



**Product Family:** High Precision Chip Attenuators  
**Part Number Series:** PAT Series



	<p><b>Construction:</b></p> <ul style="list-style-type: none"> <li>• High Purity Alumina Substrate</li> <li>• Ni alloy thin-film resistive elements</li> <li>• Wrap around electrodes</li> <li>• 100% matte tin over Ni terminations (RoHS compliant and Pb Free)</li> </ul>	<p><b>Features:</b></p> <ul style="list-style-type: none"> <li>• 0402, 0603, 0805, 1206 and 1712 English case sizes</li> <li>• Attenuation values between 0-20dB</li> <li>• 50Ω impedance (75Ω also available in 1712 size)</li> <li>• High volume production suitable for commercial and special applications</li> </ul>
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**Description:**

These precision chip attenuators exhibit excellent high frequency characteristics. The surface mount package is ideal for applications requiring low noise, low inductance and low parasitic capacitance. The thin film metallization provides for very stable characteristics over temperature and time.

**Product Dimensions:**

Top Side	Bottom Side	Schematic	Dimension	L	W	H	P1	P2	P3
			<b>PAT0510</b> (0402)	0.039 ±0.002	0.020 ±0.002	0.013 ±0.002	0.005 ±0.002	0.011 ±0.002	---
			<b>PAT0816</b> (0603)	0.063 ±0.004	0.032 ±0.004	0.016 ±0.004	0.008 ±0.004	0.016 ±0.006	---
			<b>PAT1220</b> (0805)	0.079 ±0.004	0.049 ±0.004	0.016 ±0.004	0.014 ±0.008	0.024 ±0.008	---
			<b>PAT1632</b> (1206)	0.126 ±0.008	0.063 ±0.008	0.016 ±0.004	0.016 ±0.008	0.039 ±0.008	---
			<b>PAT3042S</b> (1712)	0.165 ±0.008	0.118 ±0.008	0.032 ±0.006	0.032 ±0.008	0.020 ±0.008	0.050 ±0.008

Note: Dimensions in inches

**Part Numbering:** Ex: PAT1632C-3DB-T1-LF

Product Designator	Metric Size (English)	Impedance Code	Attenuation Value	T&R Packaging Quantity	Tape Orientation	Internal Code
PAT	Either 4 or 5 digits <b>0510S*</b> (0402) <b>0816</b> (0603) <b>1220</b> (0805) <b>1632</b> (1206) <b>3042S</b> (1712)	<b>C</b> = 50Ω <b>D**</b> = 75Ω	Either 3 or 4 digits (i.e. "3DB" = 3dB, "10DB" = 10dB)	<b>-B</b> = Bulk <b>-T1</b> = 1,000 <b>-T5</b> = 5,000 <b>-T10</b> = 10,000  (see electrical section for offerings)	Leave <b>blank</b> for ground side facing down (default)  <b>-H***</b> = Ground side (bottom) facing up	<b>-LF</b>  All part numbers will have a "-LF" appended to the end of them to indicate RoHS compliance/Pb Free (RoHS 6/6).

Note: \* The 0510S/(0402 English size) product is not offered with the ground side (bottom side) facing up.  
 \*\*75Ω only available in PAT3042S (1712) size as shown in electrical specs table.  
 \*\*\* Available in full reels only.

**Examples:**

Part Number	Size (English)	Impedance	Attenuation (dB)	Packaging	Tape Orientation
PAT0816C-3DB-B-H-LF	<b>0816</b> (0603)	(C) 50Ω	(-3DB) -3dB	(-B) Bulk (cut tape)	(-H) Ground (bottom) Up
PAT1220C-6DB-T5-LF	<b>1220</b> (0805)	(C) 50Ω	(-6DB) -6dB	(-T5) 5K/reel (T&R)	(blank) Ground Down

**Electrical Specifications:**

Type	PAT0510S			PAT0816			PAT1220	PAT1632		PAT3042S		
English Size	0402			0603			0805	1206		1712		
Metric Size	0510			0816			1220	1632		3042		
Attenuation (dB)	0~3	4~7	8~10	0~3	4~7	8~10	0~10	0~10	16	0~10	16, 20	
Attenuation Tolerance (± dB)	0.3	0.5	0.7	0.3	0.5	1.0	0.3	0.3	0.5	0.3	0.5	
Impedance Code (Ω)	C = 50Ω			C = 50Ω			C = 50Ω	C = 50Ω		C = 50Ω, D = 75Ω		
VSWR	<1.3			~6dB = <1.3 6-10dB = <1.5			<1.3	<1.3		50Ω = <1.2 75Ω = <1.3		
Frequency Range (GHz)	DC~10			DC~10				DC~3		50Ω = DC~3 75Ω = DC~2		
Power Rating *	32mW			63mW			100mW	125mW		250mW		
Operating Temp. Range	-55°C ~ +125°C											
Packaging	-B = Bulk -T10 = 10,000 pcs/reel			-B = Bulk -T5 = 5,000 pcs/reel				-B = Bulk -T1 = 1,000 pcs/reel				
Orientation	Ground Side Facing Up (Blank)			Ground Side Facing Up (Blank) Ground Side Facing Down* (-H) *Full Reels Only								

Note: Contact factory for power rating of up to 10W

**Recommended Land Pattern:**

	Part Size	A	B	C	D	E	F
	0510 Metric 0402 English	0.008 to 0.016	0.012	0.010	0.020	0.028 to 0.043	0.000 to 0.012
	1608 Metric 0603 English	0.016	0.032	0.008	0.016	0.063	0.008 to 0.016
	1220 Metric 0805 English	0.024	0.032	0.012	0.012	0.079	0.008 to 0.020
	1632 Metric 1206 English	0.039	0.047	0.016	0.032	0.126	0.008 to 0.020
	3042S Metric 1712 English	0.020	0.126	0.035	0.047	0.165	0.008 to 0.020

Note: Dimensions in inches