

# SPJ3300 Series

High Voltage / High Temperature  
Thick Film Chip Resistors



- Resistances from 100k to 10T Ohms
- Power Rating 0.125 to 1.5 Watt
- Resistance Tolerances to  $\pm 1\%$
- TCR's to  $\pm 25$  ppm/K
- Non-Magnetic (contact PtAg)
- High Value Thick Film Resistance Element
- Sizes: 0805 / 1206 / 1210 / 2010 / 2512 / 4020



## SPECIFICATIONS

Type	SPJ3303 (0805)	SPJ3304 (1206)	SPJ3308 (1210)	SPJ3306 (2512)	SPJ3307 (4020)	
<b>Power Rating - P<sub>70</sub></b> ( W @ 70°C )	0.125	0.25	0.35	1.0	1.5	
<b>Working Voltage ( VAC )</b>	Trimmed	200	600	800	2000	4000
	Untrimmed ( $\geq 5\%$ )	400	1000	1200	3000	6000
<b>Resistance Range ( <math>\Omega</math> )</b>	Tolerances Available ( % ) Temperature Coefficients Available ( $\pm$ ppm/°C ) Voltage Coefficients Available ( ppm / V )					
<b>100k - 100M</b>	1% to 10% 25 / 50 / 100 100ppm/V	1% to 10% 25 / 50 / 100 50ppm/V	1% to 10% 25 / 50 / 100 50ppm/V	1% to 10% 25 / 50 / 100 10ppm/V	1% to 10% 25 / 50 / 100 10ppm/V	
<b>&gt;100M - 1G</b>	2% to 20% 50 / 100 / 250 250ppm/V	2% to 20% 50 / 100 / 250 100ppm/V	1% to 20% 25 / 50 / 100 50ppm/V	1% to 20% 25 / 50 / 100 25ppm/V	1% to 20% 25 / 50 / 100 10ppm/V	
<b>&gt;1G - 10G</b>	5% to 20% 100 / 250 / 500 500ppm/V	5% to 20% 50 / 100 / 250 250ppm/V	2% to 20% 25 / 50 / 100 100ppm/V	2% to 20% 25 / 50 / 100 50ppm/V	1% to 20% 25 / 50 / 100 10ppm/V	
<b>&gt;10G - 100G</b>	10% to 30% 2000 2000ppm/V	10% to 30% 250 / 500 / 1000 1000ppm/V	5% to 30% 250 / 500 / 1000 500ppm/V	5% to 30% 100 / 250 100ppm/V	2% to 30% 100 / 250 50ppm/V	
<b>&gt;100G - 1T</b>	20% to 30% 3000 5000ppm/V	10% to 30% 1000 / 2000 2000ppm/V	5% to 30% 1000 / 2000 1000ppm/V	5% to 30% 250 / 500 500ppm/V	5% to 30% 250 / 500 250ppm/V	
<b>&gt;1T - 10T</b>	-	20% to 30% TCR / VCR on request	20% to 30% TCR / VCR on request	10% to 30% TCR / VCR on request	10% to 30% TCR / VCR on request	

1) Solder pads must have sufficient heat conduction

2) TCR in ppm/K; +25°C to +125°C; TCR below standard TCR (highest value) and values >100G; +25°C to +85°C

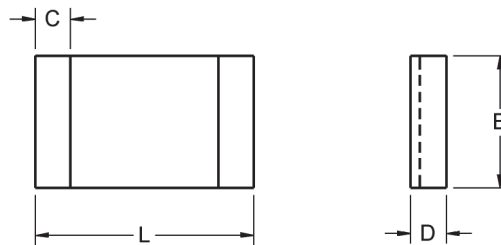
3) VCR: typical values, all negative, not for all TCR values available

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Specification	Value		
Temperature Range	-55°C to +300°C (TCR valid +25°C to +125°C )		
Climactic Category	55 / 155 / 56		
Solderability	250°C / 3s (up to 6 month after shipment resp. at storage in Nitrogen)		
Max. Soldering Temperature	260°C / 10s		
Long Term Stability	Max ΔR		
	<1 GΩ	1 GΩ - 10 GΩ	>10 GΩ
Load Life 70°C / 1000h / P <sub>70</sub>	±0.25%	±0.5%	±1%
Storage 125°C / 1000h	±0.5%	±1%	±2%
Maximum Voltage / 1000h	±0.5%	±1%	±2%



Type	Dimensions			
	L	B	D	C
<b>SPJ3303 (0805)</b>	0.080 +0.006 / -0.002 [ 2.0 +0.15 / -0.05 ]	0.050 +0.006 / -0.002 [ 1.25 +0.15 / -0.05 ]	0.016 +0.006 / -0.002 [ 0.4 +0.15 / -0.05 ]	0.012 +0.008 / -0.004 [ 0.3 +0.2 / -0.1 ]
<b>SPJ3304 (1206)</b>	0.126 +0.006 / -0.002 [ 3.2 +0.15 / -0.05 ]	0.060 +0.008 / -0.002 [ 1.5 +0.2 / -0.05 ]	0.016 +0.006 / -0.002 [ 0.4 +0.15 / -0.05 ]	0.012 +0.008 / -0.004 [ 0.3 +0.2 / -0.1 ]
<b>SPJ3308 (1210)</b>	0.126 +0.006 / -0.002 [ 3.2 +0.15 / -0.05 ]	0.098 +0.008 / -0.002 [ 2.5 +0.2 / -0.05 ]	0.020 +0.006 / -0.002 [ 0.5 +0.15 / -0.05 ]	0.032 ±0.008 [ 0.8 ±0.2 ]
<b>SPJ3305 (2512)</b>	0.250 +0.006 / -0.002 [ 6.3 +0.15 / -0.05 ]	0.138 +0.008 / -0.002 [ 3.5 +0.2 / -0.05 ]	0.024 +0.006 / -0.002 [ 0.6 +0.15 / -0.05 ]	0.035 ±0.008 [ 0.9 ±0.2 ]
<b>SPJ3306 (4020)</b>	0.40 +0.006 / -0.002 [ 10.20 +0.15 / -0.05 ]	0.20 +0.008 / -0.002 [ 5.1 +0.2 / -0.05 ]	0.024 +0.006 / -0.002 [ 0.6 +0.15 / -0.05 ]	0.035 ±0.008 [ 0.9 ±0.2 ]

## Packaging:

Bulk or Tape & Reel per IEC 286-3 / EIA 481-1-A

Tape width 8mm / Reel Diameter 180 or 330mm  
Minimum quantity Bulk / 100 pieces per value  
Minimum quantity Tape & Reel / 1000 pieces per value

## Ordering Information

Part Number - Resistance - Tolerance - TCR - Packaging

Example: SPJ3305 10GOhms 10% 50ppm Tape

( Note: if no TCR is specified, the highest value will be supplied )

Power Derating Curve

