

PCR Series

Pulse Withstanding Chip Resistors



- Resistances from 1 Ohm to 20MOhms
- Power Rating 0.125 to 1.5 Watt
- Resistance Tolerances to $\pm 5\%$
- Excellent pulse withstanding performance
- TCR's to ± 100 ppm/ $^{\circ}\text{C}$
- Sizes: 0603 / 0805 / 1206 / 1210 / 2010 / 2512

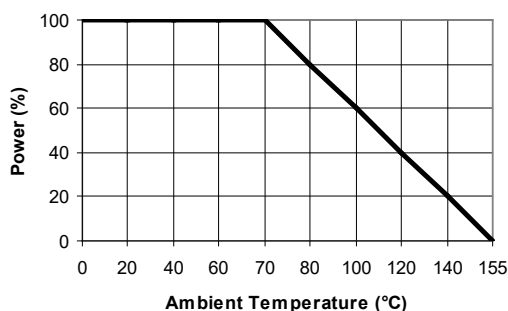
SPECIFICATIONS

Type	PCR0603	PCR0805	PCR1206	PCR1210	PCR2010	PCR2512
Power Rating (W) at 70 $^{\circ}\text{C}$	0.125	0.25	0.33	0.50	0.75	1.5
Resistance Range (Ω) (E24)	10 to 1M	1 to 20M				
MAX Operating Voltage ¹	50V	150V	200V	200V	400V	500V
Tolerances ²	5% / 10% / 20%					
TCR	10 Ω - 270 Ω : 200ppm 300 Ω - 1M: 100ppm	1 Ω - 270 Ω : 200ppm 300 Ω - 20M: 100ppm	1 Ω - 20 Ω :200ppm 22 Ω - 20M:100ppm			

¹ Operating Voltage = $\sqrt{P \cdot R}$ or MAX Listed, whichever is lower. | ² Additional tolerances upon request. 1% tolerance supported on PCR2512 10K and 10M for example

	Type	Quantity / Tape Diameter
PCR0603	Paper	5K / 7" 10K / 10" 20K / 13"
PCR0805		
PCR1206		
PCR1210		
PCR2010	Embossed	4K / 7" 8K / 10"
PCR2512		

Power Derating Curve



Ordering Information

Part Description: Part Type - Resistance - Tolerance - TCR - Packaging

Example: PCR0603 10 Ohm 5% 200ppm

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

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Specifications

Test	Specification	Test Method
TCR	see above	-55°C~+125°C, 25°C is the reference temperature
Short Time Overload	$\pm(1.0\%+0.05\Omega)$	RCWV*2.5 or Max. overload voltage for 5 seconds
Insulation Resistance	$\geq 10G$	Max. overload voltage for 1 minute
Load Life	$\pm(3.0\%+0.05\Omega)$	70 $\pm 2^\circ C$, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	$\pm(3.0\%+0.05\Omega)$	40 $\pm 2^\circ C$, 90~95% R.H. Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Dry Heat	$\pm(3.0\%+0.05\Omega)$	at +155°C for 1000 hrs
Bending Strength	$\pm(1.0\%+0.05\Omega)$	Bending once for 5 seconds 2010, 2512 sizes: 2mm Other sizes: 3mm
Solderability	95% min. coverage	245 $\pm 5^\circ C$ for 3 seconds
Resistance to Soldering Heat	$\pm(1.0\%+0.05\Omega)$	260 $\pm 5^\circ C$ for 10 seconds
Voltage Proof	No breakdown or flashover	1.42 times RCWV (RMS) for 1 minute
Leaching	Individual leaching area $\leq 5\%$ Total leaching area $\leq 10\%$	260 $\pm 5^\circ C$ for 30 seconds
Rapid Change of Temperature	$\pm(1.0\%+0.05\Omega)$	-55°C to +155°C, 5 cycles
RoHS Compliant exemption	Ex-	This part is RoHS compliant with exemption 7(c)-I, as authorized by 2011/b5/EU.



Type	Dimensions inches / [mm]			
	L	B	D	C
PCR 0603	0.060 ± 0.004 / [1.6 ± 0.1]	0.030 ± 0.004 / [0.8 ± 0.1]	0.018 ± 0.004 / [0.45 ± 0.1]	0.012 ± 0.008 / [0.3 ± 0.2]
PCR 0805	0.080 ± 0.004 / [2.0 ± 0.1]	0.050 ± 0.004 / [1.25 ± 0.1]	0.020 ± 0.004 / [0.50 ± 0.1]	0.016 ± 0.008 / [0.4 ± 0.2]
PCR 1206	0.120 ± 0.004 / [3.1 ± 0.1]	0.060 ± 0.006 / [1.55 ± 0.15]	0.022 ± 0.004 / [0.55 ± 0.1]	0.020 ± 0.008 / [0.5 ± 0.2]
PCR 1210	0.120 ± 0.004 / [3.1 ± 0.1]	0.100 ± 0.006 / [2.6 ± 0.15]	0.022 ± 0.004 / [0.55 ± 0.1]	0.020 ± 0.008 / [0.5 ± 0.2]
PCR 2010	0.200 ± 0.004 / [5.0 ± 0.1]	0.100 ± 0.006 / [2.5 ± 0.15]	0.022 ± 0.004 / [0.55 ± 0.1]	0.020 ± 0.008 / [0.5 ± 0.2]
PCR 2512	0.250 ± 0.004 / [6.35 ± 0.1]	0.120 ± 0.006 / [3.1 ± 0.15]	0.022 ± 0.004 / [0.55 ± 0.1]	0.020 ± 0.008 / [0.5 ± 0.2]

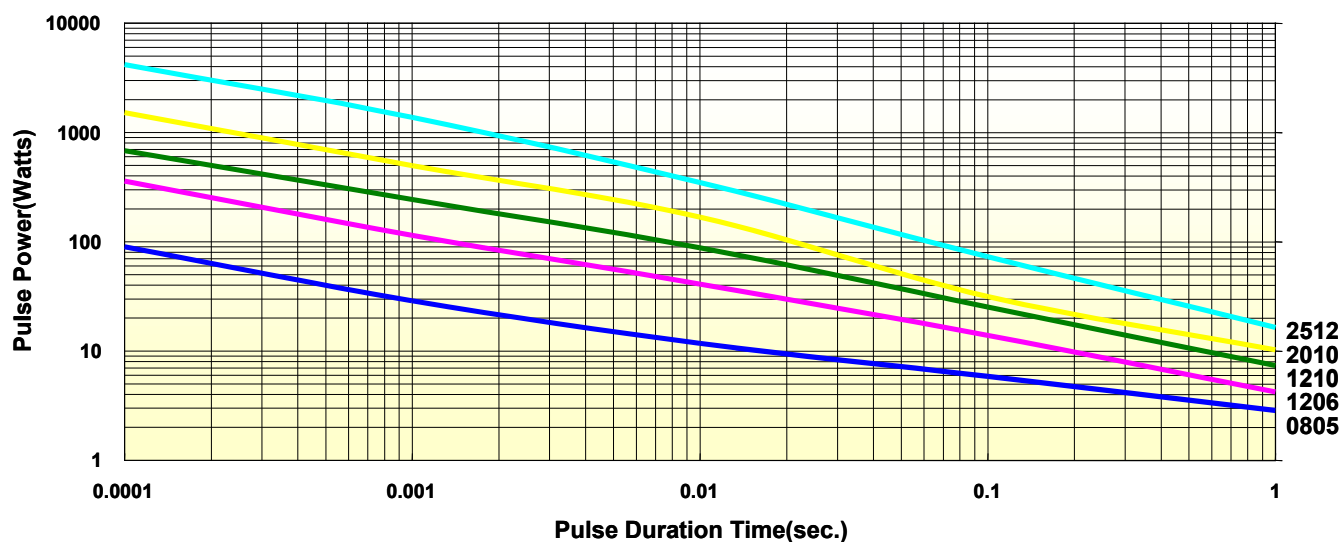
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Pulse Graphs

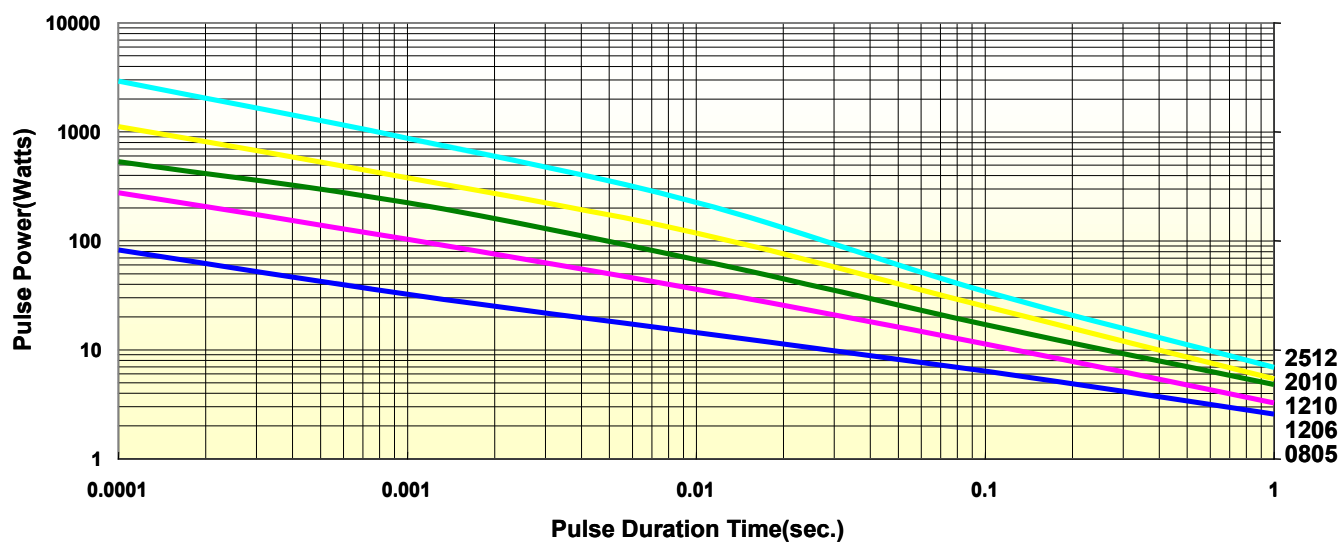
Single Pulse



¹Result of 50 rectangular pulses at 1 min intervals

²<1% deviation from initial value

Continuous Pulse



¹Result of rectangular pulses at intervals causing max power rating at 70C

²<1% deviation from initial value