Data Sheet

Customer:	
Product:	**Automotive Grade Alloy Chip Shunt Resistor — LRA..A Series**
Size.:	**0340**
Issued Date:	**01-Apr-25**
Edition:	**REV.A2**

RoHS Compliant

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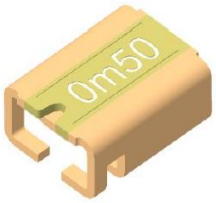
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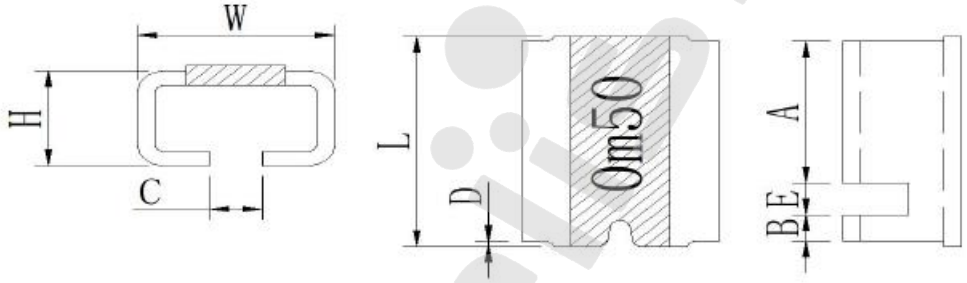
Automotive Grade Alloy Chip Shunt Resistor

■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 ±0.5% tolerance of R value
- Special welding process, all-metal construction, supports low Resistance (down to 0.2mΩ), surface pickling passivation Treatment, vulcanization resistance, strong weather resistance
- Very low EMF (<1 μ V/℃)
- 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

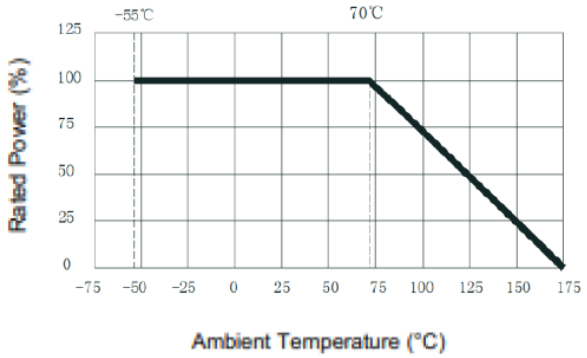
LRA	0340	F	T	E	D	R001	MI	A
Product Type	Dimensions (WxL)	Resistance Tolerance	Packaging Code	TCR (PPM/℃)	Power Rating	Resistance	Material & Shape Code	Function Code
	0340: 3.1x4.1	D: ±0.5% F: ±1% J: ±5%	T: Taping Reel	E : ±100	D: 5W E: 7W 9: 9W J: 10W	0M30: 0.3mΩ 0M50: 0.5mΩ R001: 1mΩ R002: 2mΩ	MI: Manganin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

■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

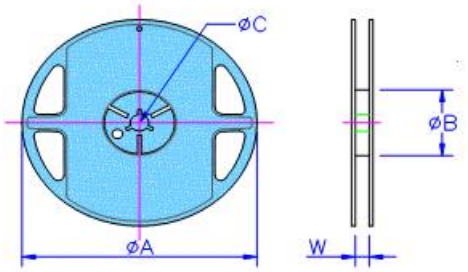
Item	Requirement	Test Method
Thermal shock	Within the specified value	IEC60115-1 4.8 Measured value -55℃ and +125℃, reference value +20℃
Solderability	No visible damage, weldable area 95% minimum	IEC60115-1 4.17 245℃ Tin slot, hold for 3 sec
Short time overload	No visible damage, ΔR±0.5% maximum	IEC60115-1 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°C~35℃ ; Humidity: 40%~75%RH**

■**Shelf life: 1 years Max**

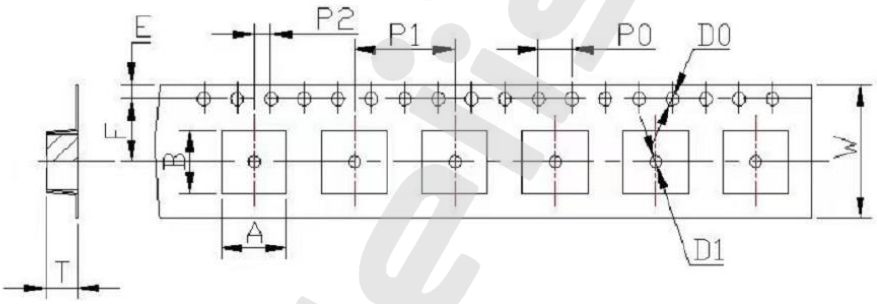
■Packaging

Reel Specifications & Packaging Quantity



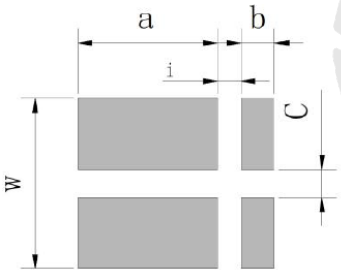
Type	Packaging Quantity(EA)	Tape Width	Reel Diameter	ΦA (mm)	ΦB (mm)	ΦC (mm)	W (mm)
LRA0340	1K	12mm	7 inch	178±2	60±1	13.5±0.5	12.3±1

Tape Specifications



Type	A (mm)	B (mm)	W (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	ΦD0 (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

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