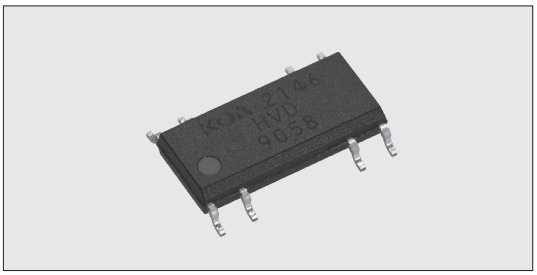
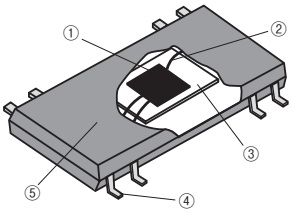
HVD Thin Film Network Resistors For High Voltage Divider



Coating color : Black

Construction



①	Resistors chip
②	Bonding wire
③	Die pad
④	Lead
⑤	Molded resin

Features

- High precision high voltage divider.
- Max. resistance value 51MΩ, Max. working voltage 1000V, Max. resistance ratio 1000:1.
- Relative precision of pair resistors are guaranteed.
- Higher integration saves board space and overall assembly costs.
- Excellent reliability with Standard molded IC package.
- Suitable for reflow soldering.
- Products meet EU-RoHS requirements.
- AEC-Q200 Tested.

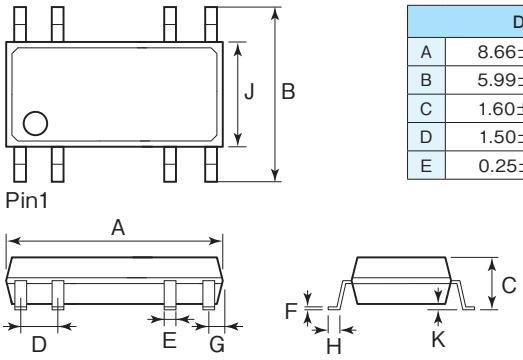
Applications

- High voltage divider for HEV/EV.
- High magnification of the operational amplifier circuit.

Reference Standards

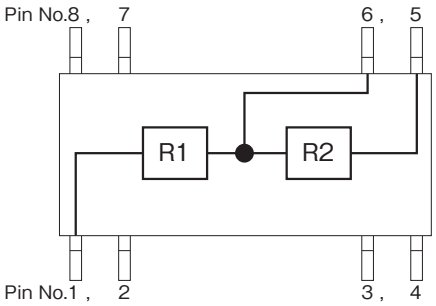
IEC 60115-6-2
JIS C 5201-6-2
IEC 60664-1
JIS C 60664-1

Dimensions



Dimensions (mm)			
A	8.66±0.2	F	0.20±0.1
B	5.99±0.2	G	0.29±0.1
C	1.60±0.2	H	0.66±0.2
D	1.50±0.1	J	3.81±0.2
E	0.25±0.1	K	0.18±0.1

Circuit Construction



Type Designation

Example

HVD	P08	T	TE	XXXX
Circuit Code	Package Symbol	Terminal Surface Material	Taping Number	Product Identification Number
HVD : High Voltage Divider	Package type symbol +Number of pins	T : Sn	TE : Plastic embossed	

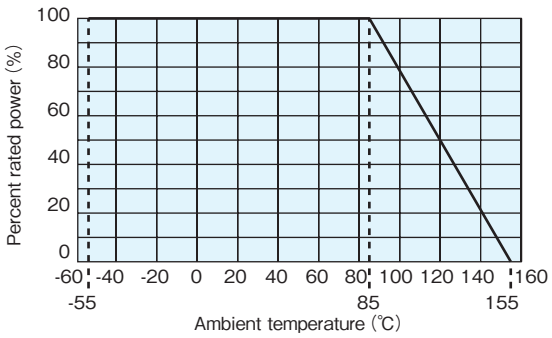
Contact us when you have control request for environmental hazardous material other than the substance specified by EU-RoHS.

Ratings

	Max. Working Voltage	Power Rating/ Resistor Element	Resistance Range Max.Resistance ratio(1000:1) (R1+R2)/R2	Absolute Resistance Tolerance	Relative Resistance Tolerance	T.C.R. (×10⁻⁶/K)	T.C.R. Tracking (×10⁻⁶/K)	Taping & Q' ty/Reel (pcs) TE	Weight (g) 1000 pcs
R1	1000V	250mW	0.5MΩ～51MΩ	±0.1%、±0.25%、±0.5%、±1%	0.1% 0.25% 0.5%	±25 ±50	10 25	2,500	136
R2	15V	50mW	1.5kΩ～1MΩ	–					

Rated Ambient Temperature : +85℃
Operating Temperature Range : −55℃～+155℃
Rated voltage = $\sqrt{\text{Power Rating} \times \text{Resistance value}}$ or Max. working voltage, whichever is lower.
Guaranteed value differs depending on resistance value.

■Derating Curve



For resistors operated at an ambient temperature of 85℃ or higher, the power shall be derated in accordance with the above derating curve.

■Performance

Test Items	Performance Requirements (Ratio) ΔR%		Test Methods
	Limit	Typical	
Resistance	Within specified tolerance	—	25℃
T.C.R.	Within specified T.C.R.	—	+25℃/−55℃、+25℃/+155℃
Resistance to soldering heat	0.1	0.02	260℃±5℃、10s±1s
Rapid change of temperature	0.1	0.01	−55℃(30min.) /+155℃(30min.) 1000cycles
Moisture resistance	0.1	0.02	85℃±2℃、85%±5%RH、1,000h 1.5h ON/0.5h OFF cycles
Endurance at 85℃	0.1	0.01	85℃±2℃、1,000h 1.5h ON/0.5h OFF cycles
High temperature exposure	0.1	0.03	+155℃、1,000h

■Precautions for Use

- The resistor of this product is formed by narrow patterning a thin metal film. Thus, application of excessive voltage causes burn and destruction of the resistive film, abnormality in resistance or open resistance and loss of proper function. The properly and electrostatically measured taping materials are used for the components, but attention should be paid to the fact that there is some danger the parts may be destructed by static electricity(equivalent to 500V and more at 100pF, 1.5kΩ) to cause a change in resistance in the conditions of an excessive dryness when mounting on the boards. Similarly, care should be given not to apply the excessive static electricity at the time of mounting on the boards.
  When designing, consideration can be taken into withstanding ESD for customized KPC products. Please consult with us about the details.
- Hand soldering by iron soldering or repairment are not recommended because KPC is a multi-pin product.