

Data Sheet

Customer:

Product: Automotive Grade Alloy Chip Shunt Resistor — LRA..A Series

Size.: 0340

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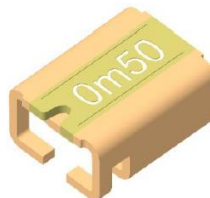
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Automotive Grade Alloy Chip Shunt Resistor

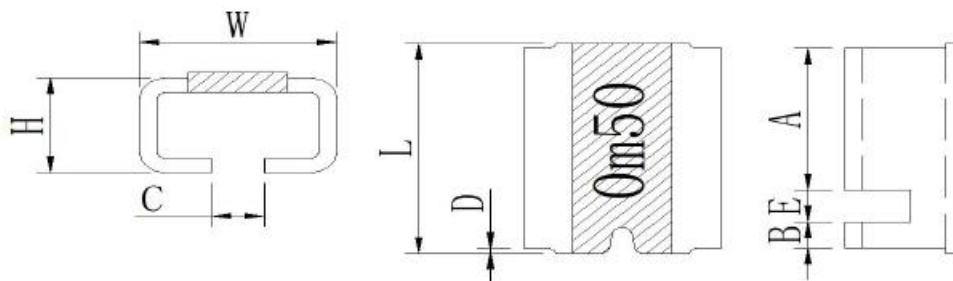
Automotive Grade Alloy Chip Shunt Resistor

Applications

- Nudity E-beam welded metal strip resistors with 4-terminal, Pure copper electrodes are the ideal solution for current sensing applications.
- Excellent reliability, stability, Anti-pulse capability, support $\pm 0.5\%$ tolerance of R value
- Special welding process, all-metal construction, supports low Resistance (down to $0.2\text{m}\Omega$), surface pickling passivation Treatment, vulcanization resistance, strong weather resistance
- Very low EMF ($<1\text{ }\mu\text{V}/^\circ\text{C}$)
- Ultra-low parasitic inductance down to 2 nH , Fast response, Can be used for high frequency AC current detection
- AEC-Q200 Reliability Testing passed
- RoHS compliant



Dimensions



Type	Size (Inch)	Resistance (mΩ)	Material	L (mm)	W (mm)	H (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
LRA0340	1216	0.3	Manganin	4.1+0/-0.3	3.1+0/-0.35	1.9+0/-0.35	2.7±0.1	0.5±0.1	0.8+0.35/-0	0.1	0.6+0.15/-0
		0.5	Manganin								
		1	Manganin								
		2	Kamar								
		2.5	Kamar								

Part Numbering

LRA	0340	F	T	E	D	R001	MI	A
Product Type	Dimensions (WxL)	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance	Material & Shape Code	Function Code
	0340: 3.1x4.1	D: $\pm 0.5\%$ F: $\pm 1\%$ J: $\pm 5\%$	T: Taping Reel	E : ± 100	D: 5W E: 7W 9: 9W J: 10W	0M30: $0.3\text{m}\Omega$ 0M50: $0.5\text{m}\Omega$ R001: $1\text{m}\Omega$ R002: $2\text{m}\Omega$	MI: Manganin & Inward Fold KI: Kamar & Inward Fold	A: Automotive Grade

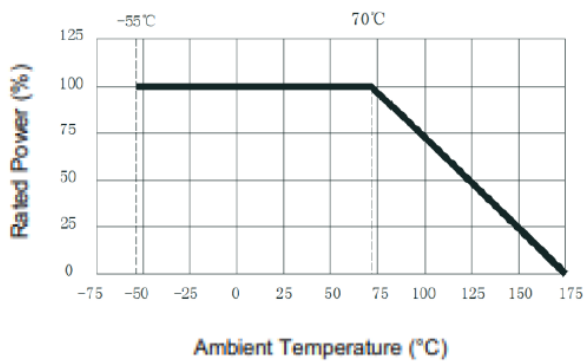
Automotive Grade Alloy Chip Shunt Resistor

Standard Electrical Specifications

Type	Power Rating P _{70℃}	Material	Resistance Range(mΩ)			TCR (PPM/°C)
			±0.5%	±1%	±5%	
LRA0340	10W	Manganin	0.3			±100
	9W	Manganin	0.5			±100
	7W	Manganin	1			±100
	5W	Kamar	2, 2.5			±100

Operating Temperature: -55 ~ +175℃

Derating Curve



Environmental Characteristics

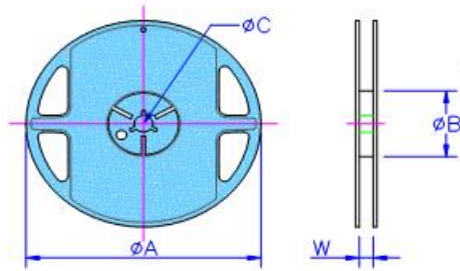
Item	Requirement	Test Method
Thermal shock	Within the specified value	IEC60115-1 4.8 Measured value -55℃ and +125℃, reference value +20℃
Solderability	No visible damage, weldable area 95% minimum	IEC60115-1 4.17 245℃ Tin slot, hold for 3 sec
Short time overload	No visible damage, ΔR±0.5% maximum	IEC60115-1 4.13 2.5 times rated voltage, 5 sec
Resistance to solder heat	No visible damage, ΔR±0.5% maximum	IEC60115-1 4.18 270℃ Tin bath, hold for 10 sec
High temperature and humidity	No visible damage, ΔR±1.0% maximum	MIL-STD-202 Method 103 Temperature 85℃, humidity 85% of the conditions applied 10% of the rated power (current) or component limit current (whichever is less), for 1000 hours
High temperature storage	No visible damage, ΔR±0.5% maximum	IEC60115-1 4.25.3 1000 hrs @ 170℃, without load
Low temperature load	No visible damage, ΔR±0.5% maximum	IEC60115-1 4.36 -55℃, No load for one hour, rated voltage load for 45 min, no load for 15 min
Temperature cycling	No visible damage, ΔR±0.5% maximum	IEC60115-1 4.19 -55℃ @ 30 min ~ room temperature @ <5 min ~ +155℃ @ 30 min, 500 cycles
Load life	No visible damage, ΔR±1.0% maximum	IEC60115-1 4.25.1 1000 h @ 70±2℃, rated voltage, 90 min on, 30 min off

Storage Temperature: 5℃~35℃ ; Humidity: 40%~75%RH

Shelf life: 1 years Max

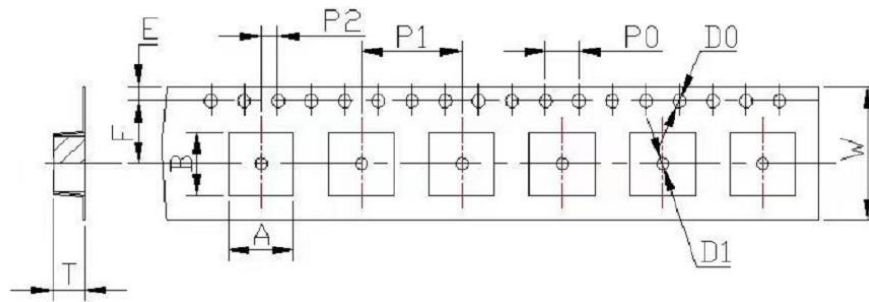
■Packaging

Reel Specifications & Packaging Quantity



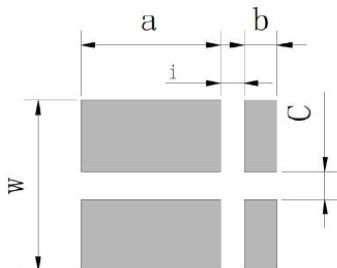
Type	Packaging Quantity(EA)	Tape Width	Reel Diameter	ΦA (mm)	ΦB (mm)	ΦC (mm)	W (mm)
LRA0340	1K	12mm	7 inch	178 $\pm$ 2	60 $\pm$ 1	13.5 $\pm$ 0.5	12.3 $\pm$ 1

Tape Specifications



Type	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	$\phi D0$ (mm)	T (mm)
LRA0340	3.4	4.2	12	1.75	5.5	4	8	2	1.5	2.3

■Recommend Land Pattern



Type	a (mm)	b (mm)	c (mm)	i (mm)	w (mm)
LRA0340	2.95	0.7	0.6	0.5	3.6

REVISION HISTORY

<u>REVISION</u>	<u>DATE</u>	<u>CHANGE NOTIFICATION</u>	<u>DESCRIPTION</u>
Version A2	Apr 01,2025		-Add Storage conditions and Shelf life.