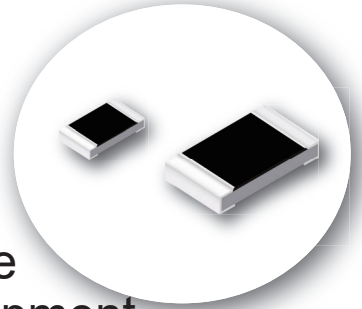


Thin Film Chip Resistors [ERA_V/K/P series]



High stability and reliability type

Contributing to higher precision and longer service life of industrial, infrastructure, and in-vehicle equipment.

Product summary

- Achieves higher stability and reliability with new material and construction.

Features

- High precision : Tolerance $\pm 0.05\%$, Temperature coefficient of resistance $\pm 10 \times 10^{-6}/K$
- High durability : ESD, overload, thermal shock
- Highly corrosive : Sulfurized environment, high humidity environment, etc.
- Suppression of solder cracks with stress relaxation structure
- Current concentration relaxation pattern design to increase ESD voltage immunity
- Corrosion resistance achieved through electrode material selection and original construction method

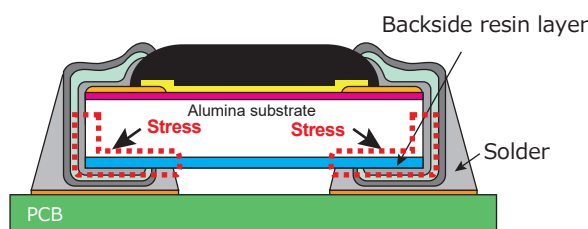
Structure-1

— Unique structural design achieves High precision and High durability —

Tolerance

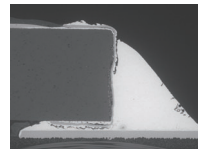
- Resistance tolerance : **$\pm 0.05\%$**
- TCR : **$\pm 10 \times 10^{-6}/K$**
- High reliability ΔR : Equivalent to or better than conventional products

- ① Achieve excellent anti solder joint cracking by back side resin layer

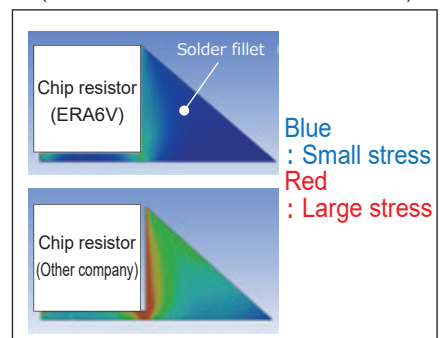


Unique stress-relieving structure

V series



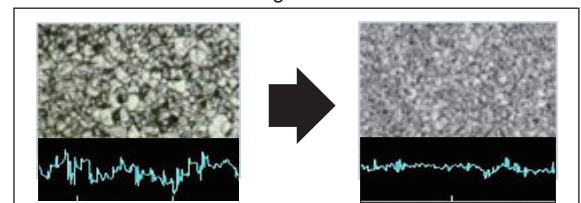
Applied distribution simulation (stress at 155 °C with 25 °C as the reference)



- ② Improved element & patterning, current concentration relief

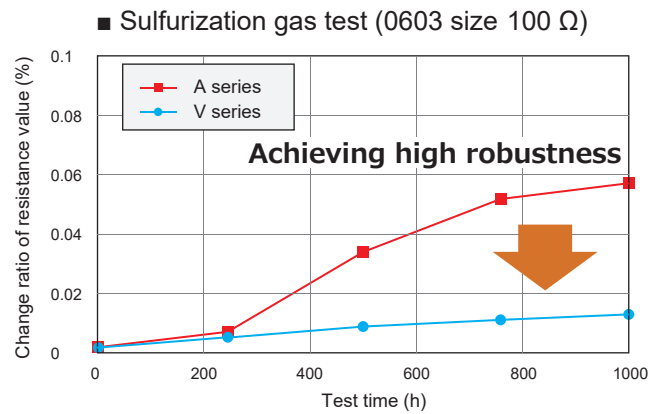
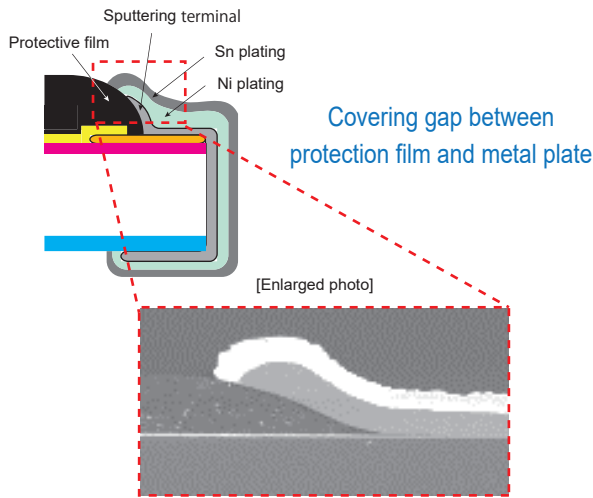
This grain structure and unique pattern design **reduce load concentration in the event of overload**

Reference : Surface roughness of alumina substrate



Structure-2

③ Covers the interface of the protective resin end, increasing corrosion resistance



Applications

- Voltage (voltage division) detection : BMS, inverters, OBC, DC/DC converters, etc.
- Amplifier gain control : LiDAR, sensing, etc.

Product line up

Size (Rated vol.)	Part No.	TCR ($\times 10^{-6} / K$)	Resistance range (Ω)		Limiting element voltage (V)	ESD resistance AEC-Q200	Category temp. range ($^{\circ}C$)
			$\pm 0.05\% (W)^{*1}$	$\pm 0.1\% (B)^{*1}$			
0402 (0.1 W) ^{*1}	ERA2V	$\pm 10(R)$	$1k \leq R \leq 47k$		75 ^{*1}	1.0 kV (class 1C)	-55 to +155
		$\pm 15(P)$	—	$1k \leq R \leq 47k$			
		$\pm 25(E)$	—	$47 \leq R \leq 100k$			
0603 (0.125 W) ^{*1}	ERA3V ERA3K(Over 100Ω)	$\pm 10(R)$	$1k \leq R \leq 100k$		100 ^{*1}	1.5 kV (class 1C)	
		$\pm 15(P)$	—	$1k \leq R \leq 100k$			
		$\pm 25(E)$	—	$47 \leq R \leq 240k$			
0805 (0.25 W) ^{*1}	ERA6V ERA6K(Over 100Ω)	$\pm 10(R)$	$1k \leq R \leq 100k$		150 ^{*1}	2.0 kV (class 2)	
		$\pm 15(P)$	—	$1k \leq R \leq 100k$			
		$\pm 25(E)$	—	$47 \leq R \leq 750k$			
1206 (0.25 W)	ERA8V ERA8K(Over 100Ω)	$\pm 10(R)$	$1k \leq R \leq 160k$		200 ^{*1}	2.0 kV (class 2)	
		$\pm 15(P)$	—	$1k \leq R \leq 1M$			
		$\pm 25(E)$	—	$47 \leq R \leq 1M$			
	ERA8P	$\pm 15(P)$	—	$160 \leq R \leq 1M$	500 ^{*2}	4.0 kV ^{*2} (class 3)	
		$\pm 25(E)$	—	$160 \leq R \leq 1M$			

*1 : Comparison of performance with conventional products - Can be reduced by 1 size

*2 : New lineup of high voltage products

[ERA-V]

[ERA-P]

For more details →

