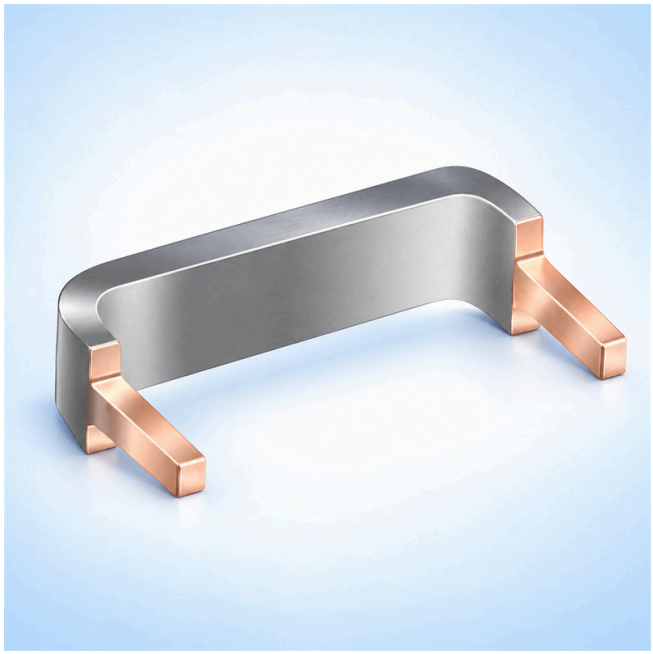
ACR Alloy Shunt Resistors

Features

- Tolerance: ±5%, ±2%, ±1%
- Operating temperature: -65°C to 170°C
- Electron-beam welded; suitable for pulses
- RoHS and AEC-Q200 compliant
- Custom versions available



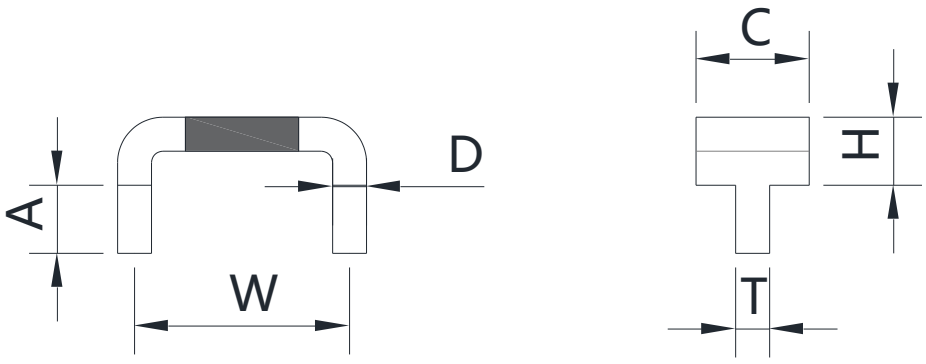
Applications

Current sensing, battery management, energy storage, power modules, variable-frequency and servo drives, automation and industrial instruments.

Standard Dimensions • mm

Type	Resistance (mΩ)	W (mm)	H (mm)	T (mm)	C (mm)	A (mm)	D (mm)
ACR	0.5~20	5~30	3~30	0.8~1.5	2~15	3.0~5	0.3-1.5

Mechanical Drawing • mm



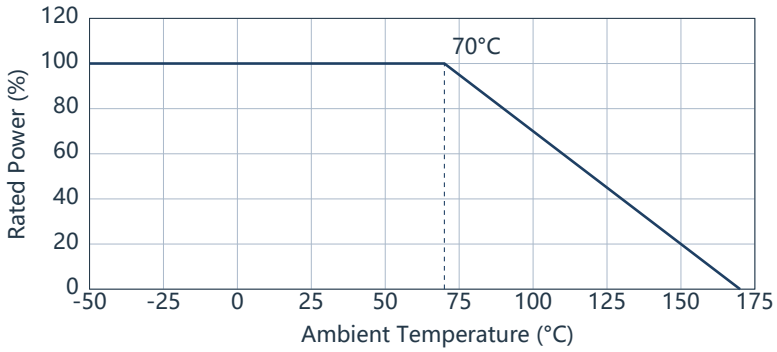
Technical Specifications

Parameter	Value(s)
Type	ACR
Resistance(Unit：mΩ)	0.5~20
Tolerance	±1%、±2%、±5%

Parameter	Value(s)
Operating temperature range	-65℃ to +170℃
Power P70℃(Unit：W)	1~7
Temperature coefficient (Unit：ppm/℃)	±20 ~ ±100
Material	M：Manganin F：FeCrAl K：Karma

TCR test conditions: 20°C to 120°C.

Power Derating



Endurance Tests

Iterms	Additional Requirements	Reference	Limits
Temperature Cycling	1000 Cycles(-55℃ to +125℃)	JESD22 Method JA-104	±0.5%
High Temperature Exposure	100hrs.@T=170℃.Unpowered.	MIL-STD-202 Method 108	±0.5%
Biased Humidity	1000hrs 85℃/85%RH。Note:Specified conditions:10% of operating power.	MIL-STD-202 Method 103	±0.5%
Operational Life	Condition D Steady State TA=125℃ at rated power.	MIL-STD-202 Method 108	±0.5%
Solderability	245℃±5℃,5s±0.5s	MIL-STD-202 Method 208H	95% Coverage Minimum
Resistance to Soldering Heat	260℃±5℃，10s±1s	MIL-STD-202 Method 210	±0.5%
Short Time Overload	5×Rated power for 5 s	MIL-STD-202 Method 301	±0.5%

Ordering Information

Example: ACR -11.3 -7 F. Pitch 11.3 mm; resistance 7 mΩ; J ±5%, G ±2%, F ±1%. Marking R001F denotes 1 mΩ, ±1%.

Standard measurement: 20±2°C, 65±5% RH; where judgement is not in doubt, measurements may be made at 5–35°C and 45–85% RH.

Bulk, with inner and outer packaging. Revision: A1.0 / 01-Mar-2022 / First issue