# 1000V 10ppm High Precision High Voltage Divider

### **HVD** - Series



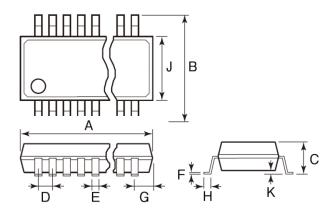
The new HVD - series from KOA is ideal for dividing of high voltages in EV and HEV applications.

Constructed using a metal thin film resistor chip inside a standard molded IC package, the device provides 0.1% ratio tolerance and 10ppm ratio TCR.

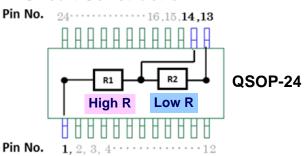
The high integration saves board space and overall assembly costs.

### Product Features

- 1000V max. working voltage
- 0.1% ratio tolerance
- 10ppm ratio TC matching
- Resistance ratio selectable from 1:10 to 1:1000
- EU-RoHS compliant
- AEC-Q200 qualified



### ■ Circuit Construction



### Dimensions

Dimensions (mm)								
Α	8.66±0.2	F	0.20±0.1					
В	5.99±0.2	G	0.84±0.1					
C	1.60±0.2	Н	0.66±0.2					
D	0.635±0.1	J	3.81±0.2					
E	0.25±0.1	К	0.18±0.1					

### Ratings

	Max. Working Voltage	Power Rating / Element	Resistance Range *	Absolute Resistance Tolerance	Relative Resistance Tolerance	T.C.R. [ppm/K]	Relative T.C.R. Tracking [ppm/K]
High R (R1)	1000 V	250 mW	$0.5\mathrm{M}\Omega$ ~ $11.5\mathrm{M}\Omega$	± 0.1%, ± 0.25%, ± 0.5%, ± 1%	0.1 % 0.25 %	± 25 ± 50	10 25
Low R (R2)	15 V	50 mW	4.5 kΩ ~ 1 MΩ	-			

<sup>\*</sup> Ratio's selectable between 1:10 and 1:1000

Rated Ambient Temperature: +85 °C

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

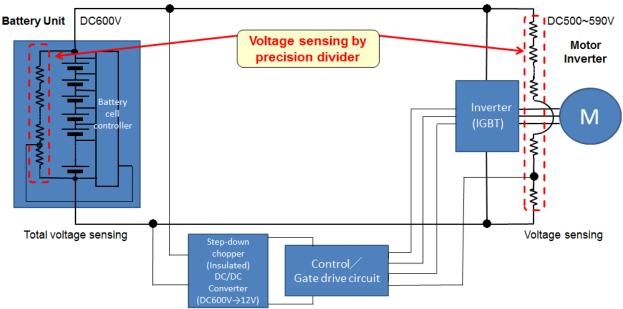
For more information, please contact:

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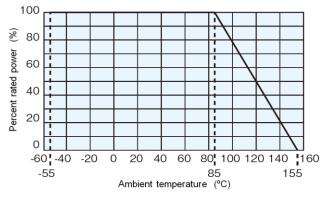
# **■** Application Example



### Performance

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Test Items	Limit Typical		Test Methods	
Resistance	Within specified tolerance	-	25 °C	
T.C.R.	Within specified T.C.R.	-	+25 °C/-55 °C, +25 °C/+155 °C	
Resistance to soldering heat	⊿R/R±(0.1 %)	0.02 %	260 °C±5 °C, 10s±1s	
Rapid change of temperature	⊿R/R±(0.1 %)	0.01 %	-55 °C(30min.)/+155 °C(30min.) 1000 cycles	
Moisture resistance	⊿R/R±(0.1 %)	0.02 %	85 °C±2 °C, 85%±5%RH, 1000h 1.5h ON / 0.5h OFF cycles	
Endurance at +85 °C	⊿R/R±(0.1 %)	0.01 %	85 °C±2 °C, 1000h 1.5h ON / 0.5h OFF cycles	
High temperature exposure	⊿R/R±(0.1 %)	0.03 %	+155 °C, 1000h	

## Derating Curve



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