

Surface Mount Type

Series : **TG** Type : **V**



Features

- Endurance : 125 °C 1000 h to 2000 h
- Miniaturization (40 % less than TA Series)
- Low ESR (Low temp)
- Vibration-proof product is available upon request. ($\phi 8$ mm and larger)
- RoHS compliant (Parts No $\phi 8$ to $\phi 10$: **EEE***, $\phi 12.5$ to $\phi 18$: **EEV***)

Specifications

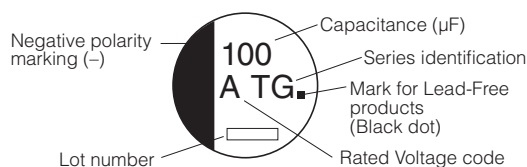
Category temperature range	-40 °C to +125 °C									
Rated voltage range	10 V.DC to 100 V.DC									
Capacitance range	10 μ F to 4700 μ F									
Capacitance tolerance	± 20 % (120 Hz/+20 °C)									
Leakage current	$I \leq 0.01$ CV After 2 minutes									
Dissipation factor (tan δ)	Please see the attached characteristics list									
Characteristics at low temperature	V.DC	10	16	25	35	50	63	80	100	(Impedance ratio at 120 Hz)
	Z(-25 °C)/Z(+20 °C)	3	2	2	2	2	2	2	2	
	Z(-40 °C)/Z(+20 °C)	6	4	4	3	3	3	3	3	
Endurance	After applying rated working voltage for 1000 hours ($\phi 8 \times 6.2$), 2000 hours ($\phi 8 \times 10.2 \leq$) at +125 °C ± 2 °C and then being stabilized at +20 °C, capacitors shall meet the following limits.									
	Capacitance change	Within ± 30 % of the initial value (code U : ± 35 %)								
	tan δ	≤ 300 % of the initial limit (code U : ± 350 %)								
Shelf life	After storage for 1000 hours at +125 °C ± 2 °C with no voltage applied and then being stabilized at +20 °C, capacitors shall meet the limits specified in Endurance (With voltage treatment)									
	After reflow soldering and then being stabilized at +20 °C, capacitors shall meet the following limits.									
Resistance to soldering heat	Capacitance change	Within ± 10 % of the initial value								
	tan δ	Within the initial limit								
	DC leakage current	Within the initial limit								
AEC-Q200	AEC-Q200 compliant									

Frequency correction factor for ripple current

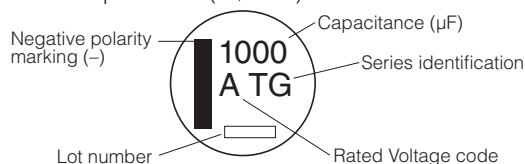
Frequency (Hz)	120	1 k	10 k	100 k to
Correction factor	0.65	0.85	0.95	1.00

Marking

Example : 10 V.DC 100 μ F, 10 V.DC 1000 μ F
 Marking color : BLACK
 Lead-Free products ($\leq \phi 10$)

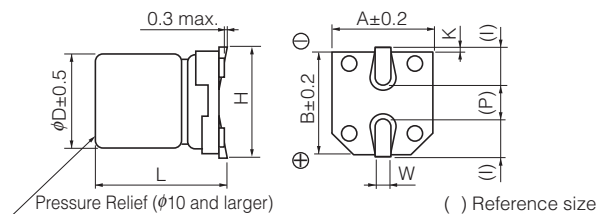


Lead-Free products ($\geq \phi 12.5$)



R. Voltage (V.DC)	10	16	25	35	50	63	80	100
Code	A	C	E	V	H	J	K	2A

Dimensions



(Unit : mm)

Size code	ϕD	L	A, B	H	I	W	P	K
E	8.0	6.2 ± 0.3	8.3	9.5 max.	3.4	0.65 ± 0.1	2.2	0.35 $^{+0.15}_{-0.20}$
F	8.0	10.2 ± 0.3	8.3	10.0 max.	3.4	0.90 ± 0.2	3.1	0.70 ± 0.20
G	10.0	10.2 ± 0.3	10.3	12.0 max.	3.5	0.90 ± 0.2	4.6	0.70 ± 0.20
H13	12.5	13.5 ± 0.5	13.5	15.0 max.	4.7	0.90 ± 0.3	4.4	0.70 ± 0.30
J16	16.0	16.5 ± 0.5	17.0	19.0 max.	5.5	1.20 ± 0.3	6.7	0.70 ± 0.30
K16	18.0	16.5 ± 0.5	19.0	21.0 max.	6.7	1.20 ± 0.3	6.7	0.70 ± 0.30

Characteristics list

Endurance : 125 °C 1000 h ($\phi 8 \times 10.2 \leq$: 2000 h)

Rated voltage (V.DC)	Cap. ($\pm 20\%$) (μF)	Case size (mm)		Size* code	Specification			Part No.	Reflow	Min. Packaging Qty	
		ϕD	L		Ripple current (100 kHz) (+125 °C) (mA r.m.s.)	ESR (100 kHz) (+20 °C) (Ω)	$\tan \delta$ (120 Hz) (+20 °C)			Taping (pcs)	
10	100	8	6.2	E	100	1.00	0.30	EEETG1A101P	(2)	1000	
	220	8	6.2	(E)	100	1.00	0.30	EEETG1A221UP	(2)	1000	
		8	10.2	F	197	0.50	0.30	EEETG1A221P	(2)	500	
	330	8	10.2	(F)	197	0.50	0.30	EEETG1A331UP	(2)	500	
		10	10.2	G	270	0.30	0.30	EEETG1A331P	(2)	500	
	470	10	10.2	(G)	270	0.30	0.30	EEETG1A471UP	(2)	500	
	1000	12.5	13.5	H13	800	0.12	0.30	EEVTG1A102Q	(3)	200	
	1500	12.5	13.5	(H13)	800	0.12	0.30	EEVTG1A152UQ	(3)	200	
	2200	16	16.5	J16	1100	0.08	0.32	EEVTG1A222M	(3)	125	
	3300	16	16.5	(J16)	1100	0.08	0.34	EEVTG1A332UM	(3)	125	
18		16.5	K16	1300	0.075	0.34	EEVTG1A332M	(3)	125		
4700	18	16.5	K16	1300	0.075	0.36	EEVTG1A472M	(3)	125		
16	100	8	10.2	F	197	0.50	0.23	EEETG1C101P	(2)	500	
	220	8	10.2	(F)	197	0.50	0.23	EEETG1C221UP	(2)	500	
		10	10.2	G	270	0.30	0.23	EEETG1C221P	(2)	500	
	330	10	10.2	(G)	270	0.30	0.23	EEETG1C331UP	(2)	500	
		12.5	13.5	H13	800	0.12	0.23	EEVTG1C331Q	(3)	200	
	470	12.5	13.5	H13	800	0.12	0.23	EEVTG1C471Q	(3)	200	
	680	12.5	13.5	H13	800	0.12	0.23	EEVTG1C681Q	(3)	200	
	1000	12.5	13.5	(H13)	800	0.12	0.23	EEVTG1C102UQ	(3)	200	
		16	16.5	J16	1100	0.08	0.23	EEVTG1C102M	(3)	125	
	2200	16	16.5	(J16)	1100	0.08	0.25	EEVTG1C222UM	(3)	125	
18		16.5	K16	1300	0.075	0.25	EEVTG1C222M	(3)	125		
3300	18	16.5	K16	1300	0.075	0.27	EEVTG1C332M	(3)	125		
25	47	8	6.2	E	100	1.00	0.18	EEETG1E470P	(2)	1000	
	100	8	6.2	(E)	100	1.00	0.18	EEETG1E101UP	(2)	1000	
		8	10.2	F	197	0.50	0.18	EEETG1E101P	(2)	500	
	220	8	10.2	(F)	197	0.50	0.18	EEETG1E221UP	(2)	500	
		10	10.2	G	270	0.30	0.18	EEETG1E221P	(2)	500	
	330	10	10.2	(G)	270	0.30	0.18	EEETG1E331UP	(2)	500	
		12.5	13.5	H13	800	0.12	0.18	EEVTG1E331Q	(3)	200	
	470	12.5	13.5	H13	800	0.12	0.18	EEVTG1E471Q	(3)	200	
	680	12.5	13.5	(H13)	800	0.12	0.18	EEVTG1E681UQ	(3)	200	
		16	16.5	J16	1100	0.08	0.18	EEVTG1E681M	(3)	125	
1000	16	16.5	(J16)	1100	0.08	0.18	EEVTG1E102UM	(3)	125		
	18	16.5	K16	1300	0.075	0.18	EEVTG1E102M	(3)	125		
2200	18	16.5	K16	1300	0.075	0.20	EEVTG1E222M	(3)	125		
35	33	8	6.2	E	100	1.00	0.16	EEETG1V330P	(2)	1000	
	47	8	6.2	(E)	100	1.00	0.16	EEETG1V470UP	(2)	1000	
		8	10.2	F	197	0.50	0.16	EEETG1V470P	(2)	500	
	100	8	10.2	(F)	197	0.50	0.16	EEETG1V101UP	(2)	500	
		10	10.2	G	270	0.30	0.16	EEETG1V101P	(2)	500	
	220	10	10.2	(G)	270	0.30	0.16	EEETG1V221UP	(2)	500	
	330	12.5	13.5	H13	800	0.12	0.16	EEVTG1V331Q	(3)	200	
		12.5	13.5	(H13)	800	0.12	0.16	EEVTG1V471UQ	(3)	200	
	470	16	16.5	J16	1100	0.08	0.16	EEVTG1V471M	(3)	125	
		16	16.5	(J16)	1100	0.08	0.16	EEVTG1V681UM	(3)	125	
680	18	16.5	K16	1300	0.075	0.16	EEVTG1V681M	(3)	125		
	1000	18	16.5	K16	1300	0.075	0.16	EEVTG1V102M	(3)	125	

* Size code() : Miniaturization product

· Please refer to the page of "Reflow Profile" and "The Taping Dimensions".

· When requesting vibration-proof product, please put the last "V" instead to "P", "Q", or "M"

Design and specifications are each subject to change without notice. Ask factory for the current technical specifications before purchase and/or use.

Should a safety concern arise regarding this product, please be sure to contact us immediately.

Characteristics list

Endurance : 125 °C 1000 h ($\phi 8 \times 10.2 \leq$: 2000 h)

Rated voltage (V.DC)	Cap. ($\pm 20\%$) (μF)	Case size (mm)		Size* code	Specification			Part No.	Reflow	Min. Packaging Qty	
		ϕD	L		Ripple current (100 kHz) (+125 °C) (mA r.m.s.)	ESR (100 kHz) (+20 °C) (Ω)	$\tan \delta$ (120 Hz) (+20 °C)			Taping (pcs)	
50	10	8	6.2	E	80	1.60	0.14	EEETG1H100P	(2)	1000	
	22	8	6.2	E	80	1.60	0.14	EEETG1H220P	(2)	1000	
	33	8	6.2	(E)	80	1.60	0.14	EEETG1H330UP	(2)	1000	
		8	10.2	F	133	0.75	0.14	EEETG1H330P	(2)	500	
	47	8	10.2	(F)	133	0.75	0.14	EEETG1H470UP	(2)	500	
		10	10.2	G	221	0.50	0.14	EEETG1H470P	(2)	500	
	100	10	10.2	(G)	221	0.50	0.14	EEETG1H101UP	(2)	500	
	220	12.5	13.5	H13	600	0.23	0.14	EEVTG1H221Q	(3)	200	
	330	12.5	13.5	H13	600	0.23	0.14	EEVTG1H331Q	(3)	200	
	470	16	16.5	J16	900	0.15	0.14	EEVTG1H471M	(3)	125	
	680	16	16.5	(J16)	900	0.15	0.14	EEVTG1H681UM	(3)	125	
18		16.5	K16	950	0.14	0.14	EEVTG1H681M	(3)	125		
1000	18	16.5	K16	950	0.14	0.14	EEVTG1H102M	(3)	125		
63	10	8	6.2	E	55	2.20	0.12	EEETG1J100P	(2)	1000	
	22	8	10.2	F	100	1.00	0.12	EEETG1J220P	(2)	500	
	33	8	10.2	(F)	100	1.00	0.12	EEETG1J330UP	(2)	500	
		10	10.2	G	150	0.80	0.12	EEETG1J330P	(2)	500	
	47	8	10.2	(F)	100	1.00	0.12	EEETG1J470UP	(2)	500	
		10	10.2	G	150	0.80	0.12	EEETG1J470P	(2)	500	
	100	10	10.2	(G)	150	0.80	0.12	EEETG1J101UP	(2)	500	
		12.5	13.5	H13	350	0.26	0.12	EEVTG1J101Q	(3)	200	
	220	12.5	13.5	H13	350	0.26	0.12	EEVTG1J221Q	(3)	200	
	330	16	16.5	J16	500	0.18	0.12	EEVTG1J331M	(3)	125	
	470	16	16.5	J16	500	0.18	0.12	EEVTG1J471M	(3)	125	
80	10	8	10.2	F	70	1.30	0.12	EEETG1K100P	(2)	500	
	22	8	10.2	(F)	70	1.30	0.12	EEETG1K220UP	(2)	500	
		10	10.2	G	90	1.00	0.12	EEETG1K220P	(2)	500	
	33	8	10.2	(F)	70	1.30	0.12	EEETG1K330UP	(2)	500	
		10	10.2	G	90	1.00	0.12	EEETG1K330P	(2)	500	
	47	10	10.2	(G)	90	1.00	0.12	EEETG1K470UP	(2)	500	
		12.5	13.5	H13	250	0.42	0.12	EEVTG1K470Q	(3)	200	
	100	12.5	13.5	(H13)	250	0.42	0.12	EEVTG1K101UQ	(3)	200	
		16	16.5	J16	350	0.30	0.12	EEVTG1K101M	(3)	125	
	220	16	16.5	(J16)	350	0.30	0.12	EEVTG1K221UM	(3)	125	
		18	16.5	K16	400	0.28	0.12	EEVTG1K221M	(3)	125	
330	16	16.5	(J16)	350	0.30	0.12	EEVTG1K331UM	(3)	125		
	18	16.5	K16	400	0.28	0.12	EEVTG1K331M	(3)	125		
470	18	16.5	K16	400	0.28	0.12	EEVTG1K471M	(3)	125		
100	10	8	10.2	F	70	1.30	0.10	EEETG2A100P	(2)	500	
	22	8	10.2	(F)	70	1.30	0.10	EEETG2A220UP	(2)	500	
		10	10.2	G	90	1.00	0.10	EEETG2A220P	(2)	500	
	33	10	10.2	G	90	1.00	0.10	EEETG2A330P	(2)	500	
	47	12.5	13.5	H13	250	0.42	0.10	EEVTG2A470Q	(3)	200	
	100	16	16.5	J16	350	0.30	0.10	EEVTG2A101M	(3)	125	
	220	18	16.5	K16	400	0.28	0.10	EEVTG2A221M	(3)	125	
330	18	16.5	K16	400	0.28	0.10	EEVTG2A331M	(3)	125		

* Size code() : Miniaturization product

· Please refer to the page of "Reflow Profile" and "The Taping Dimensions".

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