

CHIP ATTENUATORS

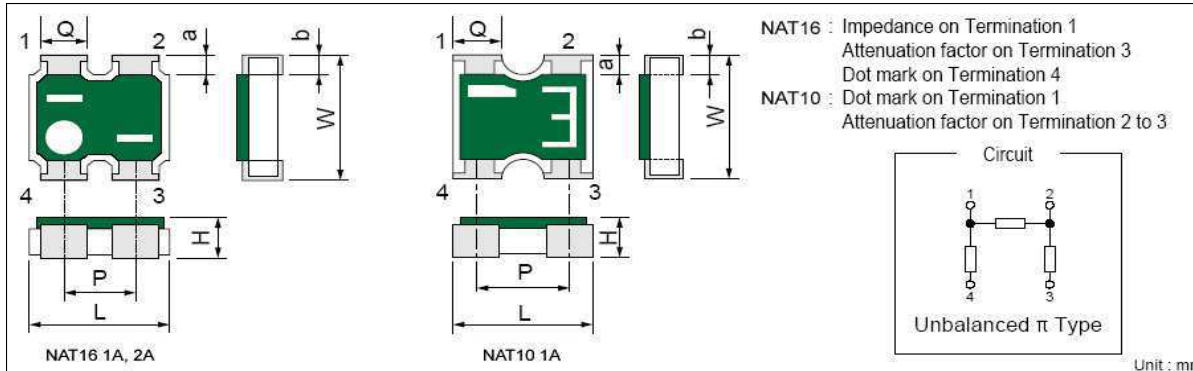


NAT10 1A, NAT16 1A, 2A

FEATURES

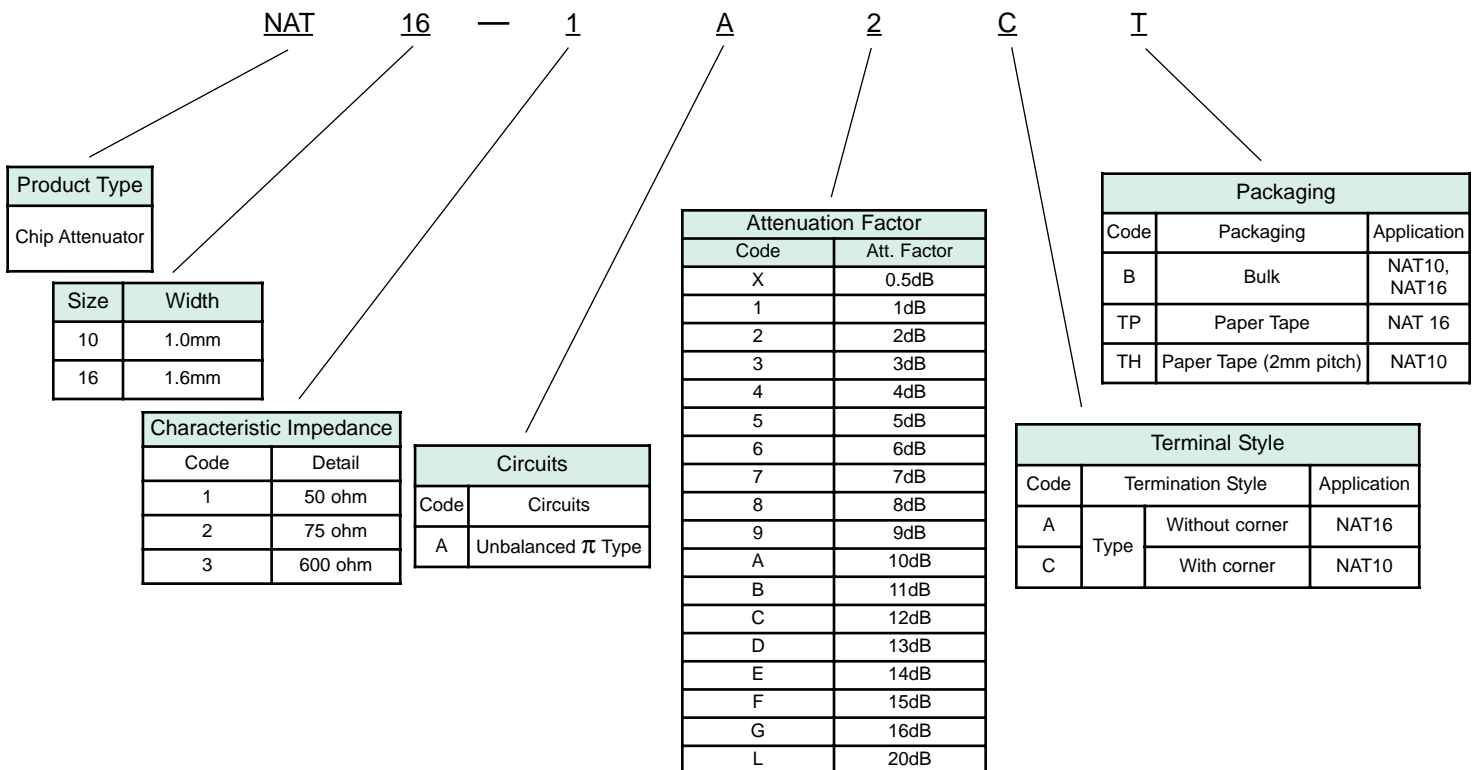
1. The NAT10 1A and NAT16 1A, 2A Series are small size chip attenuators, suitable for high density surface packaging.
2. Suitable for use as DC and up to UHF band frequencies.
3. Similar foot print for chip resistor networks.
4. Standard impedance of 50 ohm and 75 ohm are available, up to 600 ohm available on request.
5. Replaces conventional attenuation circuits with one-chip in place of three discrete resistors.

DIMENSIONS



Style	Terminal	L	W	H	Q	a	b	*P	Weight/Pc
NAT10 1A	C	1.0 ± 0.05	1.0 ± 0.05	0.35 ± 0.10	0.33 ± 0.10	0.15 ± 0.10	0.25 ^{+0.05} _{-0.10}	0.65	1.1mg
NAT16 1A	A	1.6 ± 0.1	1.6 ± 0.1	0.55 ^{+0.05} _{-0.10}	0.5 ± 0.1	0.25 ± 0.10	0.25 ^{+0.15} _{-0.10}	0.8	3.5mg
NAT16 2A	A	1.6 ± 0.1	1.6 ± 0.1	0.55 ^{+0.05} _{-0.10}	0.5 ± 0.1	0.25 ± 0.10	0.25 ^{+0.15} _{-0.10}	0.8	3.5mg

Part Numbering System



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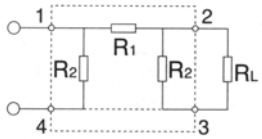


NAT10 1A, NAT16 1A, 2A

RATINGS

Style	Characteristic Impedance	Attenuation dB	Attenuation Factor Tolerance dB	Attenuation Range	VSWR Voltage standing wave Ratio	Rated Input Power mW / unit	Category Temperature Range °C
NAT10 1A	50 ohm	0.5	± 0.1	DC ≤ f ≤ 3GHz DC ≤ f ≤ 1.5GHz 1.5GHz < f ≤ 3GHz	1.1 max 1.2 max 1.3 max	100	- 40 ~ +125
		1	± 0.3				
		2					
		3					
		4					
		5					
		6	± 0.4				
		7					
		8					
		9					
		10	± 0.75				
		11	± 0.8				
		12					
		13					
		14					
		15					
16							
20	± 2.5	DC ≤ f ≤ 3GHz	1.3 max				
NAT16 1A	50 ohm	1	± 0.3	DC ≤ f ≤ 3GHz	1.2 max		
		2	± 0.3				
		3	± 0.5				
		6	± 0.75				
		10	± 0.75				
NAT16 2A	75 ohm	1	± 0.3	DC ≤ f ≤ 3GHz	1.2 max		
		2	± 0.3				
		3	± 0.5				
		6	± 0.75				
		10					

Performance Characteristics

Description	Requirements			Test Methods
	0.5 - 2dB	3dB - 5dB	6dB - 20dB	
Characteristic Impedance	50 ohm, 75 ohm			Measuring Circuit  RL=50 ohm 75 ohm
Insulation Resistance	At least 100M ohm			50Vd.c., 60s
Solderability	In accordance with Clause 4.17.4.5			Clause 4.17 Dip into 235°C solder bath for 2s
Resistance to soldering heat	Within ±0.1dB	Within ±0.2dB	Within ±0.3dB	Clause 4.18 Dip into 260°C solder bath for 5s
	No major visible damage			
Rapid change of temperature	Within ±0.1dB	Within ±0.2dB	Within ±0.3dB	Clause 4.19 5 cycles between -55°C and +125°C
	No major visible damage			
Endurance at 85°C	Within ±0.1dB	Within ±0.2dB	Within ±0.3dB	Clause 4.25.1 Rated voltage, 1.5h"ON", 0.5h"OFF" 85°C, 1000h
Bend strength of the face plating	Within ±0.1dB	Within ±0.2dB	Within ±0.3dB	Clause 4.33 Amount of bend 3mm, 10s