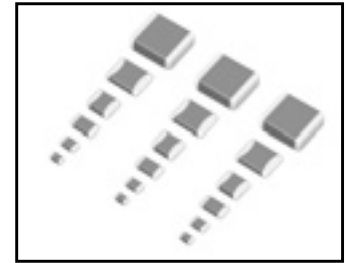


# HIGH CAPACITANCE TYPES [ KC Series ]

## ■ Features

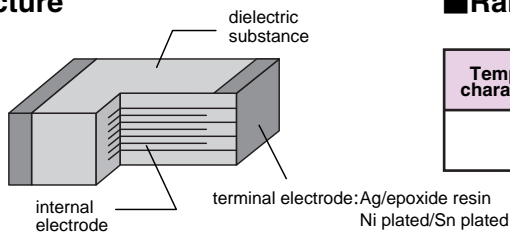
- Very little drop in capacitance values when a DC bias voltage is applied.
- Large capacitance values in smaller sizes compared to conventional materials.
- RoHS Compliant.



## ■ Applications

- Smoothing circuit of switching power supply and DC/DC converter, motor control circuit.

## ■ Structure



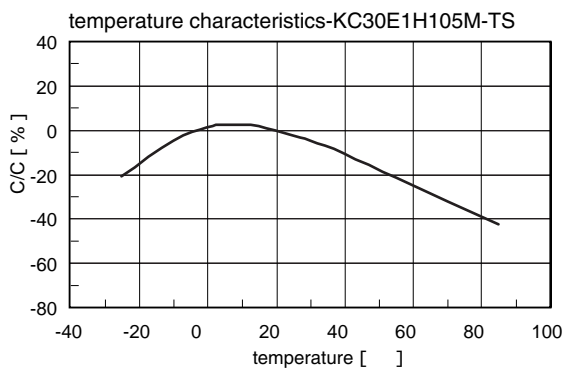
## ■ Range of Use

Temperature characteristics	EIA symbol	Capacitance change	Temperature range	Capacitance tolerance
E	Y5U (Z5U)	-20~+55%	-25~+85	M (±20%)

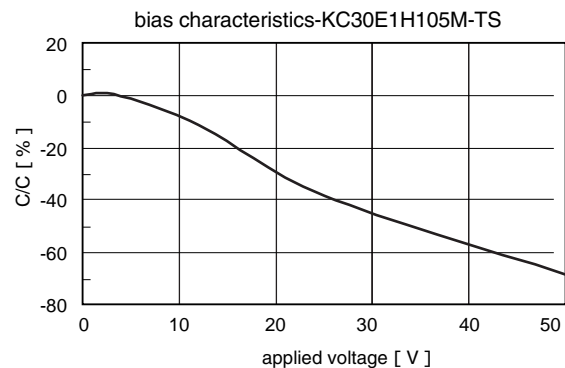
## ■ Capacitance Map

Type rated voltage capacitance	KC11 (1.6 × 0.8)			KC20 (2.0 × 1.2)			KC30 (3.2 × 1.6)			KC40 (3.2 × 2.5)			KC70 (4.5 × 3.2)			KC80 (5.7 × 5.0)		
	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)	16V <sub>DC</sub> (1C)	25V <sub>DC</sub> (1E)	50V <sub>DC</sub> (1H)
104 0.10 μF			0.80			0.75			1.00									
154 0.15 μF	0.80				0.75	1.00			1.00									
224 0.22 μF	0.80				1.00	1.25			1.00									
334 0.33 μF				1.00	1.25				1.00									
474 0.47 μF				1.00	1.25				1.00									
684 0.68 μF				1.00				1.00	1.25			1.00						
105 1.00 μF				1.25			1.25	1.80	1.80		1.00	1.25			1.00			
155 1.50 μF								1.25			1.00	1.70			1.00			
225 2.20 μF								1.80			1.70	2.20		1.00	1.70			
335 3.30 μF										1.00	2.20	2.50	1.00	1.25	2.20			1.25
475 4.70 μF										1.25	2.50		1.25	1.70	2.20		1.25	1.25
685 6.80 μF										1.70	2.50		1.70	2.20	2.50		1.25	1.70
106 10.0 μF										2.20	2.50		1.70	2.50	2.50		1.70	2.20
156 15.0 μF													2.20	2.50			2.20	2.50
226 22.0 μF													2.50	2.50			2.50	
336 33.0 μF													2.50					
476 47.0 μF																2.50		

## ■ Capacitance-Temperature characteristics (Reference)



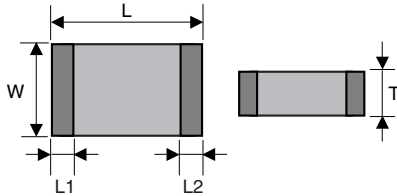
## ■ DC bias characteristics (Reference)



CERAMIC CAPACITORS

**HIGH CAPACITANCE TYPES [ KC Series ]**

**■ Dimensions**



Unit : mm

Type	EIA Symbol	L	W	T	L1, L2
KC11	0603	1.6±0.1	0.8±0.1	0.8±0.1	0.2~
KC20	0805	2.0±0.2	1.25±0.2	1.25 max.	0.2~
KC30	1206	3.2±0.2	1.6±0.2	1.80 max.	0.2~
KC40	1210	3.2±0.3	2.5±0.2	2.50 max.	0.3~
KC70	1812	4.5±0.4	3.2±0.3	2.50 max.	0.4~
KC80	2220	5.7±0.4	5.0±0.4	2.50 max.	0.4~

**■ List of products in KC Series**

Rated Voltage : 50Vdc

Part Number	Capacitance(μF)	Product height T (mm)
KC11E1H104M-TS	0.1	0.8±0.1
KC20E1H104M-TS	0.1	0.75+0/-0.2
KC20E1H154M-TS	0.15	1.00+0/-0.25
KC20E1H224M-TS	0.22	1.25+0/-0.30
KC30E1H104M-TS	0.1	1.00+0/-0.25
KC30E1H154M-TS	0.15	1.00+0/-0.25
KC30E1H224M-TS	0.22	1.00+0/-0.25
KC30E1H334M-TS	0.33	1.00+0/-0.25
KC30E1H474M-TS	0.47	1.00+0/-0.25
KC30E1H684M-TS	0.68	1.25+0/-0.30
KC30E1H105M-TS	1	1.80+0/-0.40
KC40E1H684M-TS	0.68	1.00+0/-0.25
KC40E1H105M-TS	1	1.25+0/-0.30
KC40E1H155M-TS	1.5	1.70+0/-0.40
KC40E1H225M-TS	2.2	2.20+0/-0.50
KC40E1H335M-TS	3.3	2.50+0/-0.60
KC70E1H105M-TS	1	1.00+0/-0.25
KC70E1H155M-TS	1.5	1.00+0/-0.25
KC70E1H225M-TS	2.2	1.70+0/-0.40
KC70E1H335M-TS	3.3	2.20+0/-0.50
KC70E1H475M-TS	4.7	2.20+0/-0.50
KC70E1H685M-TS	6.8	2.50+0/-0.60
KC70E1H106M-TS	10	2.50+0/-0.60
KC80E1H335M-TS	3.3	1.25+0/-0.30
KC80E1H475M-TS	4.7	1.25+0/-0.30
KC80E1H685M-TS	6.8	1.70+0/-0.40
KC80E1H106M-TS	10	2.20+0/-0.50
KC80E1H156M-TS	15	2.50+0/-0.60

Rated Voltage : 25Vdc

Part Number	Capacitance(μF)	Product height T (mm)
KC20E1E154M-TS	0.15	0.75+0/-0.2
KC20E1E224M-TS	0.22	1.00+0/-0.25
KC20E1E334M-TS	0.33	1.25+0/-0.30
KC20E1E474M-TS	0.47	1.25+0/-0.30
KC30E1E684M-TS	0.68	1.00+0/-0.25
KC30E1E105M-TS	1	1.80+0/-0.40
KC30E1E155M-TS	1.5	1.25+0/-0.30
KC30E1E225M-TS	2.2	1.80+0/-0.40
KC40E1E105M-TS	1	1.00+0/-0.25
KC40E1E155M-TS	1.5	1.00+0/-0.25
KC40E1E225M-TS	2.2	1.70+0/-0.40
KC40E1E335M-TS	3.3	2.20+0/-0.50
KC40E1E475M-TS	4.7	2.50+0/-0.60
KC40E1E685M-TS	6.8	2.50+0/-0.60
KC40E1E106M-TS	10	2.50+0/-0.60
KC70E1E225M-TS	2.2	1.00+0/-0.25
KC70E1E335M-TS	3.3	1.25+0/-0.30
KC70E1E475M-TS	4.7	1.70+0/-0.40
KC70E1E685M-TS	6.8	2.20+0/-0.50
KC70E1E106M-TS	10	2.50+0/-0.60
KC70E1E156M-TS	15	2.50+0/-0.60
KC70E1E226M-TS	22	2.50+0/-0.60
KC80E1E475M-TS	4.7	1.25+0/-0.30
KC80E1E685M-TS	6.8	1.25+0/-0.30
KC80E1E106M-TS	10	1.70+0/-0.40
KC80E1E156M-TS	15	2.20+0/-0.50
KC80E1E226M-TS	22	2.50+0/-0.60

Rated Voltage : 16Vdc

Part Number	Capacitance(μF)	Product height T (mm)
KC11E1C154M-TS	0.15	0.8±0.1
KC11E1C224M-TS	0.22	0.8±0.1
KC20E1C334M-TS	0.33	1.00+0/-0.25
KC20E1C474M-TS	0.47	1.00+0/-0.25
KC20E1C684M-TS	0.68	1.00+0/-0.25
KC20E1C105M-TS	1	1.25+0/-0.30
KC30E1C105M-TS	1	1.25+0/-0.30
KC40E1C335M-TS	3.3	1.00+0/-0.25
KC40E1C475M-TS	4.7	1.25+0/-0.30
KC40E1C685M-TS	6.8	1.70+0/-0.40
KC40E1C106M-TS	10	2.20+0/-0.50
KC70E1C335M-TS	3.3	1.00+0/-0.25
KC70E1C475M-TS	4.7	1.25+0/-0.30
KC70E1C685M-TS	6.8	1.70+0/-0.40
KC70E1C106M-TS	10	1.70+0/-0.40
KC70E1C156M-TS	15	2.20+0/-0.50
KC70E1C226M-TS	22	2.50+0/-0.60
KC70E1C336M-TS	33	2.50+0/-0.60
KC80E1C476M-TS	47	2.50+0/-0.60

\* Please contact us for the details of bulk packing.  
 \* Highly reliable Ni-barrier terminations show excellent flexion and temperature cycling.  
 \* KC40,KC70,KC80 types are available for reflow soldering only.