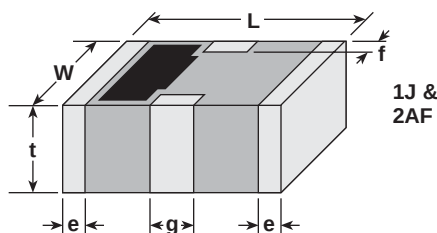


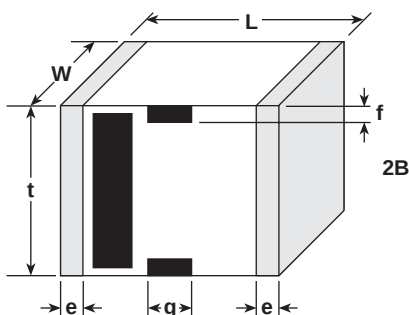
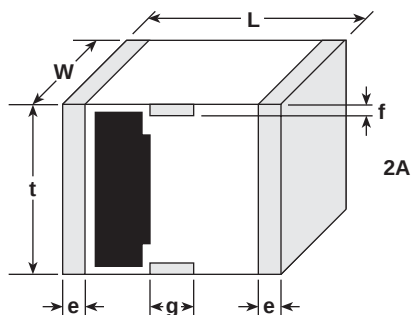
features

- Compact physical dimensions
- Excellent wave reduction control
- Exceptional EMI attenuation
- Excellent as impedance matching for signal lines
- Marking: Brown and black body color
with no marking (1J & 2AF)
White and black body color (2A & 2B)
- Products with lead-free terminations meet EU RoHS requirements

dimensions and construction



		Dimensions inches (mm)					
	Size	L	W	t	g	e	f
NEW	1J	.062±.008 (1.6±0.2)	.031±.008 (0.8±0.2)	.024±.008 (0.6±0.2)	.016±.008 (0.4±0.2)	.008±.006 (0.2±0.15)	N/A
	2AF	.079±.008 (2.0±0.2)	.049±.008 (1.25±0.2)	.031±.008 (0.8±0.2)	.016±.012 (0.4±0.3)	.012±.008 (0.3±0.2)	N/A
	2A	.079±.008 (2.0±0.2)	.049±.008 (1.25±0.2)	.063±.008 (1.6±0.2)	.016±.008 (0.4±0.2)	.004 Min. (0.1 Min.)	.02±.006 (0.25±0.15)
NEW	2B	.126±.012 (3.2±0.3)	.063±.012 (1.6±0.3)	.098±.012 (2.5±0.3)	.031±.012 (0.8±0.3)	.004 Min. (0.1 Min.)	.004 Min. (0.1 Min.)

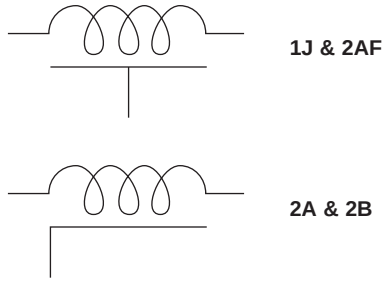


ordering information

New Part #	KC	2AF	T	TE	120	N	6N5	L
Type		Size	Termination Material	Packaging	Capacitance Value (pF)	Capacitance Tolerance	Inductance Value (nH)	Inductance Tolerance
		1J 2AF 2A 2B	T: Sn	TD: 7" paper tape (1J & 2AF only - 4,000 pieces/reel) TE: 7" embossed plastic (2A only - 2,000 pieces/reel) (2B only - 1,500 pieces/reel)	2 significant digits + no. of zeros	M: ±20% N: ±30% P: ±25%	6.5nH	L: ±15%

For further information on packaging,
please refer to Appendix A.

circuit schematic



applications and ratings

Item	Specification
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C (after soldering)
Measuring Condition (Standard) Temperature Relative Humidity	15°C to 35°C 1J, 2AF, 2B: 20 - 90%; 2A: 45 - 85%
Measuring Condition (Precision) Temperature Relative Humidity	20°C ± 1°C 1J, 2AF, 2A: 60 - 67%; 2B: 20 - 90%

applications and ratings (continued)

	Part Designation	Capacitance (pF) %	Inductance (nH) %	Rated Voltage DC (V)	Rated Current DC (mA)	Insulation Resistance Minimum (MΩ)	Operating Temperature Range	Typical Cut-off Frequency (Att = 3dB)
NEW	KC1JTDD680P12NL	68 ± 25%	12 ± 15%	16	200	1000	-20°C to +85°C	20 MHz
	KC1JTDD9R5P30NL	9.5 ± 25%	30 ± 15%					400 MHz
	KC1JTDD220P8N0L	22 ± 25%	8.0 ± 15%				-40°C to +85°C	200 MHz
	KC1JTDD350P8N0L	35 ± 25%	8.0 ± 15%					100 MHz
	KC1JTDD550P8N0L	55 ± 25%	8.0 ± 15%					50 MHz
NEW	KC2AFTTD151N16N5L	150 ± 30%	16.5 ± 15%	25	200	1000	-40°C to +85°C	50 MHz
	KC2AFTTD331N16N5L	330 ± 30%	16.5 ± 15%					20 MHz
	KC2AFTTD220N3N0L	22 ± 30%	3.0 ± 15%					200 MHz
	KC2AFTTD160N3N0L	16 ± 30%	3.0 ± 15%					400 MHz
	KC2AFTTD700N8N50L	70 ± 30%	8.5 ± 15%					100 MHz
	KC2ATTE120N6N5L	12 ± 30%	6.5 ± 15%	25	200	1000	-40°C to +85°C	530 MHz
	KC2ATTE180N13NL	18 ± 30%	13 ± 15%					360 MHz
	KC2ATTE350N15NL	35 ± 30%	15 ± 15%					180 MHz
	KC2BTTE100N11NL	10 ± 30%	11 ± 15%	25	200	1000	-40°C to +85°C	660 MHz
	KC2BTTE200M17NL	20 ± 20%	17 ± 15%					320 MHz
	KC2BTTE450M37NL	45 ± 20%	37 ± 15%					140 MHz
	KC2BTTE850M37NL	85 ± 20%	37 ± 15%					70 MHz
	KC2BTTE191M37NL	190 ± 20%	37 ± 15%					30 MHz
	KC2BTTE341M67NL	340 ± 20%	67 ± 15%					20 MHz

environmental applications

Performance Characteristics

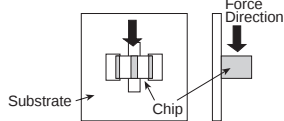
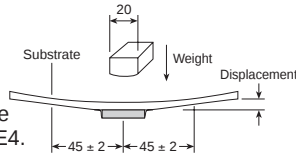
Parameter	Requirement	Test Method
Insulation Resistance	Within the tolerance	Voltage: DC25V (2AF, 2A), DC16V (1J) Test Time: 60 seconds
Capacitance	Within the tolerance	Frequency: 1MHz Voltage: 1V Equipment: HP4192A Fixture: HP16034E
Inductance	Within the tolerance	Frequency: 1MHz Current: 10mA Equipment: HP4192A Fixture: HP16034E
Resistance (2A only)	Within the tolerance	Frequency: 1MHz Current: 10mA Equipment: HP4192A Fixture: HP16034E

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

5/23/07

environmental applications (continued)

Performance Characteristics

Parameter	Requirement	Test Method																														
Capacitance vs. Temperature Characteristics	Variation rate of capacitance in operate temperature are shown below: <table><tr><td>Part:</td><td>Rate:</td></tr><tr><td>KC2AT120N6NSL</td><td>±10%</td></tr><tr><td>KC2AT180N13NL</td><td>±10%</td></tr><tr><td>KC2AT350N15NL</td><td>±10%</td></tr><tr><td>KC2BTTE100N11NL</td><td>±5%</td></tr><tr><td>KC2BTTE200M17NL</td><td>±5%</td></tr><tr><td>KC2BTTE450M37NL</td><td>±5%</td></tr><tr><td>KC2BTTE850M37NL</td><td>±5%</td></tr><tr><td>KC2BTTE191M37NL</td><td>±10%</td></tr><tr><td>KC2BTTE341M67NL</td><td>±10%</td></tr></table>	Part:	Rate:	KC2AT120N6NSL	±10%	KC2AT180N13NL	±10%	KC2AT350N15NL	±10%	KC2BTTE100N11NL	±5%	KC2BTTE200M17NL	±5%	KC2BTTE450M37NL	±5%	KC2BTTE850M37NL	±5%	KC2BTTE191M37NL	±10%	KC2BTTE341M67NL	±10%	The capacitance shall be measured at each stage below. The rate shall be calculated against the capacitance measured at 20°C. <table><tr><td>Step:</td><td>Temperature:</td></tr><tr><td>1</td><td>20°C</td></tr><tr><td>2</td><td>-40°C ± 3°C</td></tr><tr><td>3</td><td>20°C</td></tr><tr><td>4</td><td>85°C ± 3°C</td></tr></table>	Step:	Temperature:	1	20°C	2	-40°C ± 3°C	3	20°C	4	85°C ± 3°C
Part:	Rate:																															
KC2AT120N6NSL	±10%																															
KC2AT180N13NL	±10%																															
KC2AT350N15NL	±10%																															
KC2BTTE100N11NL	±5%																															
KC2BTTE200M17NL	±5%																															
KC2BTTE450M37NL	±5%																															
KC2BTTE850M37NL	±5%																															
KC2BTTE191M37NL	±10%																															
KC2BTTE341M67NL	±10%																															
Step:	Temperature:																															
1	20°C																															
2	-40°C ± 3°C																															
3	20°C																															
4	85°C ± 3°C																															
Terminal Adhesion Strength	No physical damage	Solder a chip to a test substrate and then laterally apply a load (5N, 500gF) in the arrow direction 																														
Resistance to Solder Heat	Appearance: No physical damage Capacitance: Within tolerance Dielectric Loss: Within tolerance Insulation Resistance: Within tolerance Withstand Voltage: No abnormality	Flux: 25% rosin Preheating: 120 to 180 seconds Preheating Temperature: 150°C to 200°C (1J, 2AF, 2B) Solder: H60A Solder Temperature: 260°C ±5°C Dip Time: 5 seconds ± 0.5 second																														
Solderability	More than 95% of the terminal electrode shall be covered with new solder	Flux: 25% rosin Solder: H60A Solder Temperature: 235°C ±5°C Dip Time: 2 seconds ± 0.5 second																														
Temperature Cycle*	Appearance: No physical damage Capacitance: Within tolerance Dielectric Loss: Within tolerance Insulation Resistance: Within tolerance Withstand Voltage: No abnormality	Repeat the following heat cycle 10 times: <table><tr><td>Step:</td><td>Temperature:</td><td>Time:</td></tr><tr><td>1</td><td>-40°C ± 3°C</td><td>30 minutes ± 3 minutes</td></tr><tr><td>2</td><td>Room Temp.</td><td>15 minutes maximum</td></tr><tr><td>3</td><td>85°C ± 2°C</td><td>30 minutes ± 3 minutes</td></tr><tr><td>4</td><td>Room Temp.</td><td>15 minutes maximum</td></tr></table>	Step:	Temperature:	Time:	1	-40°C ± 3°C	30 minutes ± 3 minutes	2	Room Temp.	15 minutes maximum	3	85°C ± 2°C	30 minutes ± 3 minutes	4	Room Temp.	15 minutes maximum															
Step:	Temperature:	Time:																														
1	-40°C ± 3°C	30 minutes ± 3 minutes																														
2	Room Temp.	15 minutes maximum																														
3	85°C ± 2°C	30 minutes ± 3 minutes																														
4	Room Temp.	15 minutes maximum																														
High Temperature Resistance*	Appearance: No physical damage Capacitance: Within tolerance Dielectric Loss: Within tolerance Insulation Resistance: Within tolerance Withstand Voltage: No abnormality	Temperature: 70°C ± 2°C Bias: DC25V (2AF, 2A, 2B), DC16V (1J) Bias: DC200mA Test Time: 500 hours																														
Humidity Resistance (Unload)*	Appearance: No physical damage Capacitance: Within tolerance Dielectric Loss: Within tolerance Insulation Resistance: Within tolerance	Temperature: 85°C ± 2°C Humidity: 85% ± 5% Test Time: 500 hours																														
Substrate Bending Test	Appearance: No physical damage Capacitance: Within tolerance	After soldering a chip to a test substrate, bend the substrate by 1 mm and then measure. The substrate is GE4 or based on GE4. 																														
Humidity Resistance (Load)*	Appearance: No physical damage Capacitance: Within tolerance Dielectric Loss: Within tolerance Insulation Resistance: Within tolerance	Temperature: 40°C ± 2°C Humidity: 90 - 95% Bias: DC25V Bias: DC200mA Test Time: 500 hours																														

* After temperature cycle test, high temperature resistance test or humidity resistance test, the tested sample should be measured after having been left in temperature from 15°C to 35°C and relative humidity from 20% to 90% for 24 hours.

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

3/12/07