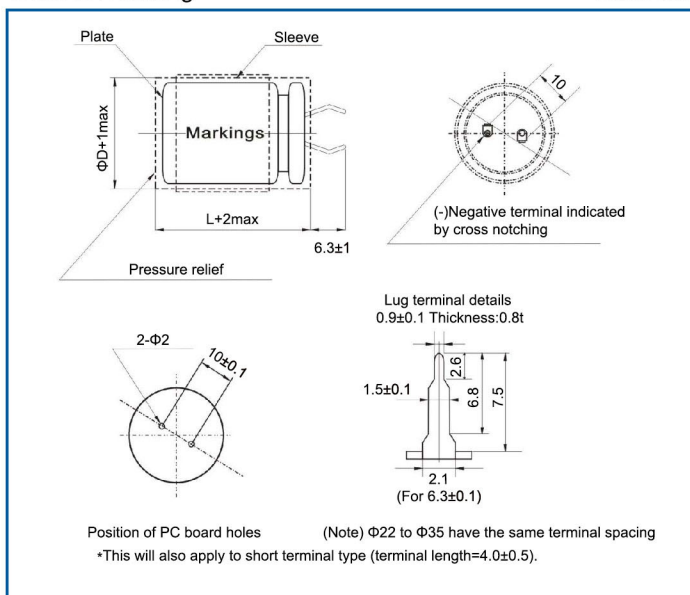
Long-Life: 7000 hours at 105°C

RoHS

#### Outline Drawing

Unit: mm

#### Photo



Marking color: White print on black sleeve

### Specifications

No.	Item	Performance							
1	Temperature range(°C)	-25 to +105							
2	Leakage current (µA)	Less than 0.02CV or 3mA whichever is smaller(after five minutes),C: Capacitance(µ F),V: Rated voltage (V) 20°C							
3	Capacitance tolerance (%)	±20 (20°C, 120Hz)							
4	Tangent of the loss angle (Tan δ)	Rated voltage (V)	160	200	250	350	400	450	20°C, 120Hz
		Tanδ(max)	0.15	0.15	0.15	0.15	0.15	0.20	
5	Low temperature characteristics	Rated voltage (V)	-25°C		Within ±30% of the value at 20°C				120Hz
		Impedance ratio(max)	$Z_{(-25°C)}/Z_{(+20°C)}$		4				
6	Endurance (105°C) (Applied ripple current)	Test time	7000hours						
		Leakage current	The initial specified value or less						
		Percentage of capacitance change	Within ± 20% of initial value						
		Tangent of the loss angle	250% or less of the initial specified value						
7	Shelf life (105°C)	Test time	1000hours						
		Leakage current	The initial specified value or less						
		Percentage of capacitance change	Within ± 15% of initial value						
		Tangent of the loss angle	150% or less of the initial specified value						
8	Applicable standards	JIS-C-5102 and JIS-C- 5141							

### Coefficient of Frequency for Ripple Current

Frequency (Hz)	50	120	1K	10-50K
Rated Voltage (V)				
160 to 250	0.80	1.00	1.25	1.47
350 to 400	0.80	1.00	1.30	1.47



Dimension:  $\Phi$ DXL(mm)  
Ripple Current: A/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

$\mu$ F	V.DC Contents	160V								200V							
		$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A		
220										22X25	1.0						
270		22X25	1.10							22X30	1.10	25X25	1.10				
330		22X30	1.20							22X30	1.20	25X25	1.20				
390		22X30	1.30	25X25	1.30					22X35	1.30	25X30	1.30	30X25	1.30		
470		22X35	1.40	25X30	1.40					22X40	1.40	25X35	1.40	30X30	1.40		
560		22X40	1.50	25X30	1.50	30X25	1.50			22X45	1.50	25X35	1.50	30X30	1.50		
680		22X45	1.70	25X35	1.70	30X30	1.70					25X40	1.70	30X35	1.70		
820				25X40	2.00	30X30	2.00					25X50	2.00	30X40	2.00	35X30	2.00
1000				25X45	2.20	30X35	2.20							30X45	2.20	35X35	2.20
1200				25X50	2.3	30X40	2.30	35X35	2.30					30X50	2.30	35X40	2.30
1500						30X45	2.50	35X35	2.50							35X50	2.50
1800						30X50	2.7	35X40	2.70								
2200								35X50	2.90								

$\mu$ F	V.DC Contents	250V								350V							
		$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A		
82										22X25	0.64						
100										22X30	0.69						
120										22X35	0.75	25X30	0.75				
150										22X40	0.82	25X30	0.82	30X25	0.82		
180		22X30	0.90	25X25	0.90					22X45	0.90	25X35	0.90	30X30	0.90		
220		22X30	1.00	25X25	1.00					22X50	1.00	25X40	1.00	30X30	1.00		
270		22X35	1.10	25X30	1.10	30X25	1.10					25X50	1.10	30X35	1.10	35X30	1.10
330		22X40	1.20	25X35	1.20	30X25	1.20							30X45	1.20	35X35	1.20
390		22X45	1.30	25X35	1.30	30X30	1.30							30X50	1.30	35X40	1.30
470				25X45	1.40	30X35	1.40	35X30	1.40							35X40	1.40
560				25X50	1.50	30X35	1.50	35X30	1.50							35X50	1.50
680						30X45	1.70	35X35	1.70								
820						30X50	2.00	35X40	2.00								
1000								35X45	2.20								
1200								35X50	2.30								

Dimension:  $\Phi$ DXL(mm)

Ripple Current: A/rms at 120Hz, 105°C

### DIMENSION & PERMISSIBLE RIPPLE CURRENT

V.DC Contents $\mu$ F	400V								450V							
	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A	$\Phi$ DXL	A
39									22X25	0.37						
47									22X30	0.40						
56									22X35	0.47	25X25	0.47				
68									22X40	0.53	25X30	0.53				
82	22X35	0.64	25X25	0.64					22X45	0.56	25X35	0.56				
100	22X35	0.69	25X30	0.69					22X50	0.64	25X40	0.64	30X30	0.64		
120	22X40	0.75	25X35	0.75	30X25	0.75					25X45	0.72	30X30	0.72		
150	22X50	0.82	25X40	0.82	30X30	0.82					25X50	0.79	30X40	0.79	35X30	0.79
180			25X45	0.90	30X35	0.90	35X25	0.90					30X45	0.87	35X35	0.87
220			25X50	1.00	30X40	1.00	35X30	1.00					30X50	1.00	35X40	1.00
270					30X45	1.10	35X35	1.10							35X45	1.20
330					30X50	1.20	35X40	1.20							35X50	1.38
390							35X45	1.3								
470							35X50	1.40								

