TGV SERIES

125℃ Low ESR, Lead Free Reflow Soldering

◆FEATURES

- Load Life : 125℃ 3000～5000 hours Low ESR.
- Lead free reflow soldering is available.
- ESR standard after endurance test.
- Available for high density mounting.
- Large can size SMD.
- RoHS compliance.

◆SPECIFICATIONS

Items	Characteristics
Category Temperature Range	−40～+125℃
Rated Voltage Range	16～35Vdc
Capacitance Tolerance	±20%(20℃,120Hz)
Leakage Current(MAX)	I=0.01CV or 3μA whichever is greater. (After 2 minutes application of rated voltage) I=Leakage Current (μA) C=Capacitance (μF) V=Rated Voltage (Vdc)
(tanδ) Dissipation Factor(MAX)	(20℃,120Hz) When rated capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with Increase of every 1000 μF.
Endurance	After applying rated voltage for specified time at 125℃, the capacitors shall meet the following requirements. After applying rated voltage with rated ripple current for specified time at 125℃, the capacitors shall meet the following requirements. ESR standard after endurance test (125℃, 2000 hrs with rated voltage applied)
Low Temperature Stability Impedance Ratio(MAX)	(120Hz)

Dissipation Factor(MAX):

Rated Voltage (Vdc)	16	25	35
φ8～10	0.23	0.18	0.16
φ12.5～18	0.18	0.16	0.14

Endurance:

Capacitance Change	Within ±30% of the initial value.
Dissipation Factor	Not more than 300% of the specified value.
Leakage Current	Not more than the specified value.

Case Size	LifeTime (hrs)
φD≦10	3000
φD≧12.5	5000

	8×10.5	10×10.5
20℃	0.6	0.4
−40℃	4.5	3.5

(Ω/100kHz)

Low Temperature Stability Impedance Ratio(MAX):

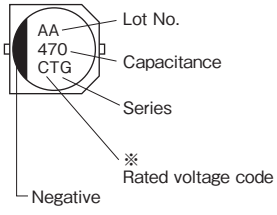
Rated Voltage (Vdc)	16	25	35
Z(−40℃)/Z(20℃)	3	3	3

◆MULTIPLIER FOR RIPPLE CURRENT

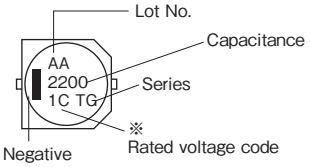
Frequency (Hz)		120	1k	10k	100k≦
Coefficient	100μF	0.50	0.80	0.95	1.00
	220～3300μF	0.60	0.85	0.95	1.00

◆MARKING

〈φ8,φ10〉



〈φ12.5～φ18〉



※Voltage code

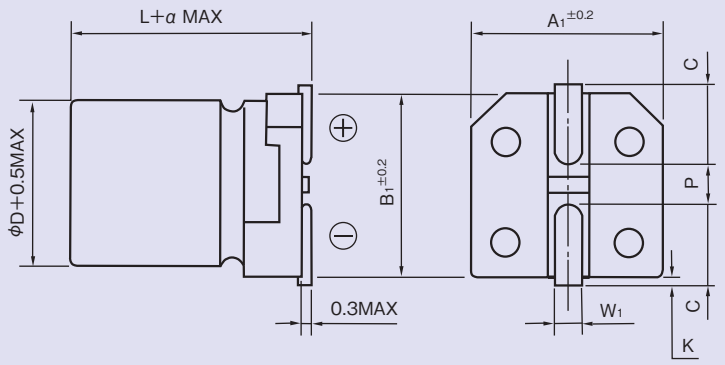
Rated voltage (Vdc)		16	25	35
Voltage code	φD≦10	C	E	V
	φD≧12.5	1C	1E	1V

◆PART NUMBER

□□□	TGV	□□□□□	M	□□□	D×L
Rated Voltage	Series	Capacitance	Capacitance Tolerance	Option	Case Size

◆DIMENSIONS

(mm)



ϕD	L	A1	B1	C	W1	P	K	α
8	10.5	8.3	8.3	2.9	0.8~1.1	3.1	0.5Max	0
10	10.5	10.3	10.3	3.2	0.8~1.1	4.5	0.5Max	0
12.5	13.5	13	13	4.9	0.8~1.1	4.5	0.7±0.4	0.5
12.5	16	13	13	4.9	0.8~1.1	4.5	0.7±0.4	0.5
16	16.5	17	17	6	1.0~1.6	6.8	0.7±0.4	0.5
16	21.5	17	17	6	1.0~1.6	6.8	0.7±0.4	0.5
18	16.5	19	19	7	1.0~1.6	6.8	0.7±0.4	0.5
18	21.5	19	19	7	1.0~1.6	6.8	0.7±0.4	0.5

◆STANDARD SIZE

Size ϕD×L(㎜), Rated Ripple Current(mA r.m.s./125℃, 100kHz), ESR (Ω MAX/100kHz)

Vdc	Cap (μF)	Size (ϕDXL)	Ripple	ESR	
				20℃	−40℃
16	220	8×10.5	350	0.150	3.0
	470	10×10.5	550	0.120	2.0
	820	12.5×13.5	850	0.092	1.5
	1000	12.5×16	1000	0.074	1.4
	1500	16×16.5	1200	0.066	1.2
	1800	18×16.5	1300	0.064	1.2
	2200	16×21.5	1650	0.041	0.8
	3300	18×21.5	1800	0.039	0.8
25	220	8×10.5	350	0.150	3.0
	330	10×10.5	550	0.120	2.0
	680	12.5×13.5	850	0.092	1.5
	820	12.5×16	1000	0.074	1.4
	1200	16×16.5	1200	0.066	1.2
	1500	18×16.5	1300	0.064	1.2
	2200	16×21.5	1650	0.041	0.8
	2700	18×21.5	1800	0.039	0.8

Vdc	Cap (μF)	Size (ϕDXL)	Ripple	ESR	
				20℃	−40℃
35	100	8×10.5	350	0.150	3.0
	220	10×10.5	550	0.120	2.0
	470	12.5×13.5	850	0.092	1.5
	560	12.5×16	1000	0.074	1.4
	820	16×16.5	1200	0.066	1.2
	1000	18×16.5	1300	0.064	1.2
	1500	16×21.5	1650	0.041	0.8
	1800	18×21.5	1800	0.039	0.8