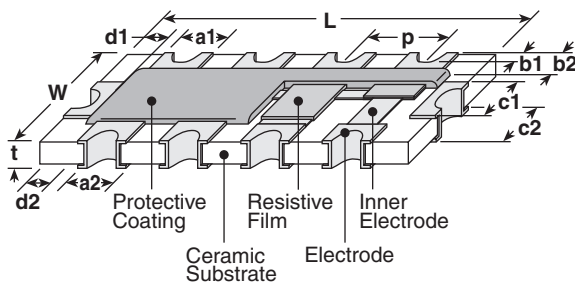


## features

- Exceptional filtering capabilities and superior characteristics
- Filter out high frequency content of digital signals
- Marking: Yellow three-digit on green protective coat

## dimensions and construction

Size	Dimensions inches (mm)											
	L	W	t	a1	a2	b1	b2	c1	c2	d1	d2	p
1J	.126±.004 (3.2±0.1)	.063±.004 (1.6±0.1)	.026±.004 (0.65±0.1)	.013±.004 (0.33±0.1)	.012±.004 (0.3±0.1)	.008±.004 (0.2±0.1)	.014±.004 (0.35±0.1)	.016±.006 (0.4±0.15)	.016±.006 (0.4±0.15)	.008±.004 (0.2±0.1)	.01±.004 (0.25±0.1)	.025±.004 (0.635±0.1)
2A	.157±.008 (4.0±0.2)	.083±.008 (2.1±0.2)	.028±.004 (0.7±0.1)	.02 Ref. (0.5 Ref.)	.02 Ref. (0.5 Ref.)	.006 Ref. (0.15 Ref.)	.012±.008 (0.3±0.2)	.016±.006 (0.4±0.15)	.016±.006 (0.4±0.15)	.012±.008 (0.3±0.2)	.016±.006 (0.4±0.15)	.031 Ref. (0.8 Ref.)

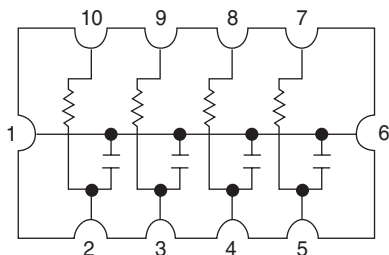


## ordering information

Old Part #	CR	2A	10	Y		TE	xxxM/xxxJ
New Part #	CR	2A	10	Y	L	TE	xxxM/xxxJ
	Type	Size	Terminations	Circuit Symbol	Termination Material	Packaging	Capacitance Resistance
		1J 2A			L: SnPb T: Sn	TE: 7" embossed plastic (4,000 pieces/reel)	3 digits + 1 for resistance tolerance for each Ex: 101M/470J

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

## circuit schematic



## applications and ratings (CR1J)

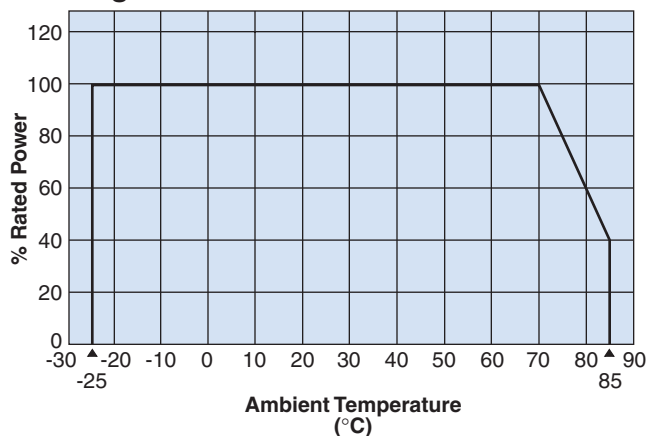
Part Designation	Capacitor Item	Capacitor Rating	Resistor Item	Resistor Rating
CR1J	Voltage Rating	12V (DC)	Power Rating	1/16W (<70°C)
	Capacitance Tolerance	+30% / -20%	Maximum Working Voltage	12V
	Temperature Coefficient	+20% / -55%	Temperature Coefficient	±200ppm/°C
	Dissipation Factor	3% Maximum	Resistance Tolerance	±5%
	Capacitance Range	10pF, 15pF, 22pF	Operating Temperature Range	-25°C to +85°C
			Resistor Range	22Ω, 33Ω, 47Ω, 68Ω, 100Ω

## applications and ratings (CR2A)

Part Designation	Capacitor Item	Capacitor Rating	Resistor Item	Resistor Rating
CR2A	Capacitance Measuring Condition	1 KHz ± 10% (1 Vrms ± 0.2V)	Power Rating	0.063W
	Voltage Rating	25V (DC)	Maximum Working Voltage	7.9V
	Capacitance Tolerance	±20% / ±30%	Maximum Overload Voltage	15.8V
	Temperature Coefficient	+20% / -55% (-25°C to +85°C)	Temperature Coefficient	±200ppm/°C
	Dissipation Factor	3% Maximum (at 1 KHz 1.0 Vrms)	Resistor Tolerance	±5%
	Insulation Resistance	1,000MΩ Minimum	Rated Ambient Temperature	+70°C
	Dielectric Withstanding Voltage	62.5V DC, 5 sec., 50mA charge	Operating Temperature Range	-25°C to +85°C
	Operating Temperature Range	-25°C to +85°C	Resistor Range	22Ω, 47Ω, 100Ω, 220Ω, 470Ω, 1KΩ, 47KΩ
Capacitance Range	22pF, 47pF, 100pF			

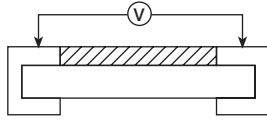
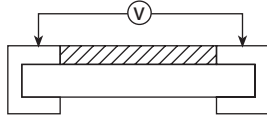
## environmental applications

### Derating Curve



## environmental applications (continued)

### Performance Characteristics

Parameter	Requirement	Test Method
Insulation Resistance	More than $10^3 \text{ M}\Omega$	Within 2 minutes at DC 25V between terminal and another 
Dielectric Withstanding Voltage	No evidence of flaming, fuming or breakdown	2.5 times maximum rated voltage for 5 seconds with 50 mA maximum charging current 
Resistance to Solder Heat	No evidence of damage $\Delta C$ within $\pm 20\%$ $\Delta R$ within $\pm 5\%$ D.F. within 5% I.R. more than $100 \text{ M}\Omega$	Immerse in solder (H63A) @ $260^\circ \pm 5^\circ\text{C}$ for 10 seconds $\pm 1$ second Measurement shall be done 24 hours $\pm 4$ hours @ room condition after test.
Solderability	Approximately 95% of the terminal should be covered with new solder	Immerse in solder (H63A) @ $235^\circ \pm 5^\circ\text{C}$ for 3 seconds $\pm 0.5$ second
Terminal Strength (Bend Test)	No mechanical damage	Specimen shall be soldered on PCB and support by applying strength so that the bending width becomes 3mm
Resistance to Solvents	No mechanical damage	Immerse in the IPA @ $20^\circ\text{C}$ to $25^\circ\text{C}$ for 60 seconds $\pm 10$ seconds
Vibration	No evidence of damage	2 hours in each direction of X, Y, Z on PCB at a frequency range of 10 - 55 - 10Hz with 1.5mm amplitude. Measurement shall be done 24 hours $\pm 4$ hours @ room condition after test.
Temperature Cycling	No evidence of damage $\Delta C$ within $\pm 20\%$ $\Delta R$ within $\pm 5\%$ D.F. within 5% I.R. more than $100 \text{ M}\Omega$	100 cycles between $-25^\circ\text{C}/30$ minutes and $+85^\circ\text{C}/30$ minutes Measurement shall be done 24 hours $\pm 4$ hours @ room condition after test.
Humidity (No Load)	No evidence of damage $\Delta C$ within $\pm 20\%$ $\Delta R$ within $\pm 5\%$ D.F. within 5% I.R. more than $100 \text{ M}\Omega$	MIL-STD-202F, Method 106, 10 cycles Measurement shall be done 24 hours $\pm 4$ hours @ room condition after test.
Moisture Resistance	No evidence of damage $\Delta C$ within $\pm 20\%$ $\Delta R$ within $\pm 5\%$ D.F. within 5% I.R. more than $100 \text{ M}\Omega$	$40^\circ\text{C} \pm 2^\circ\text{C}$ , 90 - 95% RH, 500 hours Capacitor: DC 25V, 500 hr ON Resistor: Rated working voltage, 1.5 hr ON, 0.5 hr OFF Measurement of capacitor shall be done 24 hours $\pm 4$ hours @ nominal condition after test.
Load Life	No evidence of damage $\Delta C$ within $\pm 20\%$ $\Delta R$ within $\pm 5\%$ D.F. within 5% I.R. more than $100 \text{ M}\Omega$	$85^\circ\text{C} \pm 2^\circ\text{C}$ , 1000 hours Capacitor: DC 25V, 1000 hr ON Resistor: Rated working voltage, 1.5 hr ON, 0.5 hr OFF Measurement of capacitor shall be done 24 hours $\pm 4$ hours @ nominal condition after test.