

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor Technical Data ZK series



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series



Patr No.	Voltaeg / Cap.		Size		Page	
EEHZK1E470R	25 V	47 μ F	Φ	5 x 5.8	...	ZK 1
EEHZK1E680P	25 V	68 μ F	Φ	6 x 5.8	...	ZK 2
EEHZK1E820P	25 V	82 μ F	Φ	6 x 5.8	...	ZK 3
EEHZK1E151XP	25 V	150 μ F	Φ	6 x 7.7	...	ZK 4
EEHZK1E271P	25 V	270 μ F	Φ	8 x 10.2	...	ZK 5
EEHZK1E471P	25 V	470 μ F	Φ	10 x 10.2	...	ZK 6
EEHZK1V330R	35 V	33 μ F	Φ	5 x 5.8	...	ZK 7
EEHZK1V560P	35 V	56 μ F	Φ	6 x 5.8	...	ZK 8
EEHZK1V101XP	35 V	100 μ F	Φ	6 x 7.7	...	ZK 9
EEHZK1V181P	35 V	180 μ F	Φ	8 x 10.2	...	ZK 10
EEHZK1V331P	35 V	330 μ F	Φ	10 x 10.2	...	ZK 11

Data Sheet

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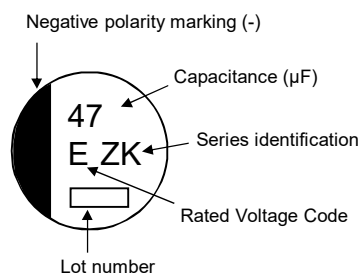
Part Number : EEHZK1E470R

Endurance: 125 °C, 4000 h

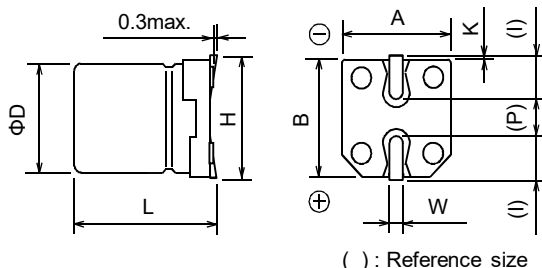
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	47 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	11.7 μA max. (at R.V., After 2 min)
ESR	80 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	850 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

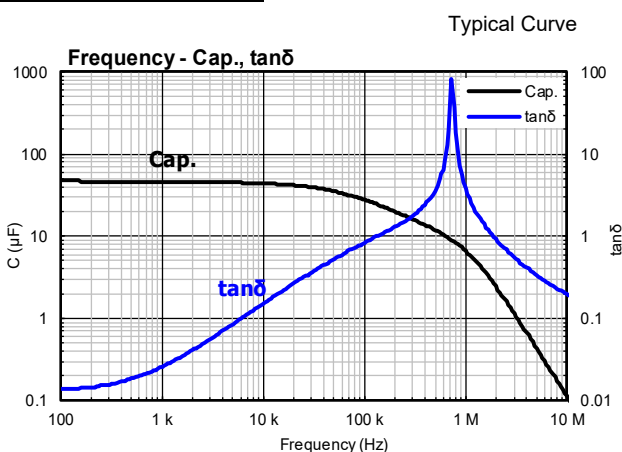
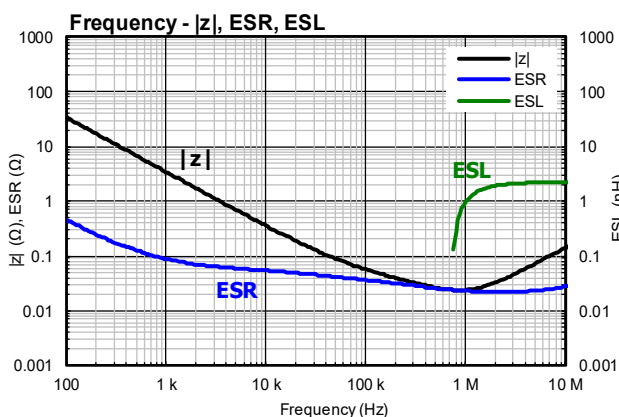


Size Code: C (Unit: mm)

ΦD	5.0 ±0.5
L	5.8 ±0.3
A, B	5.3 ±0.2
H	6.5 max.
I	2.2
W	0.65 ±0.10
P	1.5
K	0.35 +0.15/-0.20

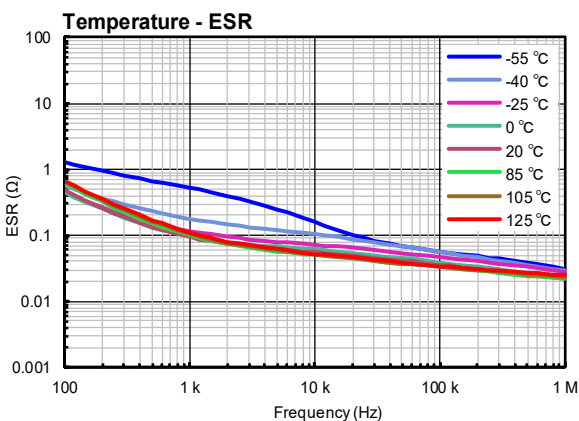
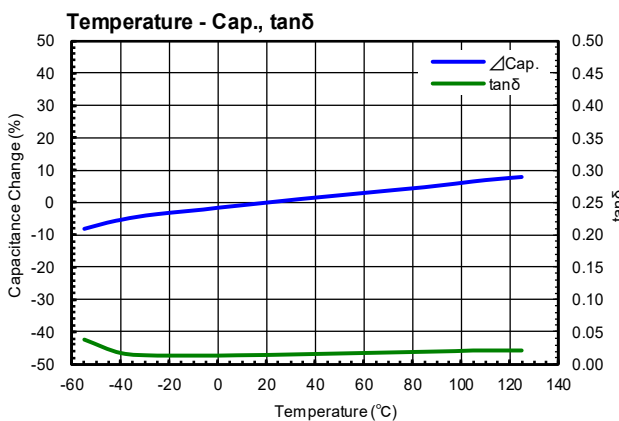
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

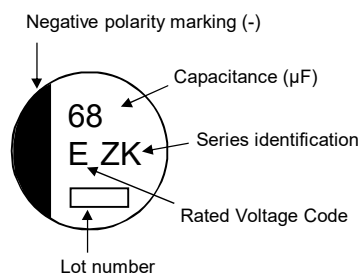
Part Number : EEHZK1E680P

Endurance: 125 °C, 4000 h

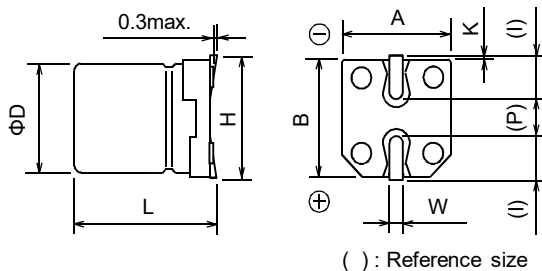
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	68 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	17.0 μA max. (at R.V., After 2 min)
ESR	50 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	1300 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

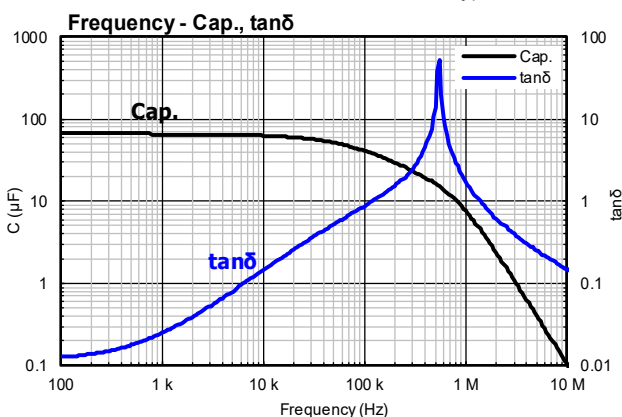
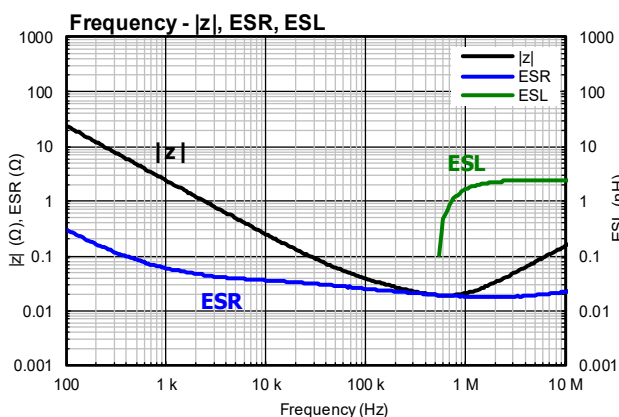


Size Code: D (Unit: mm)

ϕD	6.3 ±0.5
L	5.8 ±0.3
A, B	6.6 ±0.2
H	7.8 max.
I	2.6
W	0.65 ±0.10
P	1.8
K	0.35 +0.15/-0.20

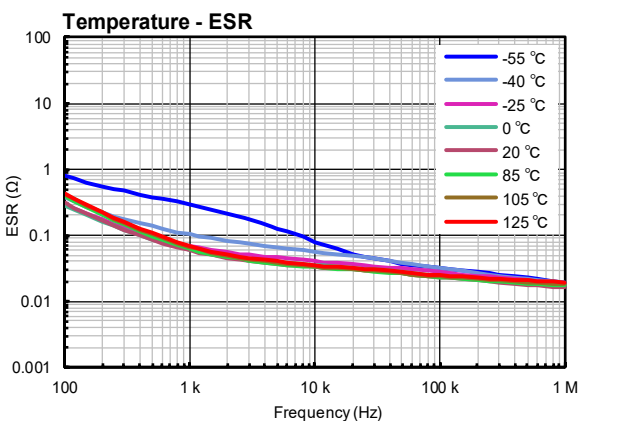
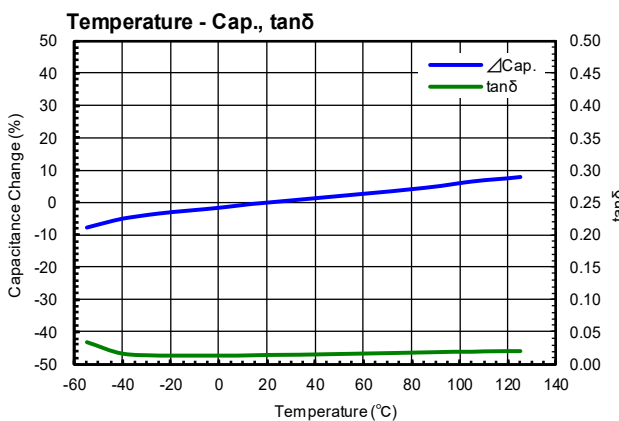
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



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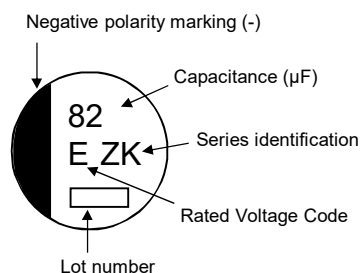
Part Number : EEHZK1E820P

Endurance: 125 °C, 4000 h

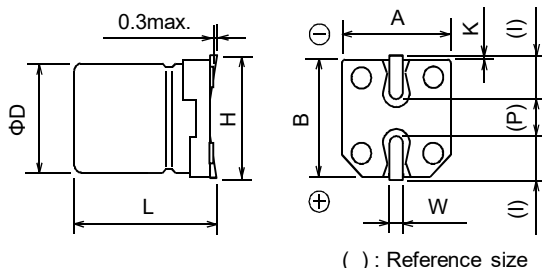
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	82 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	20.5 μA max. (at R.V., After 2 min)
ESR	50 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	1300 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

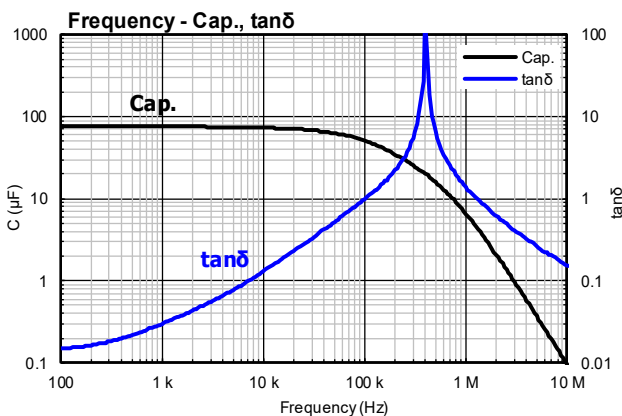
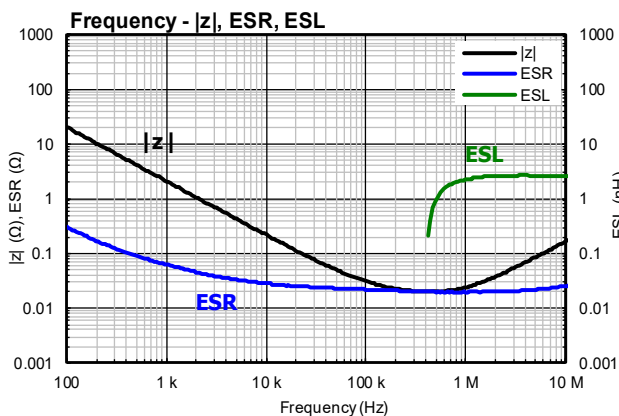


Size Code: D (Unit: mm)

ϕD	6.3 ±0.5
L	5.8 ±0.3
A, B	6.6 ±0.2
H	7.8 max.
I	2.6
W	0.65 ±0.10
P	1.8
K	0.35 +0.15/-0.20

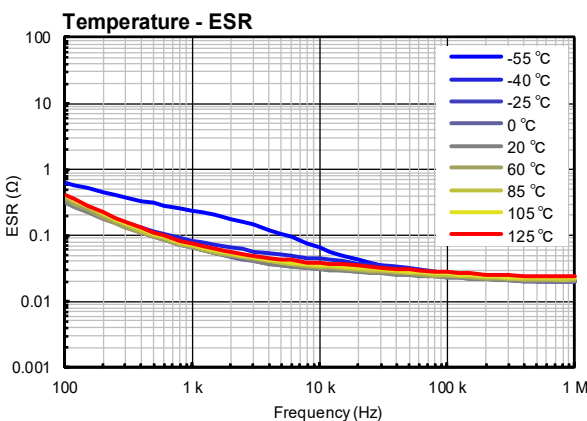
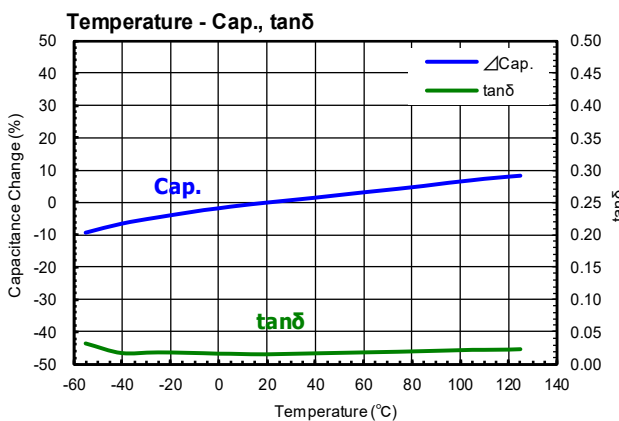
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



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Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

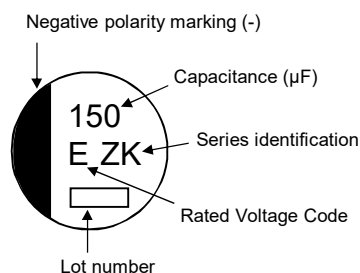
Part Number : EEHZK1E151XP

Endurance: 125 °C, 4000 h

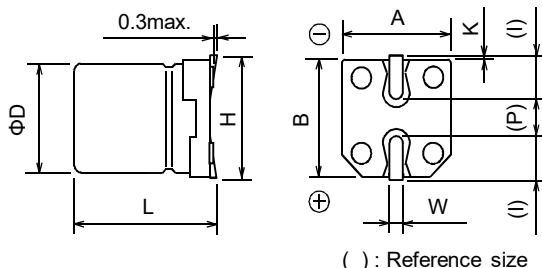
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	150 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	37.5 μA max. (at R.V., After 2 min)
ESR	30 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	1800 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

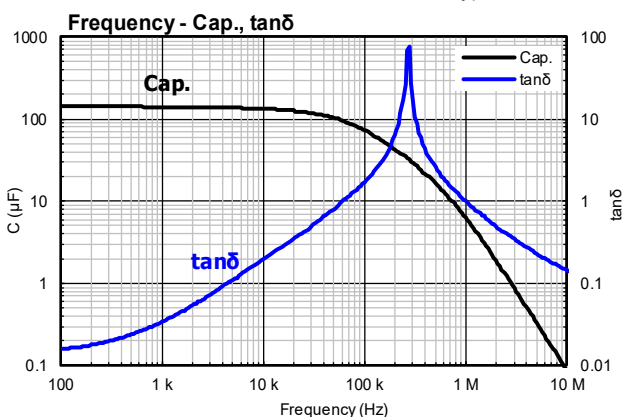
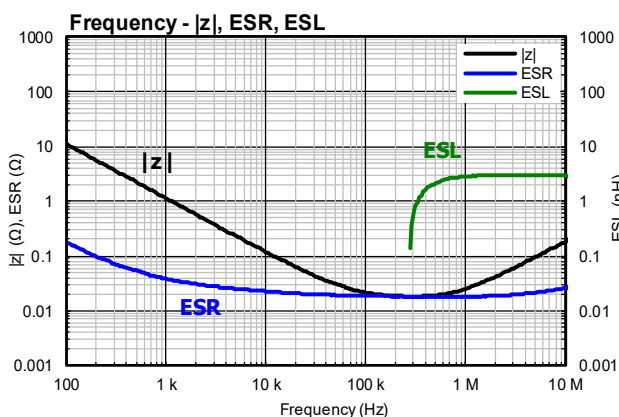


Size Code: D8 (Unit: mm)

ΦD	6.3 ±0.5
L	7.7 ±0.3
A, B	6.6 ±0.2
H	7.8 max.
I	2.6
W	0.65 ±0.10
P	1.8
K	0.35 +0.15/-0.20

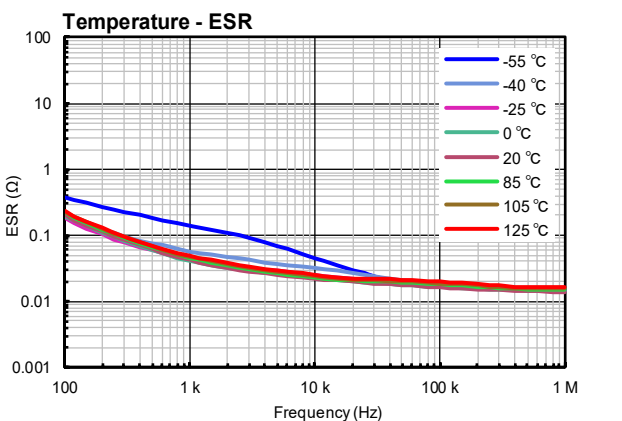
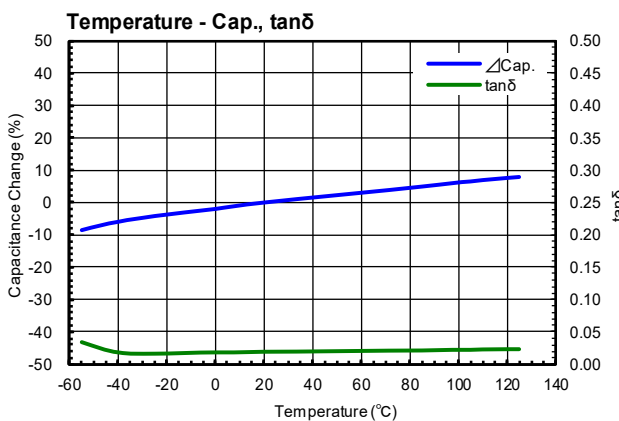
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



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Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

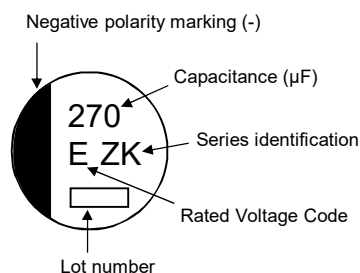
Part Number : EEHZK1E271P

Endurance: 125 °C, 4000 h

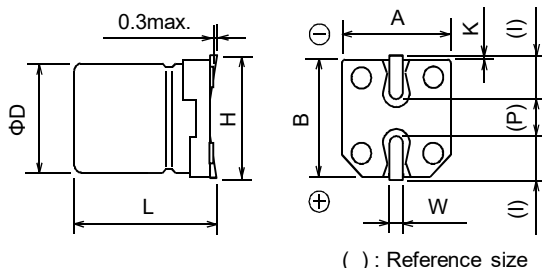
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	270 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	67.5 μA max. (at R.V., After 2 min)
ESR	27 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	2000 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

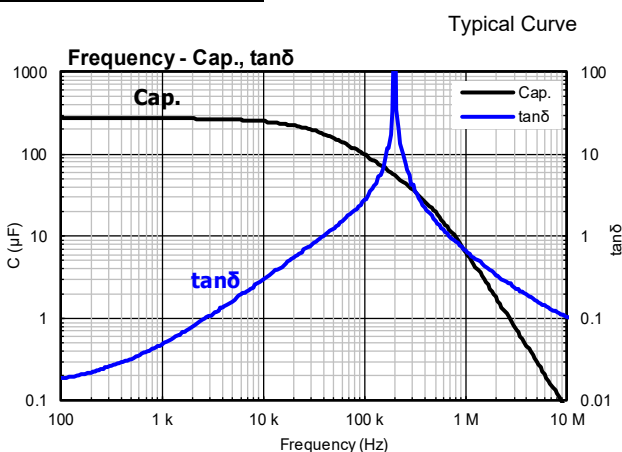
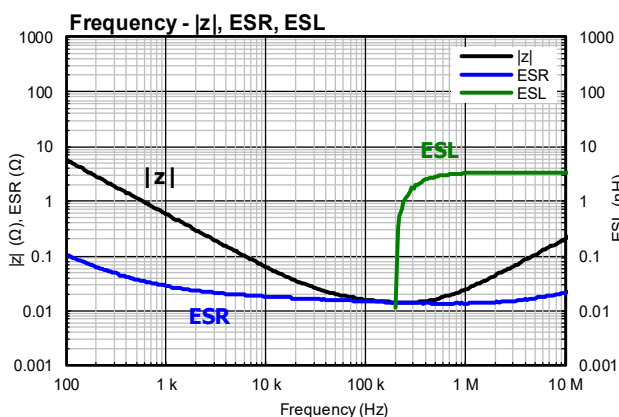


Size Code: F (Unit: mm)

ϕD	8.0 ±0.5
L	10.2 ±0.3
A, B	8.3 ±0.2
H	10.0 max.
I	3.4
W	0.90 ±0.20
P	3.1
K	0.70 ±0.2

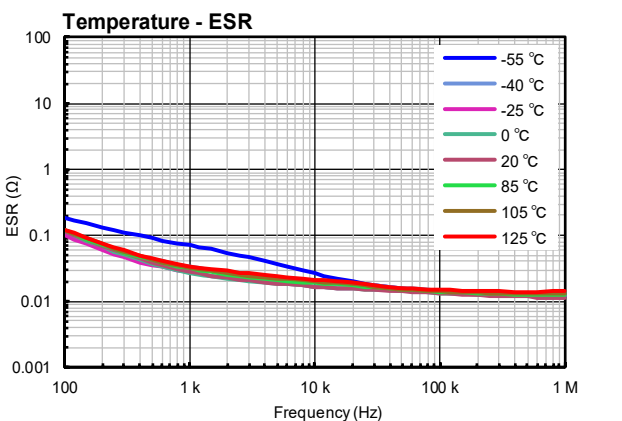
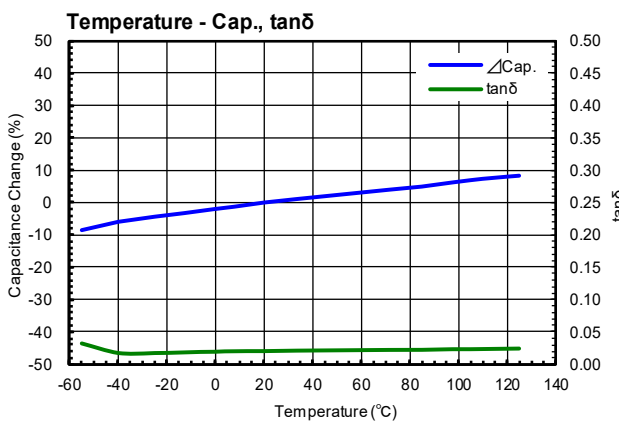
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

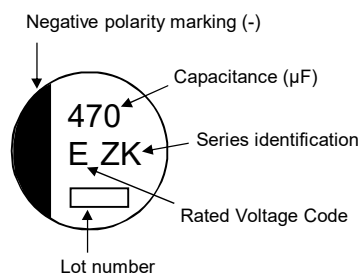
Part Number : EEHZK1E471P

Endurance: 125 °C, 4000 h

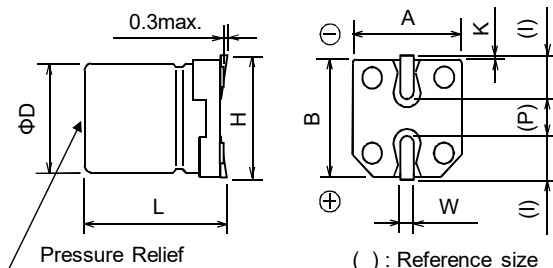
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	25 V
Nominal Capacitance	470 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.14 max. (at 120 Hz)
Leakage Current	117.5 μA max. (at R.V., After 2 min)
ESR	20 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	2800 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

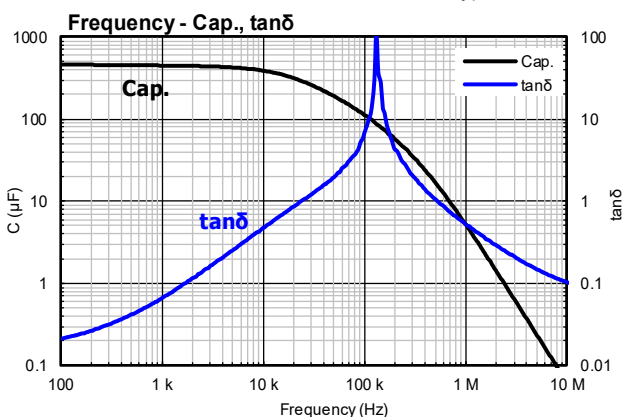
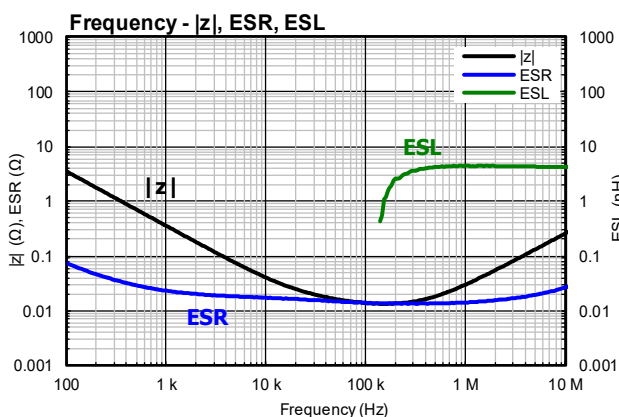


Size Code: G (Unit: mm)

ΦD	10.0 ±0.5
L	10.2 ±0.3
A, B	10.3 ±0.2
H	12.0 max.
I	3.5
W	0.90 ±0.20
P	4.6
K	0.70 ±0.2

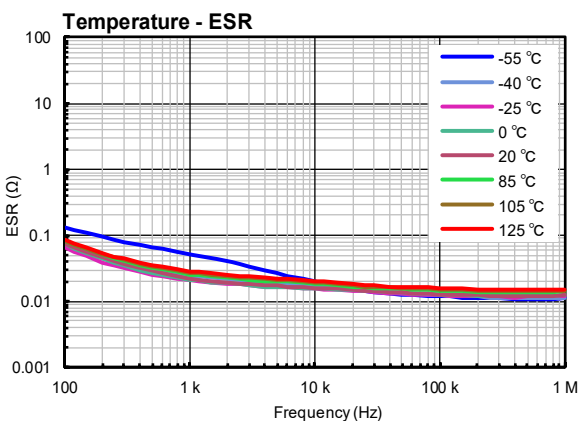
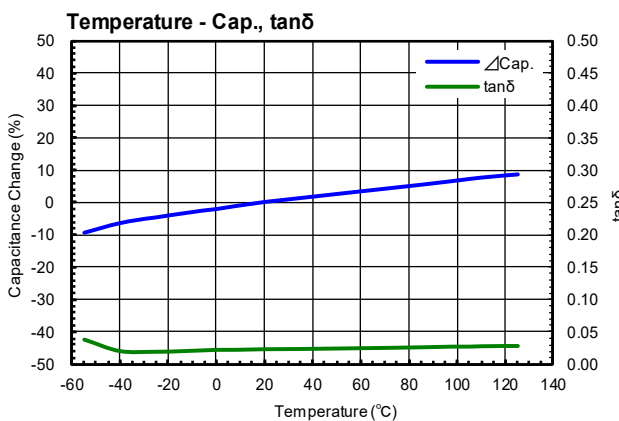
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

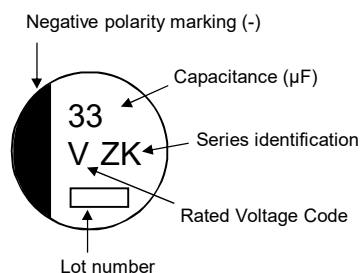
Part Number : EEHZK1V330R

Endurance: 125 °C, 4000 h

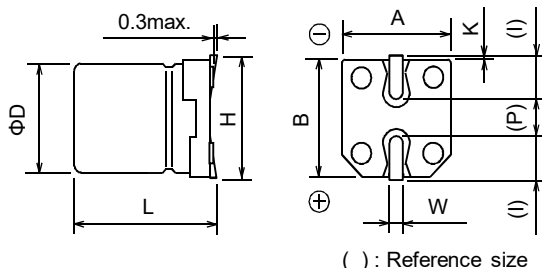
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	35 V
Nominal Capacitance	33 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.12 max. (at 120 Hz)
Leakage Current	11.5 μA max. (at R.V., After 2 min)
ESR	100 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	750 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

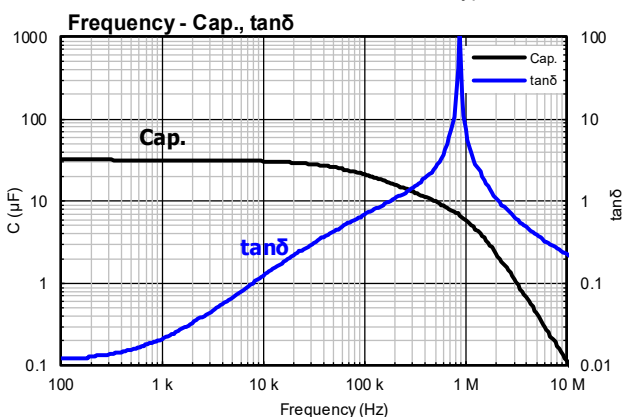
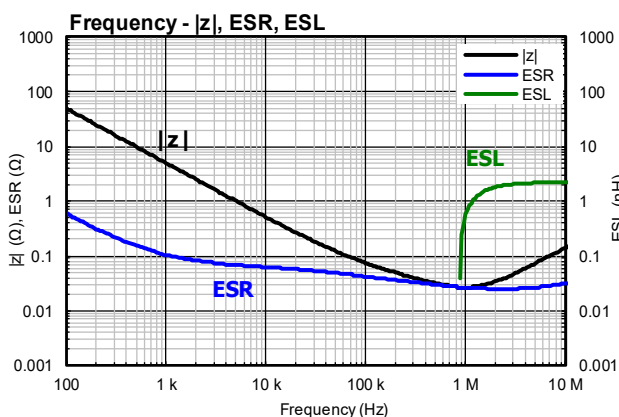


Size Code: C (Unit: mm)

ϕD	5.0 ±0.5
L	5.8 ±0.3
A, B	5.3 ±0.2
H	6.5 max.
I	2.2
W	0.65 ±0.10
P	1.5
K	0.35 +0.15/-0.20

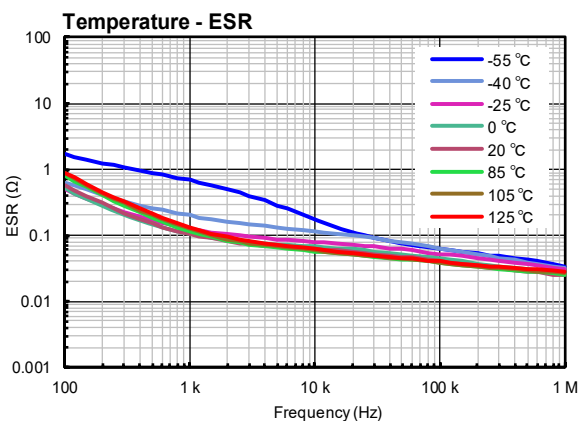
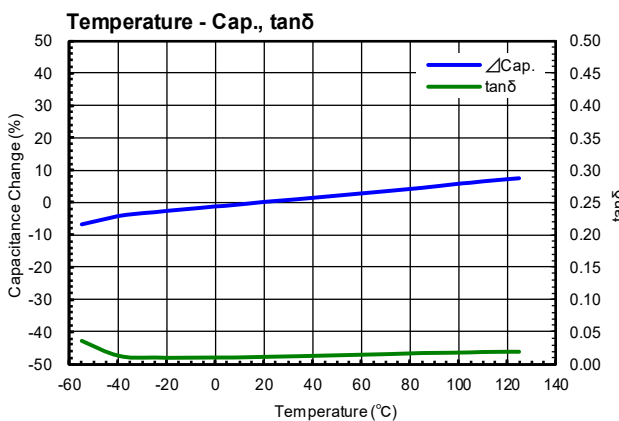
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

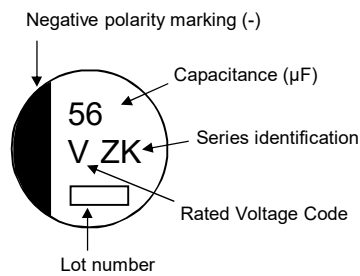
Part Number : EEHZK1V560P

Endurance: 125 °C, 4000 h

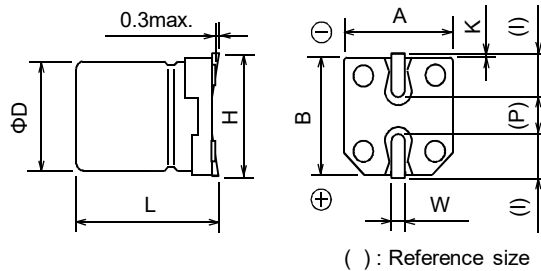
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	35 V
Nominal Capacitance	56 μ F (at 120 Hz)
Capacitance Tolerance	\pm 20 %

$\tan \delta$	0.12 max. (at 120 Hz)
Leakage Current	19.6 μ A max. (at R.V., After 2 min)
ESR	60 m Ω max. (at 100 kHz, 20 °C)
Ripple Current	1200 mA _{RMS} max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

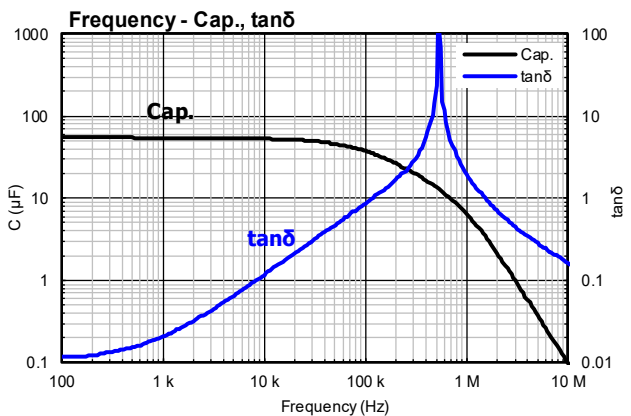
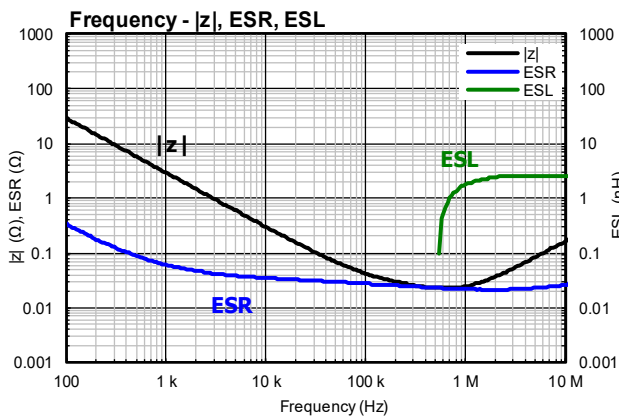


Size Code: D (Unit: mm)

ϕ D	6.3 \pm 0.5
L	5.8 \pm 0.3
A, B	6.6 \pm 0.2
H	7.8 max.
I	2.6
W	0.65 \pm 0.10
P	1.8
K	0.35 +0.15/-0.20

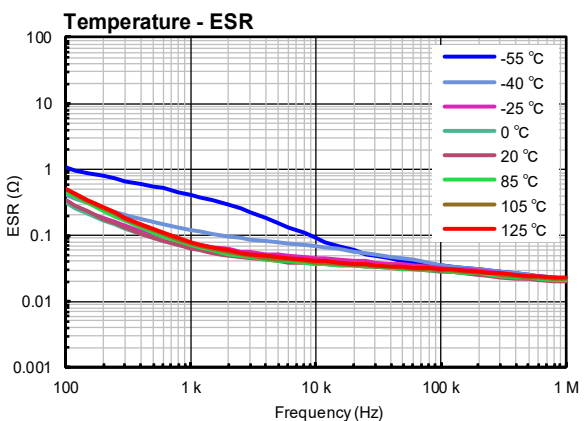
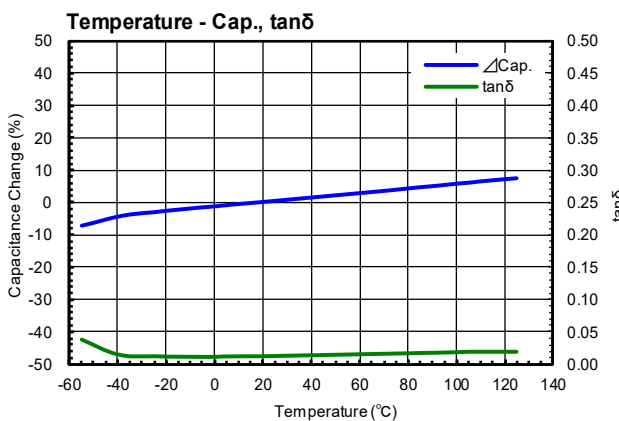
Frequency vs. Impedance, ESR, ESL, Capacitance, $\tan \delta$ Characteristics

Osc. Level: 0.5 V_{rms} (at no load)



Temperature vs. Capacitance, $\tan \delta$, ESR Characteristics

Osc. Level: 0.5 V_{rms} (at no load)



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Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

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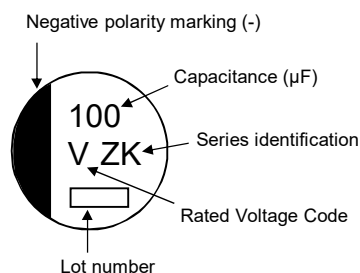
Part Number : EEHZK1V101XP

Endurance: 125 °C, 4000 h

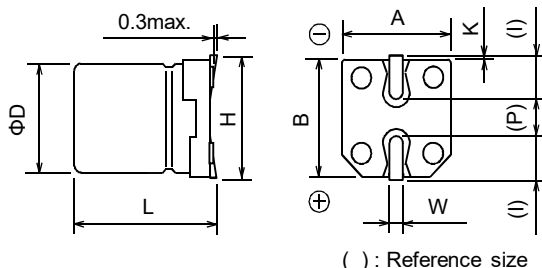
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	35 V
Nominal Capacitance	100 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.12 max. (at 120 Hz)
Leakage Current	35.0 μA max. (at R.V., After 2 min)
ESR	35 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	1700 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

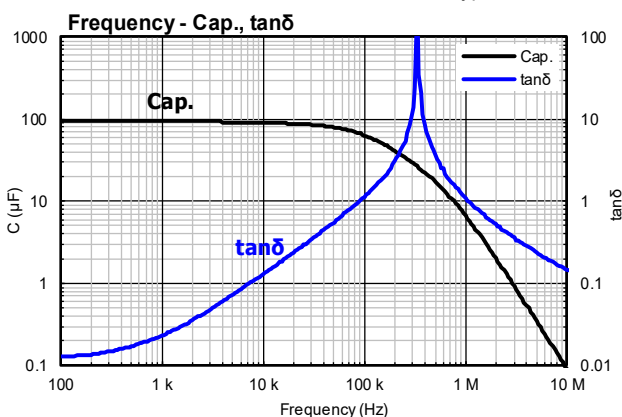
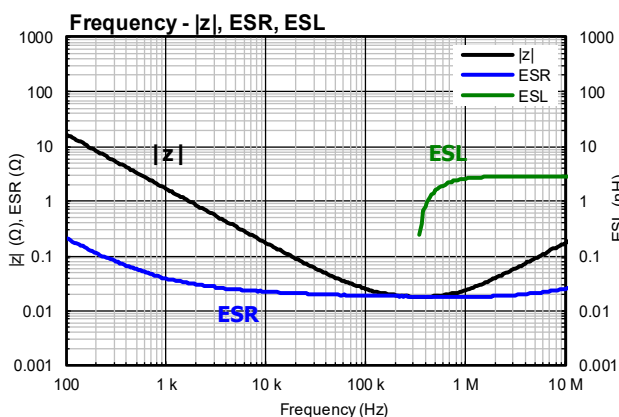


Size Code: D8 (Unit: mm)

ϕD	6.3 ±0.5
L	7.7 ±0.3
A, B	6.6 ±0.2
H	7.8 max.
I	2.6
W	0.65 ±0.10
P	1.8
K	0.35 +0.15/-0.20

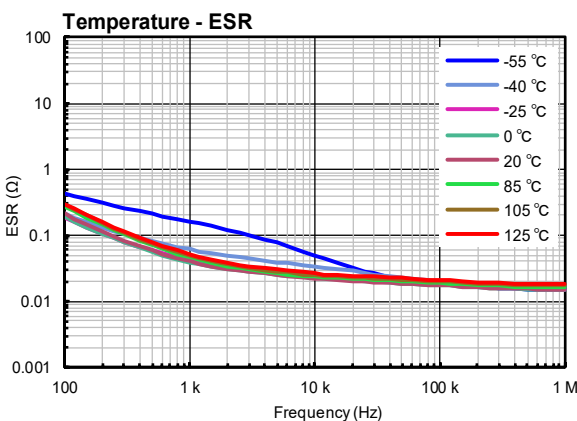
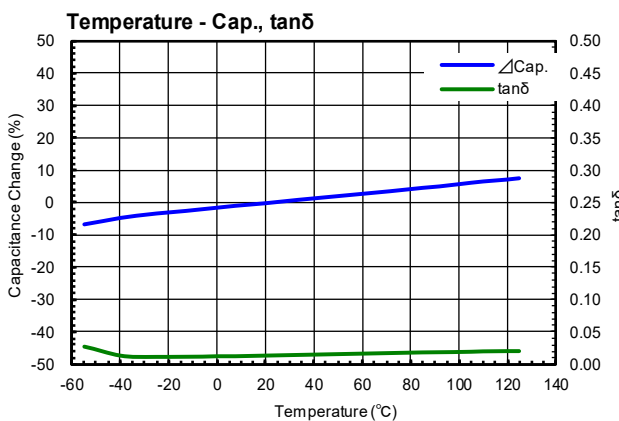
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

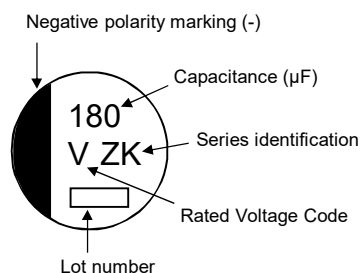
Part Number : EEHZK1V181P

Endurance: 125 °C, 4000 h

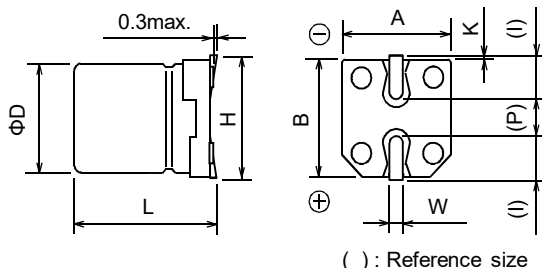
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	35 V
Nominal Capacitance	180 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.12 max. (at 120 Hz)
Leakage Current	63.0 μA max. (at R.V., After 2 min)
ESR	27 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	2000 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

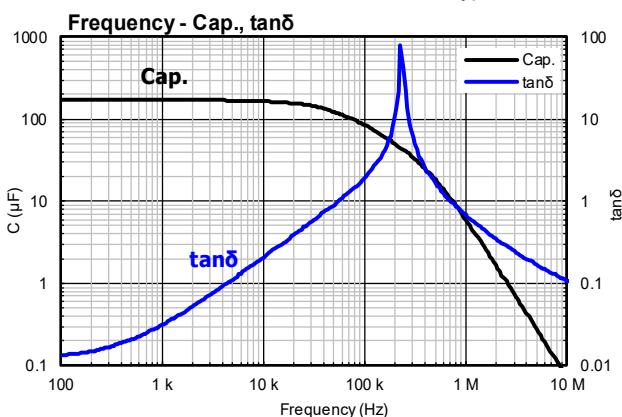
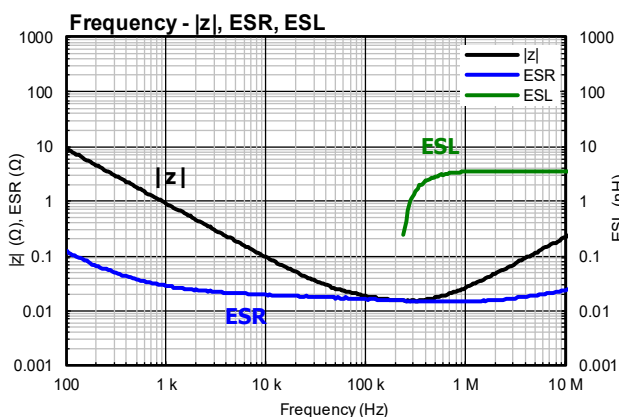


Size Code: F (Unit: mm)

ΦD	8.0 ±0.5
L	10.2 ±0.3
A, B	8.3 ±0.2
H	10.0 max.
I	3.4
W	0.90 ±0.20
P	3.1
K	0.70 ±0.2

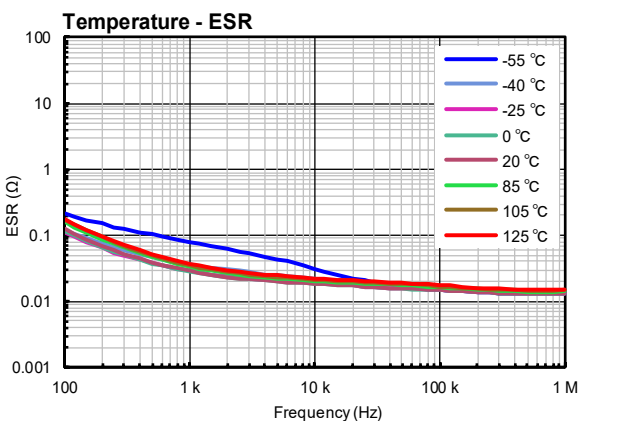
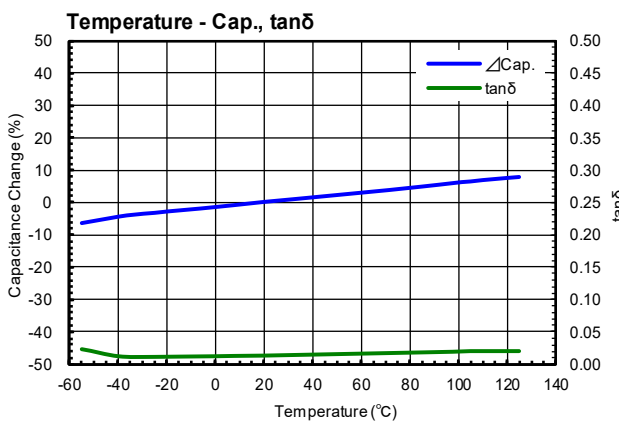
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



Data Sheet

Conductive Polymer Hybrid Aluminum Electrolytic Capacitor

SMD type ZK series

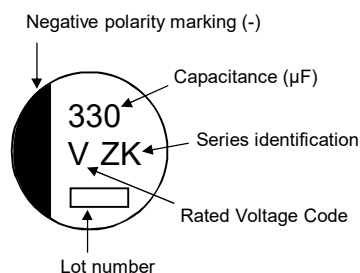
Part Number : EEHZK1V331P

Endurance: 125 °C, 4000 h

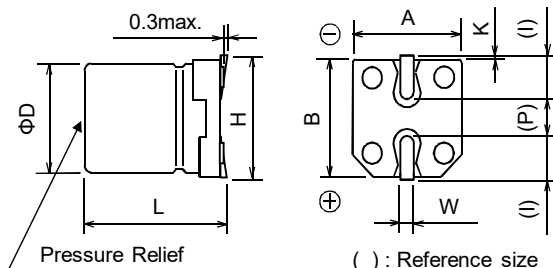
Category Temperature Range	-55 °C to 125 °C
Rated Voltage	35 V
Nominal Capacitance	330 μF (at 120 Hz)
Capacitance Tolerance	±20 %

tan δ	0.12 max. (at 120 Hz)
Leakage Current	115.5 μA max. (at R.V., After 2 min)
ESR	20 mΩ max. (at 100 kHz, 20 °C)
Ripple Current	2800 mA rms max. (at 100 kHz, 125 °C)

Marking



Dimensions in mm (not to scale)

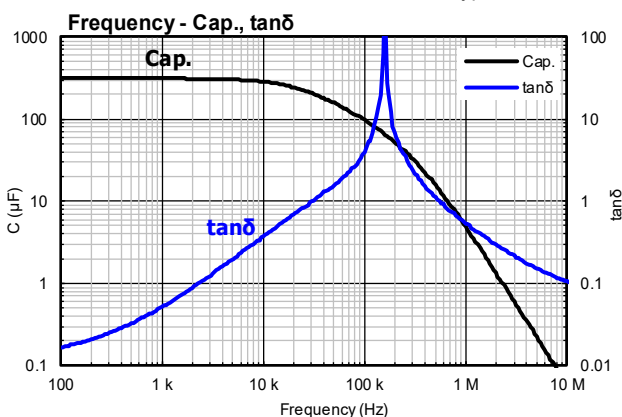
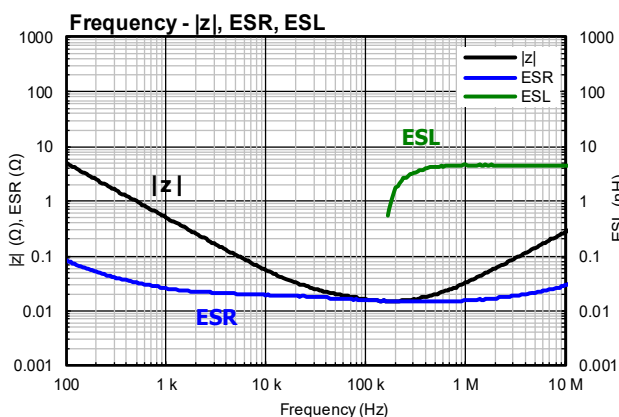


Size Code: G (Unit: mm)

ϕD	10.0 ±0.5
L	10.2 ±0.3
A, B	10.3 ±0.2
H	12.0 max.
I	3.5
W	0.90 ±0.20
P	4.6
K	0.70 ±0.2

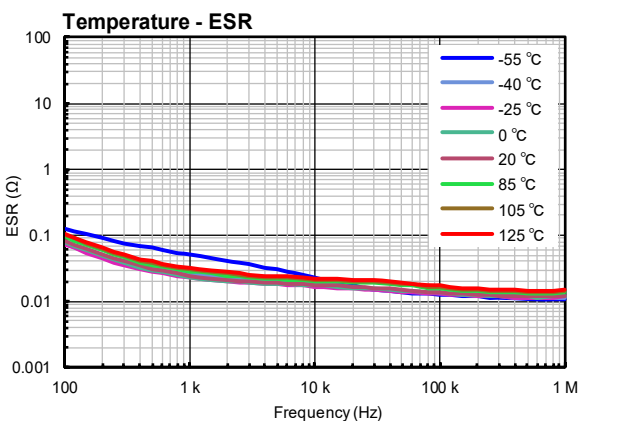
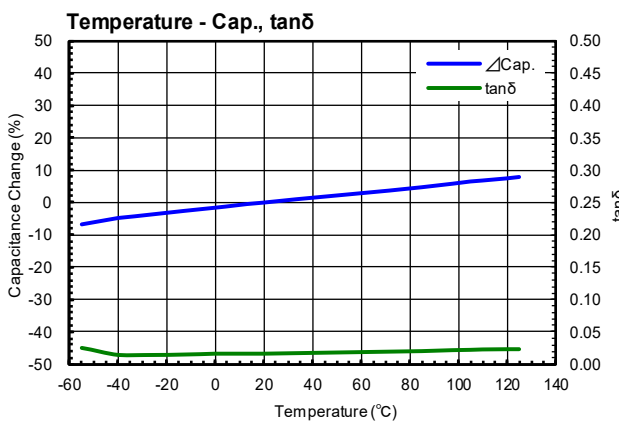
Frequency vs. Impedance, ESR, ESL, Capacitance, tanδ Characteristics

Osc. Level: 0.5 Vrms (at no load)



Temperature vs. Capacitance, tanδ, ESR Characteristics

Osc. Level: 0.5 Vrms (at no load)



**Conductive Polymer Hybrid
Aluminum Electrolytic Capacitors**

Technical Data ZK series

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