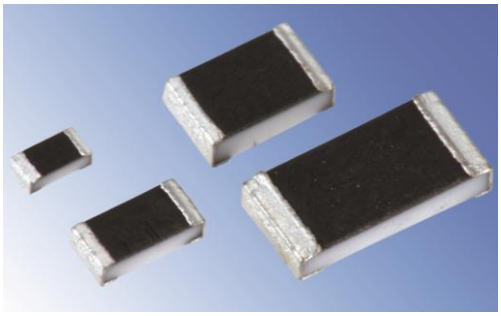
25ppm, 0.1%, High Precision & High Reliability Resistors

KOA's new RS73-series are ESD transient tolerant high precision and high reliability resistors using thick film technology

With a T.C.R. down to ±25ppm and a tolerance as low as ±0.1%, the new RS73-series from KOA is ideal for precision designs such as high-accuracy sensing or voltage detection circuits in automotive, industrial and measuring applications, especially where ESD sensitivity is an issue. The ESD tolerance of these parts means that, in certain cases, protection devices, such as varistors etc, can be omitted from the design.

The new RS73-series also features an **excellent long-term stability.**

RS73 Series



Features

- ±0.1, ±0.25, ±0.5 and ±1 % tolerances available
- ±25 ppm/K, ±50 ppm/K
- ±0.2 %~ long term stability (+85 °C / 1000 h)
- Higher rated power at +85 °C ambient temp.
- ESD stability of thick film resistors
- Ideal for applications where thin film is not suitable
- Anti-Sulfuration type also available (RS73-RT)
- EU-RoHS compliant, AEC-Q200 tested

RS73

RS73_RT

Application Examples

- High precision circuits for automotive and industrial
- Motor control circuits
- AC adapters
- A/D signal conversion
- Switching boards
- Industrial equipment & measurement

Ratings

Operating Temperature Range: -55°C ...+155°C

Type	Size (inch)	Power Rating	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (ppm/K)	Resistance Range E24 • E96*2		
						B: ±0.1%	C: ±0.25%	D: ±0.5% F: ±1%
RS73 (F/G) 1E	0402	0.125 W	+85 °C	+125 °C	F: ±25*1 G: ±50	300 Ω ~ 100 kΩ	300 Ω ~ 1 MΩ	
RS73 (F/G) 1J	0603	0.2 W				10 Ω ~ 1 MΩ		
RS73 (F/G) 2A	0805	0.25 W				10 Ω ~ 3 MΩ	10 Ω ~ 6.8 MΩ	10 Ω ~ 10 MΩ
RS73 (F/G) 2B	1206	0.33 W				10 Ω ~ 5.1 MΩ		

*1 Measurement Temp. +25ºC/+125ºC: ±25ppm/K ambient; Cold T.C.R. -55ºC/+25ºC: -50/~+25ppm/K ambient

*2 Values from E192 series on request.

If you use at rated power, keep the condition that the terminal of the resistor is below the rated terminal part temperature and refer to derating curves.

Performance

Parameter	Test Methods	Limit ⊿R (%+0.05Ω)	Typical ⊿R (%+0.05Ω)
Short time overload	Rated voltage x 2.5 for 5sec (Not exceeding max. overload voltage)	±0.2	±0.03
Resistance to soldering heat	+260ºC ±5ºC, 10sec ±1sec	±0.2	±0.1
Rapid change of temperature	-55ºC(30min.) / +125ºC(30min.), 1000cycles	±0.2: 1E (300Ω≤R≤20kΩ), 1J (10Ω≤R≤1MΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.4: others	±0.05: 1E (300Ω≤R≤20kΩ), 1J (10Ω≤R≤1MΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.2: others
High temperature exposure	+155ºC ±3ºC, 1000hrs	±0.2: 1E (300Ω≤R≤10kΩ), 1J (10Ω≤R≤200kΩ), 2A,2B (10Ω≤R≤100kΩ) ±0.4~0.5: others	±0.1: 1E (300Ω≤R≤10kΩ), 1J (10Ω≤R≤200kΩ), 2A,2B (10Ω≤R≤100kΩ) ±0.2~0.3: others
Moisture resistance	+40ºC ±2º, 90~95%RH, 1000hrs 1.5h ON / 0.5h OFF cycle	±0.2: 1E (300Ω≤R≤10kΩ), 1J (10Ω≤R≤200kΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.4~0.5: others	±0.04: 1E (300Ω≤R≤10kΩ), 1J (10Ω≤R≤200kΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.08: others
Rated load / endurance	+85ºC±2ºC or rated terminal part temperature ±2ºC, 1000hrs 1.5h ON/0.5h OFF cycle	±0.2: 1E (300Ω≤R≤20kΩ), 1J (10Ω≤R≤1MΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.4: others	±0.05: 1E (300Ω≤R≤20kΩ), 1J (10Ω≤R≤1MΩ), 2A,2B (10Ω≤R≤10MΩ) ±0.2: others