

# VN series

## SMD Miniaturization

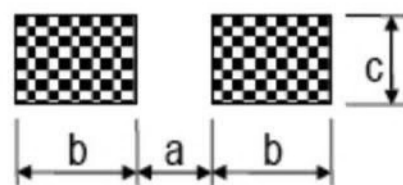
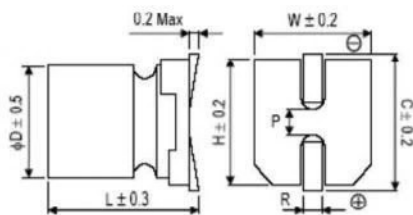
- SMD Type, Downsizing
- Load life of 2000 hours at 105°C
- Compliant to the RoHS directive (2011/65/EU)
- Suitable for Miniaturization of Electronics Device

小型化贴片固态产品，产品满足RoHS指令(2011/65/EU)，适合小型化电子设备。

## » Specifications

Items	Characteristics	
Operating Temp. Range	-55°C ~ +105°C	
Capacitance Range	100 ~ 1000 uF	
Capacitance Tolerance	M: ±20%	
Rated Voltage Range	2.5V ~ 16V DC	
Dissipation Factor	Not to exceed the value specified	
( at 120Hz, 20°C )	Not to exceed the value specified (after 2 minutes)	
Leakage Current	Not to exceed the value specified	
ESR ( 100K~300KHz )	Capacitance Change	Within ± 20% of the value before test
	Leakage current	Not to exceed the value specified
Endurance 105°C, 2000h, at rated voltage	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified
	Capacitance Change	Within ± 20% of the value before test
Moisture Resistance Stored at 60°C, Rh90 ~ 95%, 1000h	Leakage Current	Not to exceed the value specified
	ESR	Not to exceed 150% of the value specified
	Dissipation Factor	Not to exceed 150% of the value specified

## » Diagram of Dimensions » Recommended land pattern



(unit: mm)

$\phi D \times L$	W	H	C	R	P
6.3 × 5.8	6.6	6.6	7.2	0.5to0.8	2.1
8 × 6.5	8.3	8.3	9.0	0.8to1.1	3.2

(unit: mm)

$\phi D \times L$	a	b	c
6.3 × 5.8	2.1	3.5	1.6
8 × 6.5	2.8	4.2	1.9

### » Capacitance List

W.V (S.V) SIZE	2.5 (2.8)	4 (4.6)	6.3 (7.3)	10 (11.5)	16 (18.4)
6.3 × 5.8	330~560 uF	270~470 uF	220~390 uF	180~270 uF	100~180 uF
8 × 6.5	560~1000 uF	390~680 uF	330~560 uF	270~390 uF	150~270 uF

### » Characteristics List

W.V (V)	Capacitance (uF)	L.C. (uA,2min)	tg δ (120Hz, 20°C)	ESR (mΩ, 100kHz)	Rated Ripple Current (mA, r. m. s)	Size Φ D × L (mm)	Part Number
2.5	390	300	0.08	12	3300	6.3 × 5.8	VN391M2R5E058TR
	560	300	0.08	12	3300	6.3 × 5.8	VN561M2R5E058TR
	680	340	0.08	10	3600	8 × 6.5	VN681M2R5F065TR
	1000	500	0.08	10	3600	8 × 6.5	VN102M2R5F065TR
4	220	300	0.08	12	3300	6.3 × 5.8	VN221M004E058TR
	330	300	0.08	12	3300	6.3 × 5.8	VN331M004E058TR
	470	376	0.08	10	3600	8 × 6.5	VN471M004F065TR
	560	448	0.08	10	3600	8 × 6.5	VN561M004F065TR
6.3	220	300	0.08	15	2700	6.3 × 5.8	VN221M6R3E058TR
	330	415.8	0.08	15	2700	6.3 × 5.8	VN331M6R3E058TR
	470	592.2	0.08	12	3100	8 × 6.5	VN471M6R3F065TR
	560	705.6	0.08	12	3100	8 × 6.5	VN561M6R3F065TR
10	180	360	0.08	15	2700	6.3 × 5.8	VN181M010E058TR
	220	440	0.08	15	2700	6.3 × 5.8	VN221M010E058TR
	330	660	0.08	12	3100	8 × 6.5	VN331M010F065TR
	390	780	0.08	12	3100	8 × 6.5	VN391M010F065TR
16	100	320	0.10	25	2100	6.3 × 5.8	VN181M010E058TR
	150	480	0.10	25	2100	6.3 × 5.8	VN221M010E058TR
	220	704	0.10	20	2400	8 × 6.5	VN331M010F065 I H
	270	864	0.10	20	2400	8 × 6.5	VN391M010F065TR

### » Frequency Coefficient for Ripple Current

Frequency	120Hz ≤ freq. < 1KHz	1KHz ≤ freq. < 10KHz	10KHz ≤ freq. < 100KHz	100KHz ≤ freq. < 300KHz
Coefficient	0.05	0.3	0.7	1