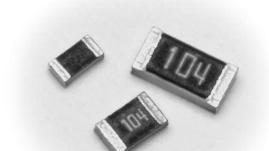




# flat chip resistors for high voltage

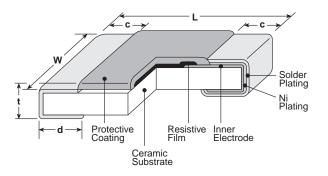




#### features

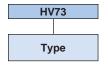
- Superior to RK73 series in maximum working voltage
- Products with lead-free terminations meet EU RoHS requirements. EU RoHS regulation is not intended for Pb-glass contained in electrode, resistor element and glass.

#### dimensions and construction



Туре	Dimensions inches (mm)							
(Inch Size Code)	L	W	С	d	t			
1J (0603)	.063±.008 (1.6±0.2)	.031±.004 (0.8±0.1)	.012±.004 (0.3±0.1)	.012±.004 (0.3±0.1)	.018±.004 (0.45±0.1)			
2A (0805)			.016±.008 (0.4±0.2)	.012 +.008 004 (0.3 +0.2)	.02±.004 (0.5±0.1)			
2B (1206)	.126±.008 (3.2±0.2)	.063±.008 (1.6±0.2)	.02±.012 (0.5±0.3)	.016 +.008 004 (0.4 +0.2)	.024±.004 (0.6±0.1)			
2H (2010)			.016 +.008 004 (0.4 +0.2)	.024±.004 (0.6±0.1)				
3A (2512)	.248±.008 (6.3±0.2)	.122±.008 (3.1±0.2)	.02±.012 (0.5±0.3)	.016 +.008 004 (0.4 +0.2)	.024±.004 (0.6±0.1)			

## ordering information



2B
Size
1J: 0.1W
2A: 0.25W
2B: 0.25W
2H: 0.5W
3A: 1W

Termination Material						
T: S	n					

TD: 0603, 0805, 1206: 7" 4mm pitch punched paper TE: 2010 & 2512: 7" embossed plastic For further information on packaging.	Pack	aging
7" embossed plastic		
For further information on packaging		
please refer to Appendix A		

	1004					
Nominal Resistance						
	±0.5%, ±1%: 3 significant figures + 1 multiplier					
	±2%, ±5%: 2 significant figures + 1 multiplier					

	F					
	Resistance Tolerance					
Γ	D: ±0.5%					
	F: ±1%					
	G:±2%					
	J: ±5%					





# flat chip resistors for high voltage

### applications and ratings

Part Designation	Power Rating @ 70°C	Rated Ambient Temp.	Rated Terminal Part Temp.	T.C.R. (ppm/°C) Max.	E-24/E-96 (D±0.5%)	Resistance E-24/E-96 (F±1%)	Range (Ω) E-24 (G±2%)	E-24 (J±5%)	Absolute Maximum Working Voltage	Maximum Overload Voltage (D.C.)*	Operating Temp. Range
1J	0.1W	70°C	80°C	±100**	_	10k - 10M	10k - 10M	10k - 10M	350V	500V*	
2A	0.25W	70°C	100°C	±100	100k - 1M	100k - 10M	100k - 10M	100k - 10M	400V	800V*	-55°C to
	0.2011	100		±200		_	_	11M - 51M			
2B	0.25W	70°C	100°C	±100	100k - 1M	100k - 10M	100k - 10M	100k - 10M	800V	1000V*	
20	0.23	700		±200	_	_	_	11M - 51M			
				±100	100k - 1M	100k - 10M	100k - 10M	100k - 10M			+155°C
2H	0.5W	70°C	90°C	±200	_	10.2M - 51M	11M - 51M	11M - 51M	2000V (D.C.)	3000V*	
				±300	_	51.1M - 100M	56M - 100M	56M - 100M			
2.4	<b>3A</b> 1W 70°C	70°C 105°C	±100	43k - 1M	43k - 10M	43k - 10M	43k - 10M	3000V (D.C.)	4000V*		
3A			±200	_	10.2M - 20M	11M - 20M	11M - 51M				

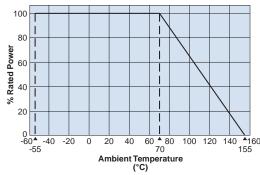
<sup>\*</sup> Max. overload voltage is specified by D.C. voltage

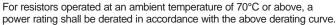
If any questions should arise whether to use the "Rated Ambient Temperature" or the "Rated Terminal Part Temperature," please give priority to the "Rated Terminal Part Temperature." Prior to use and for more details refer to "Introduction of the derating curves on the terminal part temperature" in the beginning of the catalog.

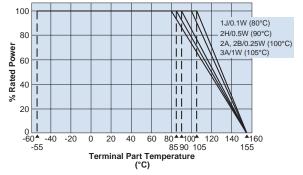
Rated voltage =  $\sqrt{\text{Power rating x resistance value}}$  or max. working voltage, whichever is lower

### environmental applications

#### **Derating Curve**







For resistors operated at a terminal part temperature of described for each size or above, a power rating shall be derated in accordance with the above derating curve. Please refer to "Introduction of the derating curve based on the terminal part temperature" in the beginning of our catalog before use.

#### **Performance Characteristics**

	Requirement 2	Δ R ±(%+0.1Ω)			
Parameter	Limit Typical		Test Method		
Resistance	Within regulated tolerance	_	25°C		
r.C.R. Within specified T.C.R. —		_	+25°C/-55°C and +25°C/+125°C		
Overload (Short time) ±2%		±0.5%	Rated Voltage (D.C.) x 2.5 for 5 seconds		
Resistance to Solder Heat	±1%	±0.5%	260°C ± 5°C, 10 seconds ± 1 second		
Rapid Change of Temperature	±0.5%: (10kΩ≤R≤10MΩ) ±1%: (11MΩ≤R≤51MΩ)	$\pm 0.3\%$ : (10kΩ≤R≤10MΩ) $\pm 0.5\%$ : (11MΩ≤R≤51MΩ)	-55°C (30 minutes), +125°C (30 minutes), 100 cycles		
Moisture Resistance	±2%	±0.75%	40°C ± 2°C, 90%-95% RH, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle		
Endurance at 70°C ±2% ±0.75		±0.75%	70°C ± 2°C, 1000 hours, 1.5 hr ON, 0.5 hr OFF cycle		
High Temperature Exposure	±2%	±0.3%	+155°C, 1000 hours		

Additional environmental applications can also be found at www.koaspeer.com

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

8/16/18

<sup>\*\*</sup> Cold T.C.R. (-55°C ~ +25°C) of  $1.02M\Omega$  ~  $10M\Omega$  is +200x10<sup>-6</sup>/K

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1812J1K00473KXT 1812J2K00680JCT 1812J4K00102MXT 1812J5000102JCT 1812J5000103JCT 1812J5000682JCT NIN-FB391JTRF

NIN-FC2R7JTRF NPIS27H102MTRF C1206C101J1GAC C1608C0G1E472JT000N C2012C0G2A472J 2220J2K00101JCT

KHC201E225M76N0T00 LRC-LRF1206LF-01R025FTR1K 1812J1K00222JCT 1812J2K00102KXT 1812J2K00222KXT

1812J2K00472KXT 2-1622820-7-CUT-TAPE 2220J3K00102KXT 2225J2500824KXT CCR07CG103KM CGA2B2C0G1H010C

CGA2B2C0G1H040C CGA2B2C0G1H050C CGA2B2C0G1H060D CGA2B2C0G1H070D CGA2B2C0G1H151J CGA2B2C0G1H1R5C

CGA2B2C0G1H2R2C CGA2B2C0G1H3R3C CGA2B2C0G1H680J CGA2B2C0G1H6R8D CGA2B2X8R1H221K CGA2B2X8R1H472K

CGA3E1X7R1C474K