

Surface Mount Type



Series : **TCU** Type : **V**

High temperature Lead-Free reflow



Features

- Miniaturization (20 % to 40 % less than TP series)
- Endurance : 125 °C 3000 h
- Added ESR specification after the endurance test
- Vibration-proof product is available upon request
- RoHS compliant

Specifications

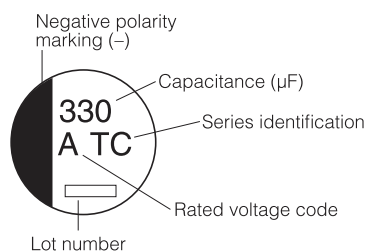
Category temperature range	-40 °C to +125 °C																		
Rated voltage range	10 V.DC to 35 V.DC																		
Capacitance range	220 μF to 680 μF																		
Capacitance tolerance	±20 % (120 Hz/+20 °C)																		
Leakage current	I ≤ 0.01 CV (μA) After 2 minutes																		
Dissipation factor (tan δ)	Please see the attached characteristics list																		
Endurance	After applying rated working voltage for 3000 hours 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																	
	tan δ	≤300 % of the initial limit																	
	DC leakage current	Within the initial limit																	
	ESR after endurance (Ω/100kHz)		<table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="2">Size code</th> </tr> <tr> <th colspan="2"></th> <th>F</th> <th>G</th> </tr> </thead> <tbody> <tr> <td>Initial (+20 °C)</td> <td></td> <td>0.2</td> <td>0.15</td> </tr> <tr> <td>After 2000 h (-40 °C)</td> <td></td> <td>9</td> <td>7</td> </tr> </tbody> </table>				Size code				F	G	Initial (+20 °C)		0.2	0.15	After 2000 h (-40 °C)		9
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		F	G																
Initial (+20 °C)		0.2	0.15																
After 2000 h (-40 °C)		9	7																
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)																		
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																	
	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

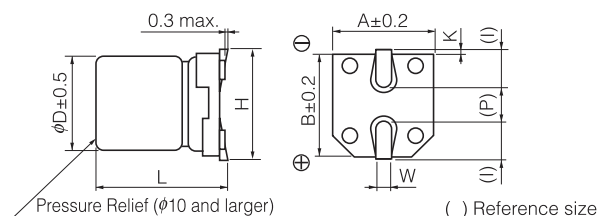
Marking

Example : 10 V.DC 330 μF
Marking color : BLACK



R. Voltage (V.DC)	10	16	25	35
Code	A	C	E	V

Dimensions



(Unit : mm)

Size code	φD	L	A, B	H	I	W	P	K
F	8.0	10.2±0.3	8.3	10.0max.	3.4	0.90±0.2	3.1	0.70±0.20
G	10.0	10.2±0.3	10.3	12.0max.	3.5	0.90±0.2	4.6	0.70±0.20

Characteristics list

Endurance : 125 °C 3000 h

Rated voltage (V.DC)	Cap. (±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) (Ω)				tan δ (120 Hz) (+20 °C)	Taping (pcs)
						+20 °C	-40 °C				
10	330	8	10.2	F	410	0.20	3	0.30	EEETC1A331UP	(8)	500
	470	8	10.2	F	410	0.20	3	0.30	EEETC1A471UP	(8)	500
	560	8	10.2	F	410	0.20	3	0.30	EEETC1A561UP	(8)	500
	680	10	10.2	G	750	0.15	2	0.30	EEETC1A681UP	(8)	500
16	330	8	10.2	F	410	0.20	3	0.23	EEETC1C331UP	(8)	500
	390	8	10.2	F	410	0.20	3	0.23	EEETC1C391UP	(8)	500
	680	10	10.2	G	750	0.15	2	0.23	EEETC1C681UP	(8)	500
25	220	8	10.2	F	410	0.20	3	0.18	EEETC1E221UP	(8)	500
	330	8	10.2	F	410	0.20	3	0.18	EEETC1E331UP	(8)	500
	470	10	10.2	G	750	0.15	2	0.18	EEETC1E471UP	(8)	500
35	220	8	10.2	F	410	0.20	3	0.16	EEETC1V221UP	(8)	500
	330	10	10.2	G	750	0.15	2	0.16	EEETC1V331UP	(8)	500
	390	10	10.2	G	750	0.15	2	0.16	EEETC1V391UP	(8)	500

- 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"