



### ◆ Features

- Power rating up to 15 W
- Excellent long-term stability
- Ideal for mounting on DCB/IMS substrate
- RoHS compliant
- AEC-Q200 qualified

### ◆ Applications

- Current sensor for power hybrid applications
- Frequency converters
- Power modules
- Automatic control power supply
- High current applications for the automotive market

### ◆ Technical Date

Resistance	mOhm	0.1 to 5
Tolerance	%	1、2、5
Power $P_{70^{\circ}\text{C}}$	W	3~15
Recommended applicable temperature range	°C	-65°C to +170°C

### ◆ Ordering Code

ASR	M	3	1	F
Product Type	Material	Dimension	R Value	R Tolerance
	M: Manganin K: Kamar S: CuMn7Sn F: FeCrAl	3:2512 5:3920 7:5930 ...	Unit:mΩ	J:±5% G:±2% F:±1%



### ◆ Physical Dimensions

Type	Size	W/mm	A/mm	C/mm	H/mm	l	w	a
ASR-S/M/K/F-3	2512	6.3±0.2	1.2±0.2	3.1±0.3	0.5±0.1	7	3.4	1.8
ASR-S/M/K/F-5	3920	10±0.2	2.2±0.2	5.1±0.4	0.5±0.1	11	6.2	2.7
ASR-S/M/K/F-7	5930	15±0.3	4.2±0.3	7.6±0.4	0.5±0.1	16	8.75	5.2



◆ Electrical Features

Type	Resistance/mΩ	D1 /mm	D2 /mm	P70°C /W	TCR /ppm/°C
ASR-S-3	0.2	1.40	1.40	6	175
ASR-M-3	0.3	1.50	1.50	6	175
	0.5	0.88	0.88	6	115
	1	0.50	0.50	5	100
ASR-K-3	2	0.65	0.65	5	50
	3	0.43	0.43	4	50
	4	0.3	0.3	3	50
ASR-F-3	2	0.7	0.7	5	50
	3	0.47	0.47	4	50
	4	0.35	0.35	3	50
	5	0.28	0.28	3	50
ASR-M-5	0.2	1.66	1.66	12	200
	0.3	1.37	1.37	10	150
	0.5	0.83	0.83	9	70
	1	0.40	0.40	7	50
ASR-K-5	1	1.16	1.16	8	50
	2	0.56	0.56	6	50
	3	0.37	0.37	5	50
	4	0.28	0.28	5	50
ASR-F-5	1	1.28	1.28	8	50
	2	0.64	0.64	6	50
	3	0.43	0.43	5	50
	4	0.32	0.32	5	50
ASR-S-7	0.1	2.0	2.0	15	200
ASR-M-7	0.2	1.50	1.50	15	100
	0.3	0.98	0.98	10	100
	0.5	0.60	0.60	10	75
	0.75	0.41	0.41	10	75
ASR-K-7	1	0.86	0.86	9	50
	2	0.40	0.40	7	50
	3	0.29	0.29	7	50
ASR-F-7	1	0.96	0.96	9	50
	2	0.48	0.48	7	50
	3	0.32	0.32	7	50



◆ Power derating curve at 70 °C



Stability < 1.0% (in covered condition)

◆ Performance Date

Items	Additional Requirements	Reference	Limits
Temperature Cycling	1000 Cycles(-55°C to +125°C) Measurement at 24±2hours after test conclusion	JESD22 Method JA-104	±0.5%
High Temperature Exposure	1000hrs.@T=125°C.Unpowered. Measurement at 24±2hours after test conclusion	MIL-STD-202 Method 108	±0.5%
Biased Humidity	1000hrs 85°C/85%RH. Note: Specified conditions: 10% of operating power. Measurement at 24±2hours after test conclusion	MIL-STD-202 Method 103	±0.5%
Operational Life	Condition D Steady State TA=125°C at rated power. Measurement at 24±2hours after test conclusion	MIL-STD-202 Method 108	±1%
Solderability	245°C±5°C,5s+0.5s/-0	J-STD-002C	95% Coverage Min
Resistance to Soldering Heat	260°C±5°C, 10s±1s Measurement at 24±2hours after test conclusion	MIL-STD-202 Method 210	±0.5%
Short Time Overload	5×Rated power for 5 s Measurement at 24±2hours after test conclusion	MIL-STD-202 Method 301	±0.5%



**Marking**

**R001 1%**

**R001:** 1mΩ      **1%:** Tolerance

**包装 Packaging**

**Embossed plastic Tape Specifications**

(Unit: mm)



Size	A	B	W	E	F	P0	P1	P2	D0	T	Quantity
2512	4.3	7.6	16	1.55	7.5	3.85	7.7	7.7	1.50	1.7	1000
3920	6	11	24	1.55	11.2	6	12	12	1.50	2.0	2500
5930	8.6	16	24	1.55	10.8	6	12	12	1.50	2.4	2000



Size	2512	3920	5930
$\phi A$	330	330	330
$\phi B$	99.5	99.5	99.5
$\phi C$	13	13	13
W	16.5	24.5	24.5
T	21	29	29



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