

TGV SERIES
125°C Low ESR, Lead Free Reflow Soldering
◆FEATURES

- Load Life : 125°C 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

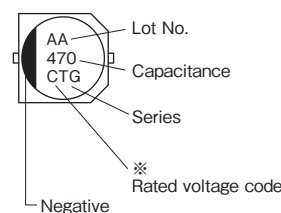
Items	Characteristics																								
Category Temperature Range	-40~+125°C																								
Rated Voltage Range	16~35Vdc																								
Capacitance Tolerance	±20% (20°C, 120Hz)																								
Leakage Current(MAX)	I=0.01CV or 3μA whichever is greater. (After 2 minutes application of rated voltage) I=Leakage Current (μA) C=Capacitance (μF) V=Rated Voltage (Vdc)																								
(tanδ) Dissipation Factor(MAX)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>16</td> <td>25</td> <td>35</td> <td>(20°C, 120Hz)</td> </tr> <tr> <td>φ8~10</td> <td>0.23</td> <td>0.18</td> <td>0.16</td> <td></td> </tr> <tr> <td>φ12.5~18</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td></td> </tr> </table> <p>When rated capacitance is over 1000μF, tanδ shall be added 0.02 to the listed value with Increase of every 1000 μF.</p>	Rated Voltage (Vdc)	16	25	35	(20°C, 120Hz)	φ8~10	0.23	0.18	0.16		φ12.5~18	0.18	0.16	0.14										
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φ12.5~18	0.18	0.16	0.14																						
Endurance	<p>After applying rated voltage for specified time at 125°C, the capacitors shall meet the following requirements. After applying rated voltage with rated ripple current for specified time at 125°C, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±30% of the initial value.</td> <td>Case Size</td> <td>LifeTime (hrs)</td> </tr> <tr> <td>Dissipation Factor</td> <td>Not more than 300% of the specified value.</td> <td>φD≤10</td> <td>3000</td> </tr> <tr> <td>Leakage Current</td> <td>Not more than the specified value.</td> <td>φD≥12.5</td> <td>5000</td> </tr> </table> <p>ESR standard after endurance test (125°C, 2000 hrs with rated voltage applied)</p> <table border="1"> <tr> <td></td> <td>8×10.5</td> <td>10×10.5</td> <td></td> </tr> <tr> <td>20°C</td> <td>0.6</td> <td>0.4</td> <td></td> </tr> <tr> <td>-40°C</td> <td>4.5</td> <td>3.5</td> <td>(Ω/100kHz)</td> </tr> </table>	Capacitance Change	Within ±30% of the initial value.	Case Size	LifeTime (hrs)	Dissipation Factor	Not more than 300% of the specified value.	φD≤10	3000	Leakage Current	Not more than the specified value.	φD≥12.5	5000		8×10.5	10×10.5		20°C	0.6	0.4		-40°C	4.5	3.5	(Ω/100kHz)
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Low Temperature Stability Impedance Ratio(MAX)	<table border="1"> <tr> <td>Rated Voltage (Vdc)</td> <td>16</td> <td>25</td> <td>35</td> <td>(120Hz)</td> </tr> <tr> <td>Z(-40°C)/Z(20°C)</td> <td>3</td> <td>3</td> <td>3</td> <td></td> </tr> </table>	Rated Voltage (Vdc)	16	25	35	(120Hz)	Z(-40°C)/Z(20°C)	3	3	3															
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◆MULTIPLIER FOR RIPPLE CURRENT

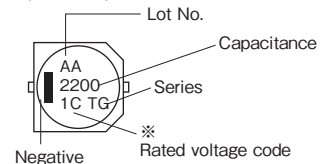
Frequency (Hz)		120	1k	10k	100k≤
Coefficient	100μF	0.50	0.80	0.95	1.00
	220~3300μF	0.60	0.85	0.95	1.00

◆MARKING

(φ8, φ10)



(φ12.5~φ18)



※ Voltage code

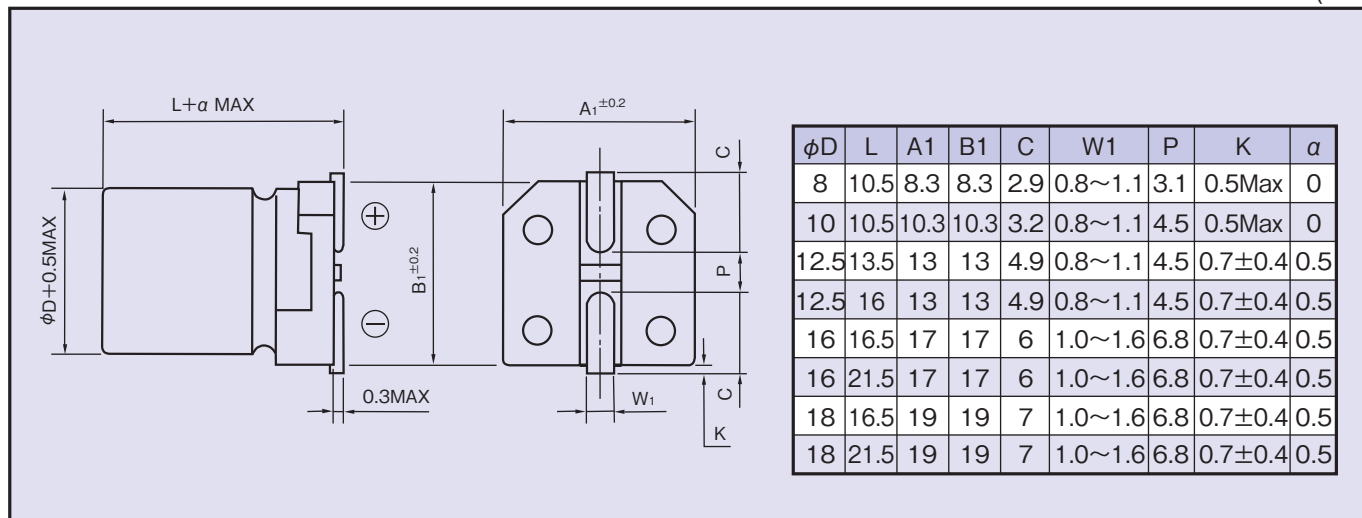
Rated voltage (Vdc)	16	25	35
φD≤10	C	E	V
φD≥12.5	1C	1E	1V

◆PART NUMBER

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

◆ **DIMENSIONS**

(mm)



◆ **STANDARD SIZE**

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

Vdc	Cap (μF)	Size (φD×L)	Ripple	ESR	
				20°C	-40°C
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
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