

**UPGRADE**

## Metallized Polypropylene Film Capacitor (For Automotive)

**ECQUA** series [Class X2]

**In accordance with UL/CSA and European safety regulation class X2 equipped with a safety mechanism.**



### Features

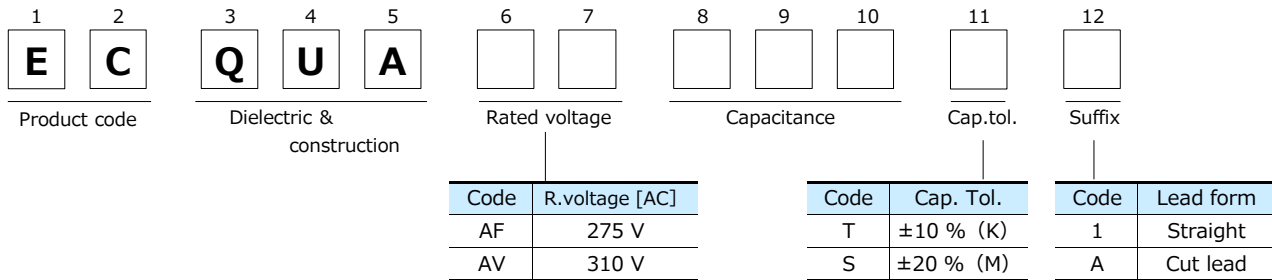
- High safety (safety function installed)
- High humidity resistance (85 °C, 85 %)
  - 275 V : 240 V, 1000 h
  - 310 V : 275 V, 1000 h
- High Thermal shock resistance (-40 ⇔ 85°C, 1000 cycles)
- Flame-retardant plastic case and non-combustible resin
- AEC-Q200 compliant
- RoHS compliant

### Recommended applications

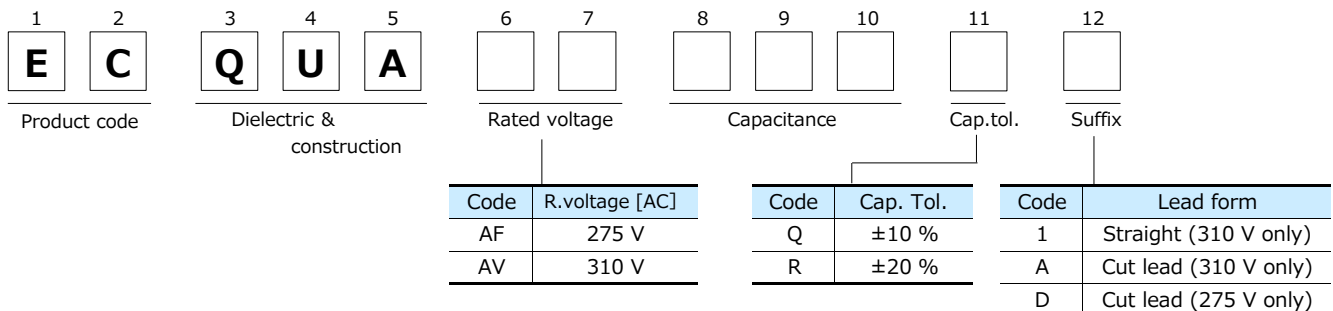
- Interference suppressors for automotive

### Explanation of part number

#### ■ Standard



#### ■ Special lead space product



### Applicable standard

\* It is certified as type ECQUA in the following approval.

Approval	Approval	Class	Certification organization
UL	UL60384-14	Class X2	UL
CSA	CAN/CSA E60384-14	Class X2	
Europe	EN60384-14	Class X2	VDE or DEMKO
International	IEC60384-14	Class X2	

\* When applying this capacitor to European and American safety standards, please use type designation and rating such as ECQUA, 0.1 μF.

\* Approval number (File No.) of safety regulations are subject to revision without notice. Ask factory for a copy of the latest file No.

Specifications		
Category temp. range	-40 °C to +110 °C	
Rated voltage [AC]	275 V, 310 V	
Capacitance range	275 V	0.10 μF to 10.0 μF
	310 V	0.10 μF to 1.0 μF
Capacitance tolerance	±10 % (K), ±20 % (M)	
Dissipation factor (tan δ)	C ≤ 1.0 μF : tan δ ≤ 0.1 % ( 20 °C, 1 kHz ) C > 1.0 μF : tan δ ≤ 0.2 % ( 20 °C, 1 kHz )	
Withstand voltage	275 V	Between terminals : 633 V [AC], 1183 V [DC], 60 s Between terminals to enclosure : 2050 V [AC], 60 s
	310 V	Between terminals : 713 V [AC], 1768 V [DC], 60 s Between terminals to enclosure : 2120 V [AC], 60 s
Insulation resistance (IR)	C ≤ 0.33 μF : IR ≥ 15,000 MΩ ( 20 °C, 100 V [DC], 60 s ) C > 0.33 μF : IR ≥ 5,000 MΩ · μF ( 20 °C, 100 V [DC], 60 s ) C ≤ 0.47 μF : IR ≥ 2,000 MΩ ( 20 °C, 500 V [DC], 60 s )	
Maximum AC voltage * *	310 V [AC]	

\* Use of this capacitor is limited to AC voltage (50 Hz or 60 Hz sine wave).  
 \* A faint corona discharge may occur inside of the capacitor element at rated voltage, however there is no influence on the reliability of the capacitor.  
 \* \* Maximum AC voltage including line voltage fluctuation is 310 V [AC].  
 310 V [AC] is not nominal continuous applied voltage, but only indicates maximum value including in the voltage of the power supply.  
 Basic nominal voltage is considered as 240 V [AC].  
 This maximum AC voltage is specified in only ECQUA type, not specified in other types.  
 Please refer to individual product specification, and contact us for further questions regarding design life.

**Dimensions**

Solder-plated copper wire or Solder-plated copper-clad steel wire

Cut lead (Suffix A,D)

Unit:mm

Marking example

Style	(A) side	(B) or (C)side
1		
2	/	
3		

Note : Only ±10 % as cap. tol. be marked as "K".  
 Note: Date code.

## Rating · Dimensions · Quantity

■ Rated.voltage [AC] : 275 V, Capacitance tolerance : ±10 %(K), ±20 %(M)

Part No.	Cap. ( $\mu$ F)	Dimensions (mm)							Style	Min. order Q'ty (PCS)			
		L	T	H	F	$\Phi$ d	P	Q		Straight	Cut lead		
ECQUAAF104T( ) ECQUAAF104S( )	0.10	17.5	5.0	12.0	15.0	0.6	0±0.8	1.3	1	1000	1000		
ECQUAAF154T( ) ECQUAAF154S( )	0.15	17.5	6.0	13.0	15.0	0.6	0±0.8	1.3	1				
ECQUAAF224T( ) ECQUAAF224S( )	0.22	17.5	7.5	14.0	15.0	0.6	0±0.8	1.3	1				
ECQUAAF334T( ) ECQUAAF334S( )	0.33	17.5	9.0	16.0	15.0	0.6	0±0.8	1.3	1				
ECQUAAF474T( ) ECQUAAF474S( )	0.47	26.0	8.5	15.0	22.5	0.8	0±0.8	1.8	1			600	800
ECQUAAF684T( ) ECQUAAF684S( )	0.68	26.0	10.0	17.0	22.5	0.8	0±0.8	1.8	1			500	500
ECQUAAF105T( ) ECQUAAF105S( )	1.0	26.0	12.0	19.0	22.5	0.8	0±0.8	1.8	1	300	300		
ECQUAAF155T( ) ECQUAAF155S( )	1.5	31.0	12.0	22.0	27.5	0.8	0±0.8	1.8	1	200	200		
ECQUAAF225T( ) ECQUAAF225S( )	2.2	31.0	14.5	24.5	27.5	0.8	0±0.8	1.8	1				
ECQUAAF335T( ) ECQUAAF335S( )	3.3	31.0	19.0	29.0	27.5	0.8	0±0.8	1.8	1	150	150		
<b>ECQUAAF335QD</b> <b>ECQUAAF335RD</b>	3.3	41.0	15.0	30.0	37.5	1.0	0±0.8	1.8	2	—	120		
ECQUAAF475T( ) ECQUAAF475S( )	4.7	31.0	23.0	33.0	27.5	0.8	0±0.8	1.8	1	100	100		
<b>ECQUAAF475QD</b> <b>ECQUAAF475RD</b>	4.7	41.0	18.0	33.0	37.5	1.0	0±0.8	1.8	2	—	95		
ECQUAAF685TA ECQUAAF685SA	6.8	41.0	23.0	37.5	37.5	1.0	0±0.8	1.8	2	—	60		
ECQUAAF106TA ECQUAAF106SA	10.0	41.0	28.0	42.5	37.5	1.0	0±0.8	1.8	2	—	50		

\* ( ) : Suffix for lead crimped

Note) Part number marked with bold is special lead space product.

## Rating · Dimensions · Quantity

■ Rated voltage [AC] : 310 V, Capacitance tolerance : ±10 %(K), ±20 %(M)

NEW Part No.	Cap. ( $\mu$ F)	Dimensions (mm)							Style	Min. order Q'ty (PCS)	
		L	T	H	F	$\Phi$ d	P	Q		Straight	Cut lead
ECQUAAV104T( ) ECQUAAV104S( )	0.1	18.5	8.0	12.5	15.0	0.6	0±0.8	1.8	3	1000	800
ECQUAAV124T( ) ECQUAAV124S( )	0.12	18.5	8.0	12.5	15.0	0.6	0±0.8	1.8	3	1000	800
ECQUAAV154T( ) ECQUAAV154S( )	0.15	18.5	8.0	12.5	15.0	0.6	0±0.8	1.8	3	1000	800
ECQUAAV184T( ) ECQUAAV184S( )	0.18	18.5	8.0	16.5	15.0	0.6	0±0.8	1.8	3	900	600
ECQUAAV224T( ) ECQUAAV224S( )	0.22	18.5	8.0	16.5	15.0	0.6	0±0.8	1.8	3	900	600
<b>ECQUAAV224Q( )</b> <b>ECQUAAV224R( )</b>	0.22	26.0	7.0	14.0	22.5	0.8	0±0.8	1.8	3	900	600
ECQUAAV274T( ) ECQUAAV274S( )	0.27	18.5	9.0	18.0	15.0	0.6	0±0.8	1.8	3	700	500
<b>ECQUAAV274Q( )</b> <b>ECQUAAV274R( )</b>	0.27	26.0	8.0	15.0	22.5	0.8	0±0.8	1.8	3	700	500
ECQUAAV334T( ) ECQUAAV334S( )	0.33	18.5	9.0	18.0	15.0	0.6	0±0.8	1.8	3	700	500
<b>ECQUAAV334Q( )</b> <b>ECQUAAV334R( )</b>	0.33	26.0	8.0	15.0	22.5	0.8	0±0.8	1.8	3	700	500
ECQUAAV394T( ) ECQUAAV394S( )	0.39	18.5	11.0	20.0	15.0	0.6	0±0.8	1.8	3	500	400
<b>ECQUAAV394Q( )</b> <b>ECQUAAV394R( )</b>	0.39	26.0	9.0	16.0	22.5	0.8	0±0.8	1.8	3	600	400
ECQUAAV474T( ) ECQUAAV474S( )	0.47	26.0	9.0	16.0	22.5	0.8	0±0.8	1.8	3	600	400
ECQUAAV564T( ) ECQUAAV564S( )	0.56	26.0	12.0	19.0	22.5	0.8	0±0.8	1.8	3	400	200
ECQUAAV684T( ) ECQUAAV684S( )	0.68	26.0	12.0	19.0	22.5	0.8	0±0.8	1.8	3	400	200
ECQUAAV824T( ) ECQUAAV824S( )	0.82	26.0	14.0	21.0	22.5	0.8	0±0.8	1.8	3	300	200
ECQUAAV105T( ) ECQUAAV105S( )	1.0	26.0	14.0	21.0	22.5	0.8	0±0.8	1.8	3	300	200

\* ( ) : Suffix for lead crimped

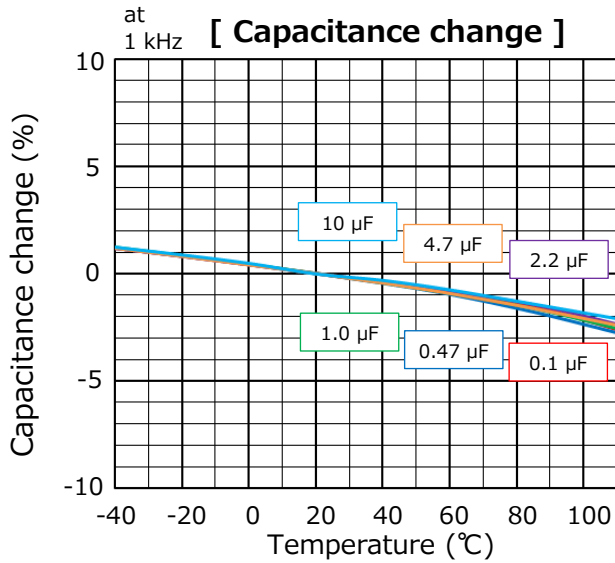
Note) Part number marked with bold is special lead space product.

Characteristics data

■ Rated voltage [AC] : 275 V

Electrical characteristics <Typical data >

Temperature characteristics



Frequency characteristics

