

NB series

- High reliability, withstand high temperature
- Endurance: 2,000~5,000 hours at 130°C
- RoHS Compliant

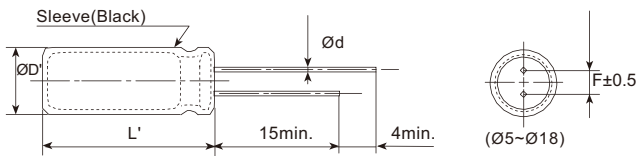
Upgrade



SPECIFICATIONS

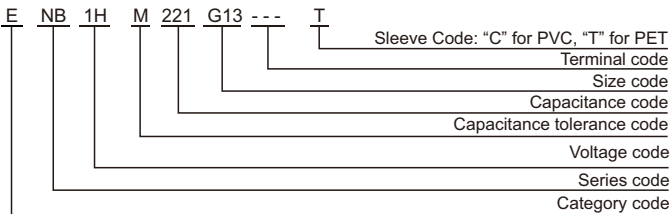
Items	Characteristics											
Category Temperature Range	-40~+130°C											
Rated Voltage Range	10~120 V _{dc}											
Capacitance Tolerance	±20%(M) (at 20°C, 120Hz)											
Leakage Current	I ≤ 0.01CV or 3μA, whichever is greater. Where, I: Max. leakage current (μA), C: Nominal capacitance (μF), V: Rated voltage (V) (at 20°C after 2 minutes)											
Dissipation Factor (tanδ)	Rated Voltage(V _{dc})	10	16	25	35	50	63	80	100	120	(at 20°C, 120Hz)	
	Dissipation Factor (Max.)	0.24	0.20	0.18	0.16	0.14	0.12	0.12	0.10	0.12		
When nominal capacitance exceeds 1,000 μF, add 0.02 to the value above for each 1,000 μF increase.												
Low Temperature Characteristics (Max. Impedance Ratio)	Rated Voltage(V _{dc})	10	16	25	35	50	63	80	100	120	(at 120Hz)	
	Z(-25°C)/Z(+20°C)	3			2				3			
	Z(-40°C)/Z(+20°C)	6	4	3				6				
Endurance	The specifications listed below shall be satisfied when the capacitors are restored to 20°C after DC voltage plus rated ripple current is applied for a specified period of time at 130°C.								Dia. (mm)		Load life (hours)	
	Capacitance Change	≤±30% of the initial value								ØD ≤ 6.3	2,000	
	Dissipation Factor	≤300% of the initial specified value								ØD = 8	3,000	
	Leakage Current	≤The initial specified value								ØD = 10	4,000	
Shelf Life	The following specifications shall be satisfied when the capacitors are restored to 20°C after leaving them under no load at 130°C for 1,000 hours.								ØD ≥ 12.5		5,000	
	Capacitance Change	≤±30% of the initial value										
	Dissipation Factor	≤300% of the initial specified value										
	Leakage Current	≤500% of the initial specified value										

DIMENSIONS [mm]



ØD	5	6.3	8		10	12.5	13	16	18
Ød	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5		5.0	5.0	5.0	7.5	7.5
ØD'	ØD + 0.5 max.								
L'	L + 2 max.								

PART NUMBERING SYSTEM



RATED RIPPLE CURRENT MULTIPLIERS

Frequency correction factor for ripple current

Freq. (Hz)	50/60	120	1k	10k	100k
Cap. < 10	0.35	0.42	0.60	0.80	1.00
10 ≤ Cap. < 47	0.45	0.55	0.75	0.90	1.00
47 ≤ Cap. < 470	0.60	0.70	0.85	0.95	1.00
470 ≤ Cap. < 2200	0.65	0.75	0.90	0.98	1.00
Cap. ≥ 2200	0.75	0.80	0.95	1.00	1.00

NB series

■ STANDARD RATINGS

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	Rated ripple current (mArms/130°C,100kHz)	Part Number
10	100	5×11	80	ENB1AM101D11---T
	330	6.3×12	180	ENB1AM331E12---T
	330	8×11	360	ENB1AM331F11---T
	470	8×12	360	ENB1AM471F12---T
	470	10×13	620	ENB1AM471G13---T
	680	8×12	400	ENB1AM681F12---T
	680	10×13	620	ENB1AM681G13---T
	1000	10×16	660	ENB1AM102G16---T
	1000	10×20	960	ENB1AM102G20---T
	2200	12.5×25	1430	ENB1AM222W25---T
	3300	16×25	1900	ENB1AM332L25---T
	4700	16×30	2300	ENB1AM472L30---T
16	100	5×11	90	ENB1CM101D11---T
	220	6.3×11	125	ENB1CM221E11---T
	330	8×12	360	ENB1CM331F12---T
	470	8×12	360	ENB1CM471F12---T
	470	10×13	620	ENB1CM471G13---T
	1000	10×20	960	ENB1CM102G20---T
	2200	10×25	980	ENB1CM222G25---T
	2200	12.5×25	1430	ENB1CM222W25---T
	3300	16×30	2300	ENB1CM332L30---T
	4700	16×35	2550	ENB1CM472L35---T
25	47	5×11	60	ENB1EM470D11---T
	68	5×12	90	ENB1EM680D12---T
	100	6.3×11	145	ENB1EM101E11---T
	220	8×12	360	ENB1EM221F12---T
	330	8×12	360	ENB1EM331F12---T
	330	10×13	620	ENB1EM331G13---T
	470	8×16	610	ENB1EM471F16---T
	470	10×13	640	ENB1EM471G13---T
	1000	10×20	960	ENB1EM102G20---T
	1000	12.5×20	1100	ENB1EM102W20---T
	2200	16×30	2300	ENB1EM222L30---T
	3300	16×35	2550	ENB1EM332L35---T
35	47	6.3×11	110	ENB1VM470E11---T
	100	6.3×12	210	ENB1VM101E12---T
	100	8×11	360	ENB1VM101F11---T
	220	8×12	375	ENB1VM221F12---T
	220	10×13	620	ENB1VM221G13---T
	330	8×16	550	ENB1VM331F16---T
	330	10×13	620	ENB1VM331G13---T
	330	10×16	800	ENB1VM331G16---T
	470	10×16	705	ENB1VM471G16---T
	470	10×20	960	ENB1VM471G20---T
	680	12.5×20	990	ENB1VM681W20---T
	1000	12.5×20	1180	ENB1VM102W20---T
	1000	12.5×25	1430	ENB1VM102W25---T
	2200	16×35	2550	ENB1VM222L35---T
	3300	18×35	2800	ENB1VM332M35---T
50	1	5×11	26	ENB1HM010D11---T
	2.2	5×11	35	ENB1HM2R2D11---T
	2.2	8×11	50	ENB1HM2R2F11---T
	3.3	5×11	40	ENB1HM3R3D11---T
	3.3	8×11	70	ENB1HM3R3F11---T
	4.7	5×11	42	ENB1HM4R7D11---T
	4.7	8×11	100	ENB1HM4R7F11---T
	10	5×11	90	ENB1HM100D11---T
	10	8×11	200	ENB1HM100F11---T
	22	5×12	110	ENB1HM220D12---T
	22	8×11	260	ENB1HM220F11---T
	33	6.3×11	150	ENB1HM330E11---T
	33	8×11	300	ENB1HM330F11---T
	47	6.3×11	180	ENB1HM470E11---T
	47	8×11	300	ENB1HM470F11---T

WV (V _{dc})	Cap (μF)	Size ΦDxL(mm)	Rated ripple current (mArms/130°C,100kHz)	Part Number	
50	100	8×12	340	ENB1HM101F12---T	
	100	10×13	520	ENB1HM101G13---T	
	220	8×16	520	ENB1HM221F16---T	
	220	10×13	520	ENB1HM221G13---T	
	330	10×16	530	ENB1HM331G16---T	
	330	12.5×20	1000	ENB1HM331W20---T	
	470	10×20	950	ENB1HM471G20---T	
	470	12.5×25	1200	ENB1HM471W25---T	
	680	12.5×20	1060	ENB1HM681W20---T	
	680	16×20	1250	ENB1HM681L20---T	
	1000	12.5×25	1500	ENB1HM102W25---T	
	1000	16×30	2180	ENB1HM102L30---T	
	2200	18×40	2800	ENB1HM222M40---T	
	63	33	6.3×12	150	ENB1JM330E12---T
		33	8×11	250	ENB1JM330F11---T
47		8×12	250	ENB1JM470F12---T	
47		10×13	400	ENB1JM470G13---T	
100		8×12	340	ENB1JM101F12---T	
100		10×16	450	ENB1JM101G16---T	
220		10×16	450	ENB1JM221G16---T	
220		12.5×20	820	ENB1JM221W20---T	
330		12.5×20	850	ENB1JM331W20---T	
330		12.5×25	1000	ENB1JM331W25---T	
470		13×25	1000	ENB1JM471K25---T	
470		16×25	1500	ENB1JM471L25---T	
1000		16×30	1850	ENB1JM102L30---T	
80		4.7	5×11	26	ENB1BM4R7D11---T
		10	5×11	68	ENB1BM100D11---T
	22	6.3×11	105	ENB1BM220E11---T	
	33	6.3×12	135	ENB1BM330E12---T	
	33	8×12	250	ENB1BM330F12---T	
	68	8×12	250	ENB1BM680F12---T	
	100	8×16	400	ENB1BM101F16---T	
	150	10×16	450	ENB1BM151G16---T	
	220	10×20	750	ENB1BM221G20---T	
	330	12.5×20	850	ENB1BM331W20---T	
	470	16×20	1200	ENB1BM471L20---T	
	100	4.7	5×11	40	ENB1KM4R7D11---T
		4.7	8×11	100	ENB1KM4R7F11---T
		10	6.3×11	130	ENB1KM100E11---T
		10	8×11	200	ENB1KM100F11---T
22		6.3×12	150	ENB1KM220E12---T	
22		8×12	220	ENB1KM220F12---T	
33		8×12	220	ENB1KM330F12---T	
33		10×13	260	ENB1KM330G13---T	
47		8×16	240	ENB1KM470F16---T	
47		10×16	330	ENB1KM470G16---T	
100		10×16	350	ENB1KM101G16---T	
100		12.5×20	670	ENB1KM101W20---T	
220		13×20	720	ENB1KM221K20---T	
220		16×25	1100	ENB1KM221L25---T	
330		16×25	1300	ENB1KM331L25---T	
330	16×30	1300	ENB1KM331L30---T		
470	18×30	1600	ENB1KM471M30---T		
120	22	8×12	115	ENB2BM220F12---T	
	33	8×16	200	ENB2BM330F16---T	
	33	10×13	200	ENB2BM330G13---T	
	47	8×20	240	ENB2BM470F20---T	
	47	10×16	240	ENB2BM470G16---T	
	56	10×16	255	ENB2BM560G16---T	
	68	10×16	255	ENB2BM680G16---T	
	82	10×20	270	ENB2BM820G20---T	
	100	10×25	340	ENB2BM101G25---T	
	120	12.5×20	465	ENB2BM121W20---T	

Radial Type

NB series

■ STANDARD RATINGS

WV (V _{dc})	Cap (μ F)	Size Φ DxL(mm)	Rated ripple current (mA _{rms} /130°C,100kHz)	Part Number
120	150	12.5×25	515	ENB2BM151W25---T
	220	12.5×30	630	ENB2BM221W30---T
	220	16×20	630	ENB2BM221L20---T
	270	16×25	720	ENB2BM271L25---T
	270	18×20	720	ENB2BM271M20---T
	330	16×30	775	ENB2BM331L30---T
	330	18×25	775	ENB2BM331M25---T
	470	16×40	865	ENB2BM471L40---T
	470	18×30	865	ENB2BM471M30---T

※ Specifications subject to change without notice.