ALUMINUM HOUSED WIREWOUND POWER RESISTORS – SAC

FEATURES

- Standard or Non Inductive winding
- High power to size ratio.
- Low surface temperature.
- Utilise heat sink effect of chassis.
- Elegant look
- Marking on top of housing for easy identification
- Exception stability and reliability against severity of damp heat conditions and other environmental abuses.
- 10 through 500 watt models.
- Screw mounts on chassis.
- No mounting brackets and terminal lugs.
- Low temperature coefficient over entire range.
- Complete spot welded construction for most reliable resistors.
- Robust construction in extruded Aluminum Housing having serration for proper thermal conductivity
- Ref Standard: MIL 18546, JSS 50470 / 71

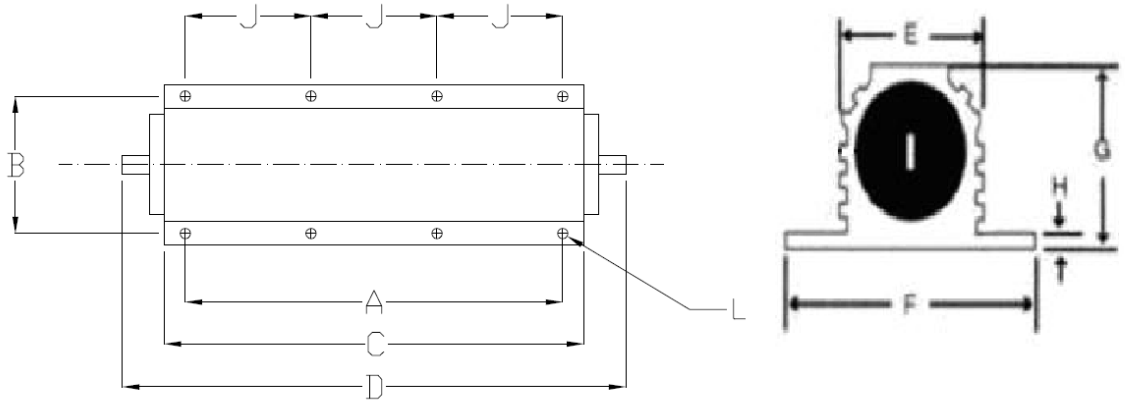
GENERAL SPECIFICATIONS

Parameters	Values
Tolerances	± 1%, ± 2%, ± 5%.
Power Ratings	10 watts to 500watt
Resistance Series	E24 Series / Any Customized Values
Resistance Range	0.01 Ω - 100 KΩ
Resistant Element	Copper-nickel alloy, or nickel chrome alloy
Housing	Anodized Aluminum
Core Material	Ceramic Mulite
Temperature Range	-55C to 250C
Dielectric Strength	AC; Max. leakage current : 2mA 1500VAC
Short Time Overload	2 X wattage rating - 5sec
Load Life	Wattage rating 1.5h. ON, 30min. OFF, 1000 hours
Thermal Shock	wattage rating 30min., -55 C, 15-30 minutes

TECHNOLOGY

SAC: These resistors consist of a resistance element wounded on the special grade ceramic rod and embedded into an aluminum case. The aluminum casing made from high quality heat sink grade helps to dissipate the heat from the resistor at the faster rate and has a low change of resistance with respect to temperature, with resistance varying in direct proportion. This type of wire wound resistor is manufactured such that the aluminum enclosure is filled with special non-flammable silicon base cement paste.

MECHANICAL DATA



TYPE	POWER (Watt)	A	B	C	D	E	F	G	H	J	L
SAC - 10	10	14.3	15.9	19	35	11	21	10	2	-	2.4
SAC - 25	25	18.3	19.8	27	50	14	27.5	14	2.25	-	3.18
SAC - 50	50	39.8	21.4	50	72	16	29	15.5	2.25	-	3.18
SAC - 75	75	29	37	49	71	27	48	26	3.5	-	4.4
SAC - 100	100	35	37	63	83	27	48	26	3.5	-	4.4
SAC - 150	150	58	37	98	122	27	48	26	3.5	50	4.4
SAC - 200	200	67	63.5	84	147	54	76	56	4	-	5
SAC - 250	250	98.5	63.5	115	178	54	76	56	4	76	5
SAC - 400	400	150	63.5	170	233	54	76	56	4	45+45	5
SAC - 500	500	180	63.5	200	263	54	76	56	4	60+60+60	5

Dimensions unless specified in mm

Standard terminations:

- 10-100 watt soldered terminations
- 150-500 watt threaded screw terminations

Screw Termination available on request

- 5 mm Screw (SAC Series)

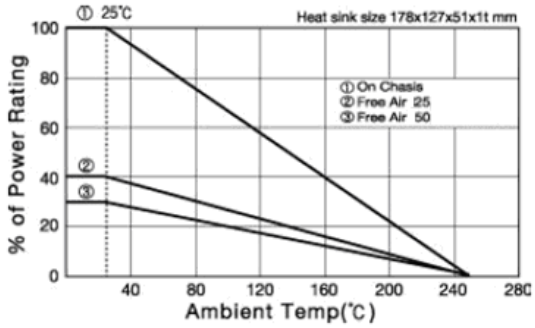
ELECTRICAL CHARACTERISTICS

Type	Power Rating (Watt) At 25ºC Ambient.		Resistance Range (Ohms)		Max Working Voltage (Volts)	Standard Temperature Coefficient ppm. Value Range in Ohm ±100 ±50 ±20	Dielectric stress KV. AC.**	Proper Heat Sink	
	Mounted	Un mounted	Min	Max				Area Cm^2	Thick mm
SAC – 75	75	30	0.01	300 K	1500	< 5.0 to 200 >	1.5	225	3
SAC – 100	100	40	0.01	500K	1500	< 15 to 600 >	1.5	900	3
SAC – 150	150	64	0.01	500 K	2500	< 15 to 600 >	1.5	900	3
SAC – 200	200	100	0.01	500 K	2500	< 15 to 600 >	1.5	900	3
SAC – 250	250	125	0.01	750 K	2500	< 25 to 1K >	1.5	900	3
SAC – 500	500	250	0.01	750 K	3000	< 25 to 1K >	1.5	3000	3

** Dielectric stress up to 5 KV AC also available on request

DERATING

The power that the resistor can dissipate depends on the operating temperature.



- SAC resistors have an operating temperature range of: -55C to 250C.
- Derating is required for reduced chassis mounting area and for high ambient temperatures.
- The adjacent curves apply to operation of un mounted resistor

APPLICATION

These Resistors finds very wide application in Electronic control systems and equipment such as:

- Power supplies and power pack for equipments
- Industrial controls.
- Power electronics systems.
- Inverter, converter and UPS systems.
- High gain and higher wattages amplifier
- Computer
- Defence

TESTS AND REQUIREMENTS

TEST ITEM	CHARACTERISTICS
Resistance tolerance	Tolerance resistance ±10%(K)
Temperature coefficient	±200PPM/°C MAX
Power rating load	Δ R/R ≤ ±(0.5% + 0.1Ω) Surface temperature up 350°CMAX
Short-term overload	Free of appearance or structural irregularity Δ R/R ≤ ±(2% + 0.1Ω)
Insulation resistance	100MΩ min
Dielectric withstanding voltage	Free of appearance or structural irregularity Δ R/R ≤ ± (0.1% + 0.05Ω)
Terminal strength	Free of appearance or structural irregularity
Resistor strength	Free of appearance or structural irregularity
Vibration	Free of appearance or structural irregularity Δ R/R ≤ ± (1% + 0.05Ω)
Thermal shock	Resistor free of structural irregularity Crack of silicon cement surface Δ R/R ≤ ± (2% + 0.1Ω)
Humidity	Free of appearance or structural irregularity Δ R/R ≤ ± (3% + 0.1Ω)
Load life	Free of appearance or structural irregularity Discoloration of marking Δ R/R ≤ ± (3% + 0.1Ω)
Flame retardation	US UL-94 flame retardation test V-0 grade noncombustible