

特征 Features

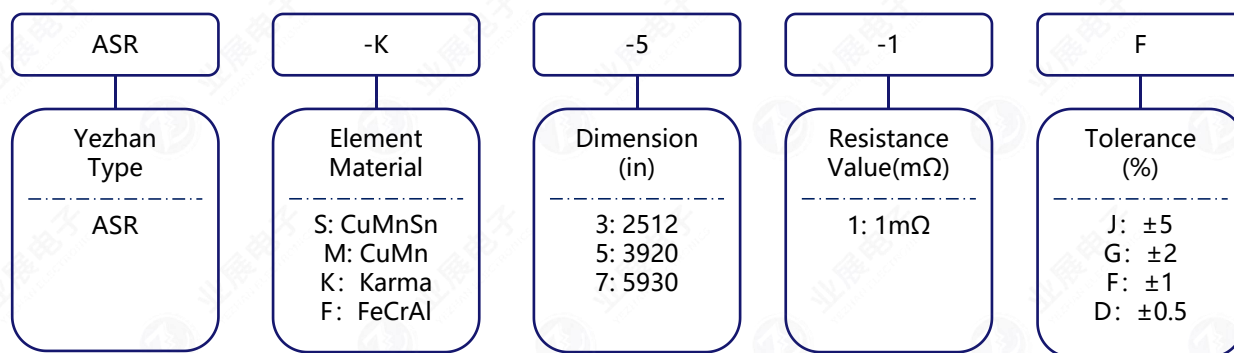
精度±5%、±2%、±1%和±0.5%	Tolerance ±5%, ±2%, ±1% and ±0.5%
使用温度-65°C~170°C	Operating Temperature range -65°C~170°C
电子束焊接结构	Electron beam welding
耐冲击	Ideal for pulse application
电感小于 3 纳亨	Low Inductance < 3nH
符合ROHS,REACH,无卤素要求	HF,REACH,RoHS compliant
特殊规格可以订做	Customizable
符合AEC-Q200	AEC-Q200 qualified



应用范围 Applications

变频驱动、伺服驱动系统	Frequency conversion drive, servo drive system
大电流电池管理系统	High current battery management system
汽车电子控制单元、汽车油泵驱动	Automobile electronic control unit automobile oil pump drive
DC/DC, DC/AC电源模块	DC/DC, DC/AC power modules
自动化控制系统	Automatic control system
工业仪器设备	Industrial instrument and equipment

订购信息 Ordering information



说明 Notice

适用范围 Scope

本承认书适用于深圳市业展电子有限公司 制造之[分流贴片电阻器]。

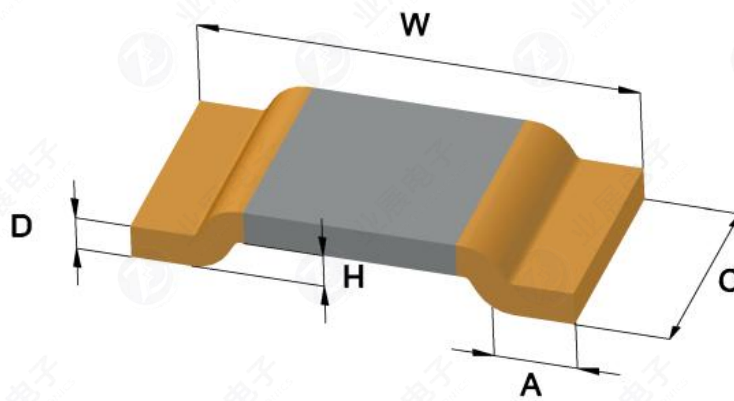
This specification is available for Alloy Shunt Resistors manufactured by Shenzhen Yezhan Electronics Co., Ltd.

标准试验状态 Standard measuring conditions

温度20±2°C、湿度65±5%。但在温度 5~35°C、湿度45~85%之情况下，仍可给予判定。

Temperature 20±2°C, Humidity 65±5%. Being no doubt about the judgment, measurements can be made within the following Temperature 5~35°C, Humidity 45~85%.

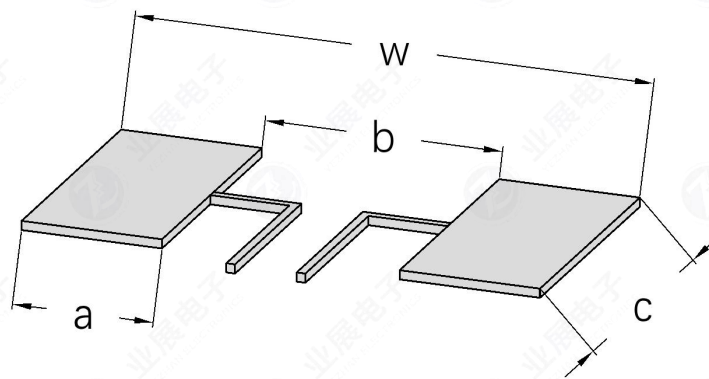
产品尺寸 Product dimensions



(Unit: mm)

Type	Size (in)	W	A	C	H
ASR-S/M/K/F-3	2512	6.3±0.2	1.2±0.2	3.1±0.3	0.5±0.1
ASR-S/M/K/F-5	3920	10.0±0.2	2.2±0.2	5.1±0.4	
ASR-S/M/K/F-7	5930	15.0±0.3	4.2±0.3	7.6±0.4	

PCB板布局 PCB-layout (Reflow-soldering)



(Unit: mm)

Solder pad type	w	c	a	b
ASR-S/M/K/F-3	7	3.4	1.8	3.4
ASR-S/M/K/F-5	11	6.2	2.7	5.6
ASR-S/M/K/F-7	16	8.75	5.2	5.6

» 技术参数 Technical Data

Size	Resistance Range (mΩ)	Element Material	Resistance (mΩ)	Rthi (°C/W)	D±0.1 (mm)	*TCR (ppm/°C)	P70 °C (W)		
2512	0.2~5	S	0.2	3	1.4	±175	6		
			0.3	5	1.5	±175	6		
		M	0.5	6	0.93	±115	6		
			1	10	0.45	±100	5		
			1.2	-	1.08	±70	6		
		K/F	1.5	-	0.86	±70	5		
			2	15	0.65	±70	5		
			2.5	-	0.5	±70	4		
			3	24	0.43	±70	4		
			4	27	0.31	±70	3		
			5	40	0.28	±70	3		
		3920	0.2~5	M	0.2	3	1.64	±200	12
					0.3	3.5	1.37	±150	10
0.4	-				0.97	±100	9		
0.5	7				0.83	±70	9		
0.7	9				0.55	±70	8		
1	10				0.4	±50	7		
K/F	1			7	1.16	±50	8		
	1.5			-	0.75	±50	6		
	2			14.5	0.56	±50	6		
	2.5			-	0.47	±50	5		
	3			22	0.37	±50	5		
	4			24	0.28	±50	5		
	5			-	0.28	±50	4		

分流贴片电阻-ASR系列

Alloy Shunt Resistors – ASR Series



业展电子
YEZHAN ELECTRONICS

续表

Size	Resistance Range (mΩ)	Element Material	Resistance (mΩ)	Rthi (°C/W)	D±0.1 (mm)	*TCR (ppm/°C)	P70 °C (W)	
5930	0.1~3	S	0.1	2	2.0	±200	15	
			M	0.2	3	1.5	±100	15
				0.3	-	0.98	±100	10
		0.35		-	0.83	±100	10	
		0.4		-	0.75	±100	10	
		0.5		3.5	0.6	±75	10	
		0.6		-	0.5	±75	10	
		0.75		6	0.41	±75	10	
		K/F		1	7	0.86	±50	9
			1.5	10	0.61	±50	8	
			2	13	0.4	±50	7	
			2.5	-	0.34	±50	7	
			3	17.5	0.29	±50	7	

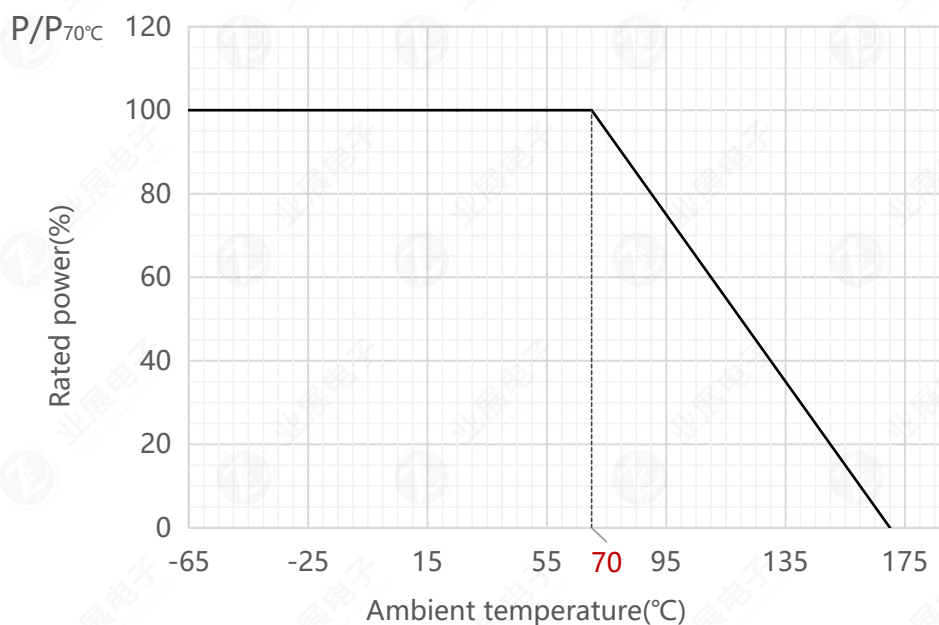
TCR (ppm/°C) : Test was conducted with the temperature from 20°C to 120°C , while 20°C worked as reference.

备注: K材质产品温漂低至10ppm/°C, 参看ASHP-K系列。

Note: TCR of products with K material could be lower to 10ppm/°C, please see ASHP-K series.

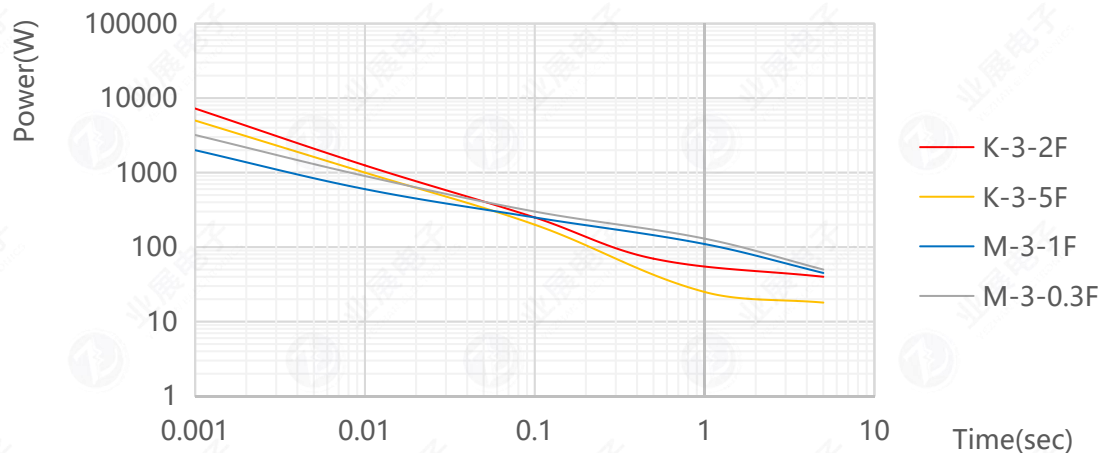
工作特性 Performance Data

功率降额曲线 Power derating curve

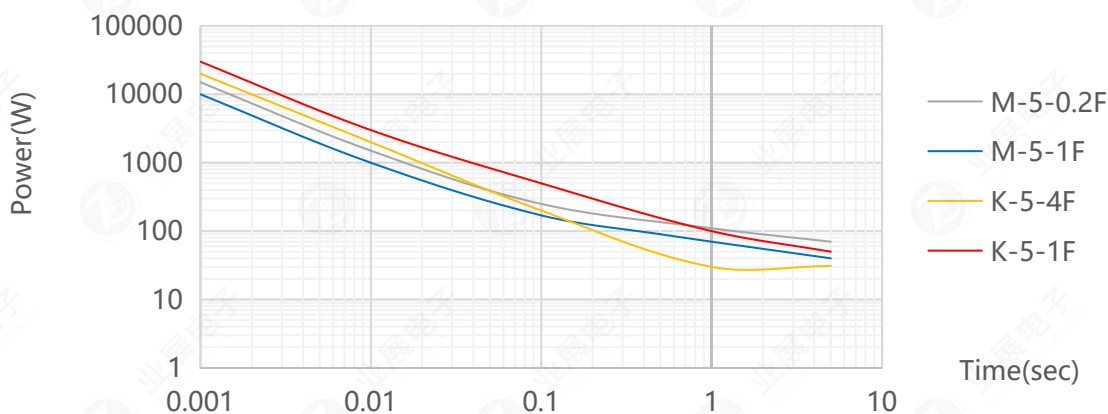


脉冲功率曲线 Pulse power curve

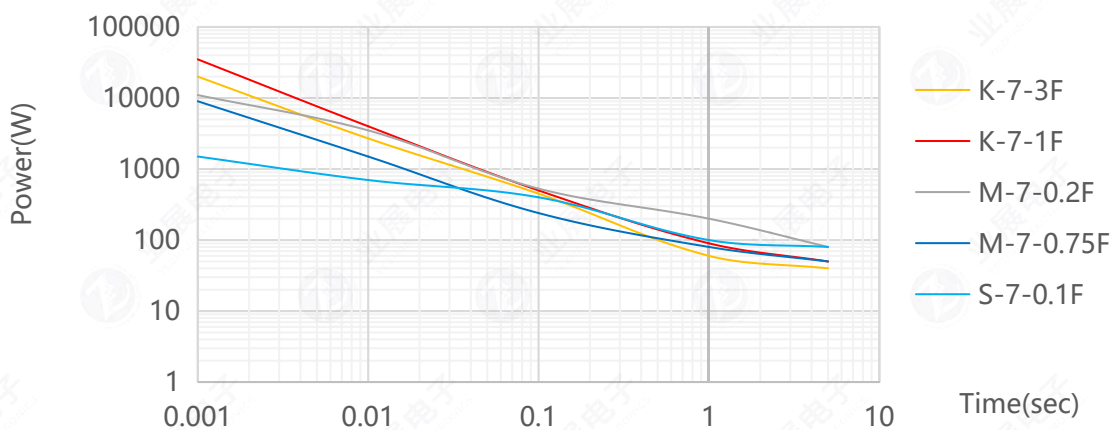
ASR-2512



ASR-3920



ASR-5930



» 耐久性测试 Endurance Test

Items	Additional Requirements	Reference	Limits
Dimension	Verified according to the specification .	GB/T 5729-1994-4.4.2	As Spec
High Temperature Exposure	1000 hrs. (T=170°C) , unpowered. Measurement at 24±4 hours after test conclusion .	MIL-STD-202 Method 108	±0.5%
Temperature Cycling	1000 Cycles(-55°C to +155°C) , unpowered. Minimum dwell time 15min. at each temperature extreme. maximum transition time 1 min. . Measurement at least 24 hours after test conclusion .	JESD22-A-104	±0.5%
Humidity Bias	1000hrs. (85°C/85%RH) . Note: Specify conditions: 10% of Long-term operating current. Measurement at 24±4 hours after test conclusion .	MIL-STD-202 Method 103	±0.5%
High Temperature Operating Life	1000 hrs.(T=125°C). Long-term operating current was applied to the products intermittently: 90 minutes ON and 30 minutes OFF . Measurement at 24±4 hours after test conclusion .	MIL-STD-202 Method 108	±0.5%
Resistance to Soldering Heat	250°C±5°C , 30s±5s	MIL-STD-202 Method 210	±0.5%
Solderability	Steam ageing for 8 hours (93°C); 2) Weld bath temperature 245°C±5°C, duration 5±0.5 S .	J-STD-002	95% Coverage Minimum
Vibration	20 min.(5 g's) , test from 10Hz-2000 Hz, 12 cycles each of 3 orientations .	MIL-STD-202 Method 204	±0.5%
Board Flex Test	Apply an external force once to the circuit board, bend at least Dx = 2mm, duration 60+5 S .	AEC-Q200-005	±0.5%
Terminal Strength (SMD)	Apply an external force once to the side of the test device, the force is 17.7N (1.8kg), duration 60+1 S .	AEC-Q200-006	±0.5%
Mechanical Shock	1) Pulse waveform: Half-Sine pulse; 2) Accelerate peak: 100g's; 3) Pulse duration: 6ms; 4) Orientation & Shock time: ±X, ±Y, ±Z, 3 times each orientation, total 18 times .	MIL-STD-202H Method 213	±0.5%
ESD	1) Direct Contact (DC): ±6kV ; 2) Air Discharge (AD): ±12kV, ±16kV, ±25kV .	AEC-Q200-002 REV-B	±0.5%
Resistance to Solvents	Note: Add Aqueous wash chemical - OKEM Clean or equivalent. Do not use banned solvents .	MIL-STD-202 Method 215	There was no missing, faded, smeared, blurred, or shifted (dislodged) with the marks. There was no crack, separation, crazing, swelling, softening, degradation on the samples.
Flame Retardance	1) Test current: 100%, 115%, 130%, 150% (Long-term operating current) . 2) Test duration: 1h .	AEC-Q200-001	The temperature is not higher than 350 ° C for more than 10 seconds, no flame, no explosion.

印字标识 Marking

R001
1%

R001: 1mΩ (Value阻值)
1%: ±1% (Tolerance精度)

Or

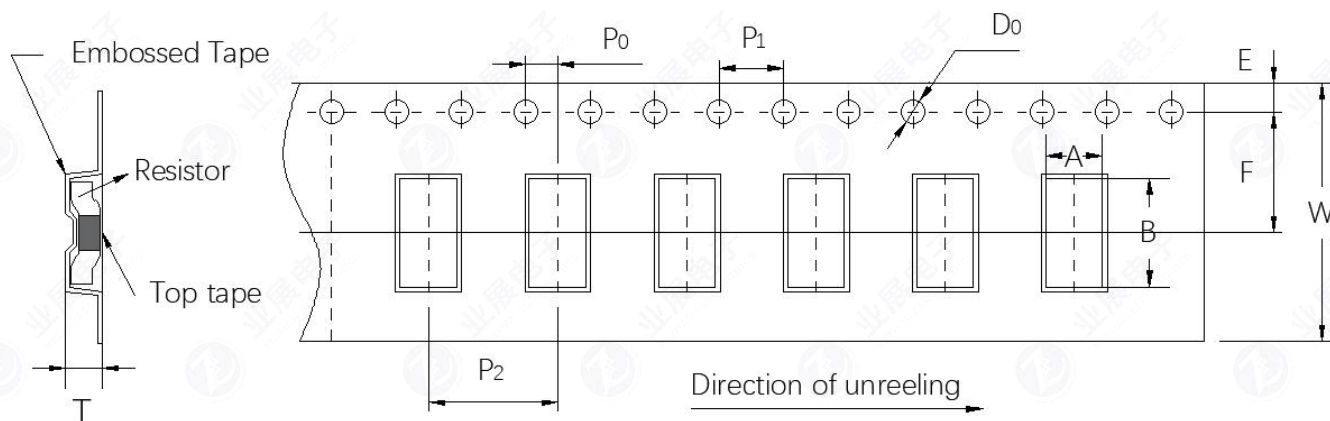
0m30
0.5%

0m30: 0.3mΩ (Value阻值)
0.5%: ±0.5% (Tolerance精度)

包装 Packaging

Embossed plastic Tape Specifications

(Unit: mm)

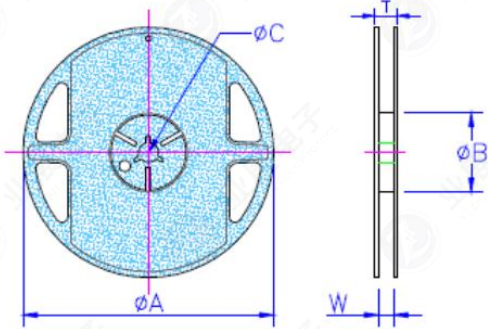


Size	Resistance Range (mΩ)	A ±0.15	B ±0.15	W ±0.3	E ±0.15	F ±0.15	P ₀ ±0.15	P ₁ ±0.15	P ₂ ±0.15	D ₀ ±0.15	T ±0.15	Quantity (pcs)
2512	0.5~5	3.5	6.7	12	1.75	5.5	2	4	4	1.5	Depends on the thickness of the product	3000
2512	0.2~0.3	3.7	6.9	16	1.75	7.5	2	4	8	1.5		1000
3920	0.2~5	5.8	10.5	24	1.75	11.5	2	4	12	1.5		2500
5930	0.1	8.5	15.7	24	1.75	11.5	2	4	12	1.5		1000
	0.2~0.3	8.5	15.7	24	1.75	11.5	2	4	16	1.5		1500
	0.35~0.5	8.1	15.5	24	1.75	11.5	2	4	12	1.5		2000
	1~2											
5930	0.6~0.8	8.5	15.7	24	1.75	11.5	2	4	12	1.5	2000	
	2.5~3											

分流贴片电阻-ASR系列

Alloy Shunt Resistors – ASR Series

(Unit: mm)



Size	2512	2512-0.2/0.3	3920	5930
ϕA	178	203	330	330
ϕB	60	60	100	100
ϕC	13	13	13	13
W	12.5	16.5	24.5	24.5
T	21	21	29	29

*Special Packing Quantity

P/N	2512-0.5	2512-1.1~1.5	3920-0.2	3920-0.3	5930-0.2
*Quantity (pcs)	2000	2000	2000	1500	1000

版本信息 Version History

版本 Version	日期 Date	修订描述 Description of amendment	拟定 Draft	审核 Checked
A1.0	04-May-2021	首版发行	邹文鉴	胡紫阳
A1.1	10-Sep-2021	2512-2 包装数量从2000pcs/盘变更为3000pcs/盘	邹文鉴	胡紫阳
A1.2	1-Mar-2022	更新2512/3920/5930 热内阻数据	邹文鉴	胡紫阳
A1.3	14-Jul-2022	增加 3920-0.7/5930-1.5 mΩ 产品型号	邹文鉴	胡紫阳
A1.4	22-Nov-2022	增加部分产品型号	邹文鉴	胡紫阳
A1.5	23-Oct-2023	1、增加5930-0.25/0.3/0.35/0.4/0.6产品型号； 2、5930-0.2型号包装数量由1.5K/盘变更为1K/盘； 3、5930-0.3型号包装数量由2K/盘变更为1.5K/盘； 4、3920-0.3型号包装数量由2K/盘变更为1.5K/盘； 5、2512-1.5型号包装数量由3K/盘修正为2K/盘； 6、2512-0.2/0.3型号包装盘尺寸由7寸变更为8寸。	邹文鉴	胡紫阳
A1.6	18-Dec-2023	1、完善5930封装的载带信息，修正载带尺寸公差； 2、更新耐久性测试项目名称； 3、更新部分图示。	范维龙	胡紫阳

YZ-WP-EN-175