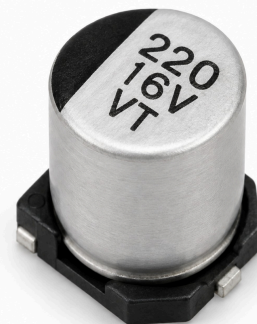


KVT Series

SMD Aluminium Electrolytic Capacitors (V-chip)



Features

- Designed for reflow soldering
- Designed for surface mounting on high-density PCB
- RoHS 2.0 compliant
- 219 SVHC & REACH compliant

TEMPERATURE RANGE
-55°C ... +105°C

RATED VOLTAGE
6.3 – 100 V

CAPACITANCE
1 – 2200 µF

ENDURANCE
105°C 2000 h

Specifications

Category temp. range	-55°C to +105°C	
Capacitance tolerance	±20% (120 Hz / +20 °C)	
Leakage current	I ≤ 0.01 CV or 3 μA whichever is greater (after 2 minutes)	
Tan δ	See the characteristics list	
Endurance	After applying rated working voltage for 2000 hours at +105 °C ± 2 °C, and then being stabilized at +20 °C , capacitors shall meet the following limits.	
	Capacitance change	ΦD ≤ 6.3mm : Within ±25% of the initial value ΦD ≥ 8mm : Within ±20% of the initial value
	Dissipation factor (tan δ)	ΦD ≤ 6.3mm : Less than 300% of the initial value ΦD ≥ 8mm : Less than 200% of the initial value
	Leakage current	Within the initial limit
Shelf life	After storage for 1000 h at +105 °C ± 2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in endurance.	
Resistance to soldering heat	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.	
	Capacitance change	Within ±10% of the initial value
	Dissipation factor (tan δ)	Within the initial limit
	Leakage current	Within the initial limit

Low-temperature characteristics

Rated voltage (V)	6.3	10	16	25	35	50	63	100
Z(-25 °C)/Z(+20 °C)	4	4	3	2	2	2	2	3
Z(-55 °C)/Z(+20 °C)	12	8	6	4	3	3	3	4

Impedance ratio at 120 Hz

Ripple current frequency correction factor

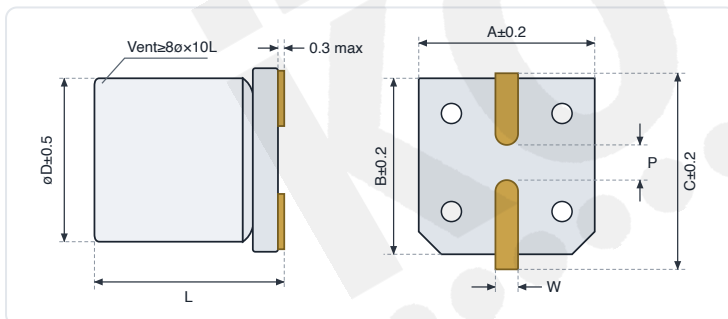
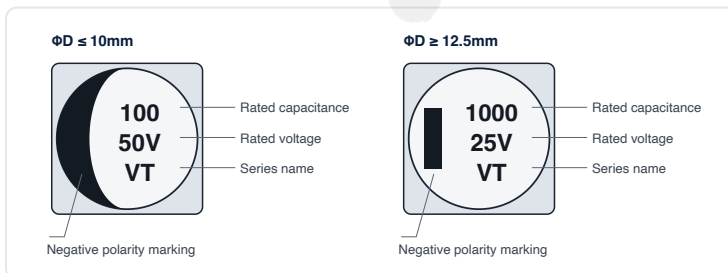
Frequency	50Hz	120Hz	1kHz	10kHz $\leq$
$C \leq 1000\mu\text{F}$	0.7	1.0	1.2	1.3
$C > 1000\mu\text{F}$	0.8	1.0	1.1	1.2

Standard ratings

$\mu\text{F} \setminus \text{V}$	6.3	10	16	25	35	50	63	100
1						4x5.7	4x5.7	
2.2						4x5.7	4x5.7	
3.3						4x5.7	5x5.7 6.3x5.7	
4.7				4x5.7	4x5.7	4x5.7 5x5.7	6.3x5.7	5x5.7 6.3x5.7 6.3x7.7
10			4x5.7	4x5.7 5x5.7	4x5.7 5x5.7	5x5.7 6.3x5.7	6.3x5.7 8x6.5	6.3x7.7 8x10.5
22	4x5.7	4x5.7	4x5.7 5x5.7	5x5.7 6.3x5.7	5x5.7 6.3x5.7	6.3x5.7 6.3x7.7 8x6.5	6.3x7.7 8x6.5 8x10.5	8x10.5 10x10.5
33	5x5.7	4x5.7 5x5.7	5x5.7 6.3x5.7	5x5.7 6.3x5.7	6.3x5.7 8x6.5	6.3x7.7 8x6.5	8x10.5	10x10.5
47	5x5.7	5x5.7	5x5.7 6.3x5.7	6.3x5.7 8x6.5	6.3x5.7 6.3x7.7 8x6.5	6.3x7.7 8x6.5 8x10.5	8x10.5 10x10.5	10x10.5 10x13 12.5x13.5
100	5x5.7 6.3x5.7	5x5.7 6.3x5.7	6.3x5.7 8x6.5	6.3x7.7 8x6.5 8x10.5	6.3x7.7 8x10.5 10x7.7	8x10.5 10x7.7 10x10.5	10x10.5 10x13 12.5x13.5	12.5x13.5
150		6.3x5.7			8x10.5			
220	6.3x5.7 6.3x7.7	6.3x5.7 6.3x7.7 8x6.5	6.3x7.7 8x6.5 8x10.5	8x10.5 10x7.7	8x10.5 10x10.5	10x10.5 10x13	12.5x13.5	
330	6.3x7.7 8x6.5 8x10.5	6.3x7.7 8x10.5	8x10.5 10x7.7	8x10.5 10x10.5	10x10.5 10x13	12.5x13.5		
470	6.3x7.7 8x10.5	8x10.5 10x7.7	8x10.5 10x10.5	10x10.5	10x10.5 10x13 12.5x13.5			
1000	10x10.5	10x10.5	10x10.5 10x13 12.5x13.5	12.5x13.5				
2200	12.5x13.5	12.5x13.5						

Case size $\Phi D \times L$ (mm). Full ratings in the characteristics list.

Dimensions and marking



ΦD	L	A	B	C	W	P ± 0.2
4	5.7 ± 0.3	4.3	4.3	5.1	0.5~0.8	1.0
5	5.7 ± 0.3	5.3	5.3	6.1	0.5~0.8	1.3
6.3	5.7 ± 0.3	6.6	6.6	7.3	0.5~0.8	2.2
6.3	7.7 ± 0.3	6.6	6.6	7.3	0.5~0.8	2.2
8	6.5 ± 0.5	8.3	8.3	9.2	0.7~1.2	3.1
8	10.5 ± 0.5	8.3	8.3	9.2	0.7~1.2	3.1
10	7.7 ± 0.3	10.3	10.3	11.2	0.7~1.2	4.4
10	10.5 ± 0.5	10.3	10.3	11.2	0.7~1.2	4.4
10	13 ± 0.5	10.3	10.3	11.2	0.7~1.2	4.4
12.5	13.5 ± 0.5	13.0	13.0	14.0	1.0~1.4	4.4
12.5	16 ± 0.5	13.0	13.0	14.0	1.0~1.4	4.4

Unit: mm

Marking: black

Part number system

KVT Series name VT series	1C Rated voltage 16V	221 Capacitance 220 μF	M Capacitance tolerance $\pm 20 \%$	0607 Case Size 6.3 Φ X7.7L
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Example: KVT1C221M0607

Characteristics list

Rated voltage (V)	Capacitance (±20%) (μF)	Case size ΦD (mm)	Case size L (mm)	Rated ripple current① (mA rms)	tan δ②	Part Number③	Taping&Reel MPQ (pcs/reel)
6.3	22	4	5.7	22	0.35	KVT0J220M0406	2000
6.3	33	5	5.7	34	0.35	KVT0J330M0506	1000
6.3	47	5	5.7	38	0.35	KVT0J470M0506	1000
6.3	100	5	5.7	45	0.35	KVT0J101M0506	1000
6.3	100	6.3	5.7	69	0.35	KVT0J101M0606	1000
6.3	220	6.3	5.7	95	0.35	KVT0J221M0606	1000
6.3	220	6.3	7.7	120	0.35	KVT0J221M0607	1000
6.3	330	6.3	7.7	105	0.35	KVT0J331M0607	1000
6.3	330	8	6.5	120	0.35	KVT0J331M0806	1000
6.3	330	8	10.5	230	0.35	KVT0J331M0810	500
6.3	470	6.3	7.7	120	0.35	KVT0J471M0607	1000
6.3	470	8	10.5	230	0.35	KVT0J471M0810	500
6.3	1000	10	10.5	315	0.37	KVT0J102M1010	500
6.3	2200	12.5	13.5	620	0.42	KVT0J222M1313	200
10	22	4	5.7	23	0.24	KVT1A220M0406	2000
10	33	4	5.7	25	0.24	KVT1A330M0406	2000
10	33	5	5.7	35	0.24	KVT1A330M0506	1000
10	47	5	5.7	38	0.24	KVT1A470M0506	1000
10	100	5	5.7	45	0.24	KVT1A101M0506	1000
10	100	6.3	5.7	69	0.24	KVT1A101M0606	1000
10	150	6.3	5.7	80	0.24	KVT1A151M0606	1000
10	220	6.3	5.7	80	0.24	KVT1A221M0606	1000
10	220	6.3	7.7	120	0.24	KVT1A221M0607	1000
10	220	8	6.5	120	0.24	KVT1A221M0806	1000
10	330	6.3	7.7	125	0.24	KVT1A331M0607	1000
10	330	8	10.5	290	0.24	KVT1A331M0810	500
10	470	8	10.5	290	0.24	KVT1A471M0810	500
10	470	10	7.7	290	0.24	KVT1A471M1007	500
10	1000	10	10.5	400	0.26	KVT1A102M1010	500
10	2200	12.5	13.5	680	0.38	KVT1A222M1313	200
16	10	4	5.7	20	0.20	KVT1C100M0406	2000
16	22	4	5.7	22	0.20	KVT1C220M0406	2000
16	22	5	5.7	30	0.20	KVT1C220M0506	1000
16	33	5	5.7	35	0.20	KVT1C330M0506	1000
16	33	6.3	5.7	45	0.20	KVT1C330M0606	1000
16	47	5	5.7	39	0.20	KVT1C470M0506	1000
16	47	6.3	5.7	55	0.20	KVT1C470M0606	1000
16	100	6.3	5.7	70	0.20	KVT1C101M0606	1000
16	100	8	6.5	120	0.20	KVT1C101M0806	1000
16	220	6.3	7.7	120	0.20	KVT1C221M0607	1000
16	220	8	6.5	120	0.20	KVT1C221M0806	1000
16	220	8	10.5	220	0.20	KVT1C221M0810	500
16	330	8	10.5	220	0.20	KVT1C331M0810	500
16	330	10	7.7	200	0.20	KVT1C331M1007	500
16	470	8	10.5	250	0.20	KVT1C471M0810	500
16	470	10	10.5	340	0.20	KVT1C471M1010	500
16	1000	10	10.5	340	0.22	KVT1C102M1010	500
16	1000	10	13	390	0.22	KVT1C102M1013	400
16	1000	12.5	13.5	500	0.32	KVT1C102M1313	200
25	4.7	4	5.7	17	0.18	KVT1E4R7M0406	2000
25	10	4	5.7	20	0.18	KVT1E100M0406	2000
25	10	5	5.7	27	0.18	KVT1E100M0506	1000
25	22	5	5.7	30	0.18	KVT1E220M0506	1000
25	22	6.3	5.7	44	0.18	KVT1E220M0606	1000
25	33	5	5.7	35	0.18	KVT1E330M0506	1000
25	33	6.3	5.7	46	0.18	KVT1E330M0606	1000
25	47	6.3	5.7	48	0.18	KVT1E470M0606	1000
25	47	8	6.5	79	0.18	KVT1E470M0806	1000
25	100	6.3	7.7	100	0.18	KVT1E101M0607	1000
25	100	8	6.5	100	0.18	KVT1E101M0806	1000

Rated voltage (V)	Capacitance (±20%) (μF)	Case size ΦD (mm)	Case size L (mm)	Rated ripple current① (mA rms)	tan δ②	Part Number③	Taping&Reel MPQ (pcs/reel)
25	100	8	10.5	150	0.18	KVT1E101M0810	500
25	220	8	10.5	200	0.18	KVT1E221M0810	500
25	220	10	7.7	190	0.18	KVT1E221M1007	500
25	330	8	10.5	220	0.18	KVT1E331M0810	500
25	330	10	10.5	240	0.18	KVT1E331M1010	500
25	470	10	10.5	280	0.18	KVT1E471M1010	500
25	1000	12.5	13.5	580	0.30	KVT1E102M1313	200
35	4.7	4	5.7	17	0.16	KVT1V4R7M0406	2000
35	10	4	5.7	17	0.16	KVT1V100M0406	2000
35	10	5	5.7	25	0.16	KVT1V100M0506	1000
35	22	5	5.7	30	0.16	KVT1V220M0506	1000
35	22	6.3	5.7	44	0.16	KVT1V220M0606	1000
35	33	6.3	5.7	46	0.16	KVT1V330M0606	1000
35	33	8	6.5	76	0.16	KVT1V330M0806	1000
35	47	6.3	5.7	50	0.16	KVT1V470M0606	1000
35	47	6.3	7.7	80	0.16	KVT1V470M0607	1000
35	47	8	6.5	80	0.16	KVT1V470M0806	1000
35	100	6.3	7.7	85	0.16	KVT1V101M0607	1000
35	100	8	10.5	150	0.16	KVT1V101M0810	500
35	100	10	7.7	160	0.16	KVT1V101M1007	500
35	150	8	10.5	185	0.16	KVT1V151M0810	500
35	220	8	10.5	220	0.16	KVT1V221M0810	500
35	220	10	10.5	250	0.16	KVT1V221M1010	500
35	330	10	10.5	300	0.16	KVT1V331M1010	500
35	330	10	13	330	0.16	KVT1V331M1013	400
35	470	10	10.5	310	0.16	KVT1V471M1010	500
35	470	10	13	375	0.16	KVT1V471M1013	400
35	470	12.5	13.5	520	0.22	KVT1V471M1313	200
50	1	4	5.7	8	0.14	KVT1H010M0406	2000
50	2.2	4	5.7	12	0.14	KVT1H2R2M0406	2000
50	3.3	4	5.7	14	0.14	KVT1H3R3M0406	2000
50	4.7	4	5.7	14	0.14	KVT1H4R7M0406	2000
50	4.7	5	5.7	20	0.14	KVT1H4R7M0506	1000
50	10	5	5.7	20	0.14	KVT1H100M0506	1000
50	10	6.3	5.7	32	0.14	KVT1H100M0606	1000
50	22	6.3	5.7	38	0.14	KVT1H220M0606	1000
50	22	6.3	7.7	50	0.14	KVT1H220M0607	1000
50	22	8	6.5	70	0.14	KVT1H220M0806	1000
50	33	6.3	7.7	60	0.14	KVT1H330M0607	1000
50	33	8	6.5	70	0.14	KVT1H330M0806	1000
50	47	6.3	7.7	63	0.14	KVT1H470M0607	1000
50	47	8	6.5	85	0.14	KVT1H470M0806	1000
50	47	8	10.5	100	0.14	KVT1H470M0810	500
50	100	8	10.5	160	0.14	KVT1H101M0810	500
50	100	10	7.7	180	0.14	KVT1H101M1007	500
50	100	10	10.5	160	0.14	KVT1H101M1010	500
50	220	10	10.5	230	0.14	KVT1H221M1010	500
50	220	10	13	300	0.14	KVT1H221M1013	400
50	330	12.5	13.5	420	0.18	KVT1H331M1313	200
63	1	4	5.7	8	0.14	KVT1J010M0406	2000
63	2.2	4	5.7	11	0.14	KVT1J2R2M0406	2000
63	3.3	5	5.7	14	0.14	KVT1J3R3M0506	1000
63	3.3	6.3	5.7	30	0.14	KVT1J3R3M0606	1000
63	4.7	6.3	5.7	25	0.14	KVT1J4R7M0606	1000
63	10	6.3	5.7	24	0.14	KVT1J100M0606	1000
63	10	8	6.5	25	0.14	KVT1J100M0806	1000
63	22	6.3	7.7	49	0.14	KVT1J220M0607	1000
63	22	8	6.5	55	0.14	KVT1J220M0806	1000
63	22	8	10.5	98	0.14	KVT1J220M0810	500
63	33	8	10.5	112	0.14	KVT1J330M0810	500
63	47	8	10.5	119	0.14	KVT1J470M0810	500
63	47	10	10.5	160	0.14	KVT1J470M1010	500

Rated voltage (V)	Capacitance (±20%) (μF)	Case size ΦD (mm)	Case size L (mm)	Rated ripple current ^① (mA rms)	tan δ ^②	Part Number ^③	Taping&Reel MPQ (pcs/reel)
63	100	10	10.5	196	0.14	KVT1J101M1010	500
63	100	10	13	210	0.14	KVT1J101M1013	400
63	100	12.5	13.5	270	0.16	KVT1J101M1313	200
63	220	12.5	13.5	470	0.16	KVT1J221M1313	200
100	4.7	5	5.7	15	0.14	KVT2A4R7M0506	1000
100	4.7	6.3	5.7	21	0.14	KVT2A4R7M0606	1000
100	4.7	6.3	7.7	35	0.14	KVT2A4R7M0607	1000
100	10	6.3	7.7	35	0.14	KVT2A100M0607	1000
100	10	8	10.5	80	0.14	KVT2A100M0810	500
100	22	8	10.5	90	0.14	KVT2A220M0810	500
100	22	10	10.5	130	0.14	KVT2A220M1010	500
100	33	10	10.5	130	0.14	KVT2A330M1010	500
100	47	10	10.5	140	0.14	KVT2A470M1010	500
100	47	10	13	160	0.14	KVT2A470M1013	400
100	47	12.5	13.5	250	0.16	KVT2A470M1313	200
100	100	12.5	13.5	380	0.16	KVT2A101M1313	200

① Rated ripple current (120Hz / +105°C)

② tan δ (120Hz / +20°C)

③ For plastic reel packaging , the Part Number is appended with "PR" at the end.

KOME