NQ Series

- **Suitable for conditions where polarity reverses or where polarity is not constant.**
- **NQ series 105℃ 1,000Hrs.**

◆ SPECIFICATIONS

Item	Performance Characteristics	
Category Temperature Range	-40~ +105℃	-25~ +105℃
Working Voltage Range	6.3 ~100 Vdc	160~250 Vdc
Capacitance Range	4.7~2,200 μF	1.0~100 μF
Capacitance Tolerance	±20% (at 20℃ and 120Hz)	

Dissipation Factor (tan δ) (at 20℃, 120Hz)

Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160 ~ 250
tan δ (Max)	0.26	0.24	0.22	0.20	0.16	0.14	0.12	0.10	0.20

The above values should be increased by 0.02 for every additional 1000μF

Leakage Current

I≤0.01CV or 3μA whichever is greater
I : Leakage current (μA) C : Rated capacitance (μF) V : Rated voltage (V)
Apply rated voltage the rated voltage for 2 minutes.

Low Temperature Characteristics Impedance Ratio(MAX)

Rated Voltage (V)	6.3	10	16	25	35	50	63	100	160 ~250	(at 120Hz)
Z(-25℃)/Z(+20℃)	4	3	2	2	2	2	2	2	2	
Z(-40℃)/Z(+20℃)	10	8	6	5	4	4	3	3	3	

Endurance

The following requirements shall be satisfied when the capacitor are restored to 20℃ after the rated voltage applied for 1,000 hours at 105℃.During this test rated DC voltage shall be reversed on the capacitor for every 250 hours.

Capacitance change	≦±20% of the initial value
Dissipation factor(tan δ)	≦200% of the specified value
Leakage current	≦specified value

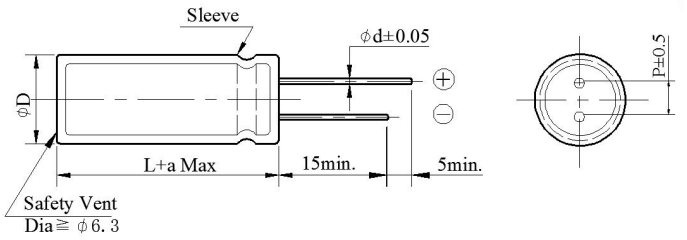
Shelf Life

The following requirements shall be satisfied when the capacitor are restored to 20℃ after the rated voltage applied for 500 hours at 105℃without voltage applied.

Capacitance change	≦±25% of the initial value
Dissipation factor(tan δ)	≦200% of the specified value
Leakage current	≦200% of the specified value

Others	Conforms to JIS-C-5101-4 (1998) and IEC 60384-4

◆ DIMENSIONS(mm)



ΦD	5	6.3	8	10	12 .5/13	16	18
ΦD	ΦD±0.5 Max						
Φd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5
a	＜20 L±1.5Max ≥ 20 L±2.0Max						

◆ PART NUMBER SYSTEM(Example :250V 3.3μF)

E	N	Q	2	5	0	M	3	R	3	G	1	2	L	O	5	0	A	A

Special Request
Lead size
Lead type
Height code（L：12mm）
Diameter code（G：Φ10）
Capacitance code（3.3μF）
Capacitance tolerance code（M：±20%）
Voltage code（250V）
Series code（NQ）
Category code

NQ Series

◆ **Case size & Permissible rated ripple current: (mA rms) at 105℃ / 120Hz.**

WV(V)	Nominal capacitance (uF)	Case Size ΦD×L (mm)	Max. Rated ripple current @105℃/120Hz (mA rms)	WV(V)	Nominal capacitance (uF)	Case Size ΦD×L (mm)	Max. Rated ripple current @105℃/120Hz (mA rms)
6.3	33	5×11	65	10	22	5×11	35
	47	5×11	75		33	5×11	46
	100	6.3×11	120		47	5×11	50
	220	6.3×11	220		100	6.3×11	68
	330	8×11	277		220	8×11	135
	470	8×11	161		330	8×11	150
	1000	10×16	360		470	10×12	215
	2200	12.5×20	480		1000	10×20	380
					2200	12.5×25	500
16	10	5×11	30	25	10	5×11	30
	22	5×11	35		22	5×11	38
	33	5×11	50		33	5×11	50
	47	5×11	54		47	6.3×11	68
	100	6.3×11	84		100	8×11	115
	220	8×11	140		220	10×12	182
	330	10×12	202		330	10×16	247
	470	10×16	265		470	10×20	333
	1000	12.5×20	475		1000	12.5×25	510
	2200	16×25	625		2200	16×31	660
35	4.7	5×11	24	50	1.0	5×11	12
	10	5×11	30		2.2	5×11	18
	22	6.3×11	44		3.3	5×11	19
	33	6.3×11	56		4.7	5×11	24
	47	8×11	86		10	5×11	30
	100	10×12	142		22	6.3×11	45
	220	10×20	256		33	8×11	65
	330	12×20	364		47	8×11	80
	470	12×25	472		100	10×16	150
	1000	16×25	560		220	12×20	280
					330	12×25	365
					470	16×25	450
					1000	16×35	615
63	3.3	5×11	20	100	1.0	5×11	15
	4.7	6.3×11	24		2.2	6.3×11	24
	10	6.3×11	41		3.3	6.3×11	28
	22	8×11	68		4.7	6.3×11	34
	33	10×12	69		10	8×11	51
	47	10×16	130		22	10×12	70
	100	10×20	165		33	10×16	95
	220	12×25	310		47	12×20	173
	330	16×25	410		100	12×25	205
	470	16×35	455		220	16×30	365

NQ Series

Case size & Permissible rated ripple current: (mA rms) at 105℃ / 120Hz.

WV(V)	Nominal capacitance (uF)	Case Size ΦD×L (mm)	Max. Rated ripple current @105℃/120Hz (mA rms)	WV(V)	Nominal capacitance (uF)	Case Size ΦD×L (mm)	Max. Rated ripple current @105℃/120Hz (mA rms)
160	1.0	5×11	8	200	1.0	6.3×11	8
	2.2	6.3×11	12		2.2	8×11	14
	3.3	8×11	17		3.3	10×12	21
	4.7	10×12	25		4.7	10×16	27
	10	10×16	40		10	12×20	50
	22	12×20	76		22	12×25	86
	33	12×25	95		33	16×25	119
	47	16×25	144		47	16×30	158
	100	18×30	210				
250	1.0	6.3×11	9				
	2.2	10×12	17				
	3.3	10×12	21				
	4.7	10×16	29				
	10	12×20	50				
	22	16×25	97				
	33	16×30	130				
	47	16×35	166				

◆ **RIPPLE CURRENT MULTIPLIERS**

Frequency Multipliers

Cap(uF)	Frequency (Hz)				
	50/60	120	1K	10K	100K
4.7 ~ 47	0.75	1.00	1.70	1.75	2.00
100 ~ 470	0.80	1.00	1.34	1.40	1.50
1000 ~ 2200	0.85	1.00	1.13	1.20	1.40