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Thin Film Precision Chip Resistors

Features

- RSTNFN – Precision Thin Film
- RSTNFN – 1206 & 2512 packages
- High thermal conductivity aluminium nitride substance
- Power rating up to 6.0W
- Resistance 50Ω ~22KΩ
- Resistance tolerance to ±0.1°C
- TCR to ±25ppm/°C

RS PRO Thin Film Chip Resistors RSTNFN Series

RS Stock No.:

243-0510, 243-0511, 243-0512, 243-0513, 243-0514, 243-0515, 243-0516, 243-0517, 243-0518, 243-0519, 243-0520, 243-0521, 243-0522, 243-0523, 243-0524, 243-0525, 243-0526, 243-0527, 243-0528, 243-0529, 243-0530, 243-0531, 243-0532, 243-0533, 243-0534, 243-0535, 243-0536, 243-0537, 243-0538, 243-0539, 243-0540, 243-0541, 243-0542, 243-0543, 243-0544, 243-0545, 243-0546, 243-0547, 243-0548, 243-0549, 243-0550, 243-0551, 243-0552, 243-0553, 243-0554, 243-0555, 243-0556, 243-0557, 243-0558, 243-0559, 243-0560, 243-0561, 243-0562, 243-0563, 243-0564, 243-0565, 243-0566, 243-0567, 243-0568, 243-0569, 243-0570, 243-0571



RS PRO is the own brand of RS. The RS PRO Seal of Approval is your assurance of professional quality, a guarantee that every part is rigorously tested, inspected, and audited against demanding standards. Making RS PRO the Smart Choice for our customers.

Thin Film Precision Chip Resistors

Product Description

Applications Include:

- Power Supplies
- Power Switching
- Braking Systems

Typical Performance:

- TCR. 25ppm/°C
- TOL. 0.1%

Dimensions

Type	RS Article	Size (Inch)	L	W	T	D1	D2	Weight (g) (1000pcs)
RSTNFN06	2430511 2430513 2430515 2430517 2430519 2430521 2430523 2430525 2430527 2430529 2430531 2430533 2430535 2430537 2430539 2430541 2430510 2430512 2430514 2430516 2430518 2430520 2430522 2430524 2430526 2430528 2430530 2430532 2430534 2430536 2430538 2430540	1206	3.05±0.20	1.55±0.20	0.43±0.15	0.50±0.15	1.20±0.20	10.98
RSTNFN12	2430543 2430545 2430547 2430549 2430551 2430553 2430555	2512	6.03±0.20	3.10±0.20	0.43±0.15	0.70±0.25	1.60±0.25	42.32

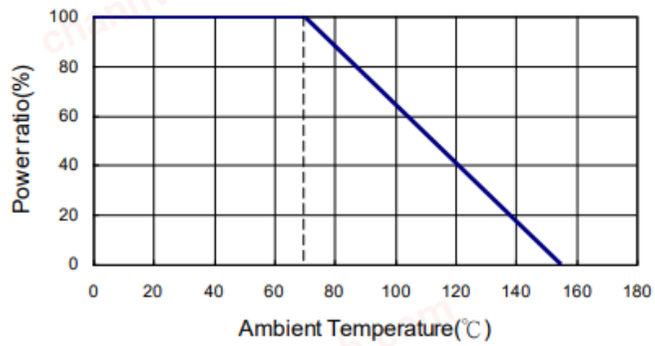
Thin Film Precision Chip Resistors

	2430557 2430559 2430561 2430563 2430565 2430567 2430569 2430571 2430542 2430544 2430546 2430548 2430550 2430552 2430554 2430556 2430558 2430560 2430562 2430564 2430566 2430568 2430570							

Part Number Make Up

Part Number	Package Dimensions	Resistance Tolerance	Packaging Code	TCR (PPM/°C)	Power Rating	Resistance Ohmic value
RSTNFN	06: 1206 12: 2512	B:±0.1%	T: Taping Reel	C: ±25	S: 2W I: 6W	0500: 50Ω 1000: 100Ω 5000: 500Ω 1002: 10KΩ

Derating Curve



Electrical Specifications

Type	RS Article	Power Rating at 70°C	Operating Temp. Range	Max Operating Voltage	Max. Overload Voltage	Resistance Range	TCR (PPM/°c)
						±0.1%	
RSTNF06 (1206)	2430511 2430513	2.0W (1)	-55°C~ +155°c	100V	200V	50Ω-22KΩ	±25

Thin Film Precision Chip Resistors

	2430515 2430517 2430519 2430521 2430523 2430525 2430527 2430529 2430531 2430533 2430535 2430537 2430539 2430541 2430510 2430512 2430514 2430516 2430518 2430520 2430522 2430524 2430526 2430528 2430530 2430532 2430534 2430536 2430538 2430540						
RSTNF12 (2512)	2430543 2430545 2430547 2430549 2430551 2430553 2430555 2430557 2430559 2430561 2430563 2430565 2430567 2430569 2430571 2430542 2430544 2430546 2430548 2430550 2430552 2430554 2430556 2430558 2430560 2430562 2430564 2430566 2430568 2430570	6.0w (1)	-55°C ~ +155°c	100V	200V	50Ω-22KΩ	±25

(1) Dependent on component mounting by user.

Operating voltage=√(P*R) or Max. operating voltage listed above, whichever is lower.

Thin Film Precision Chip Resistors

Environmental Characteristics

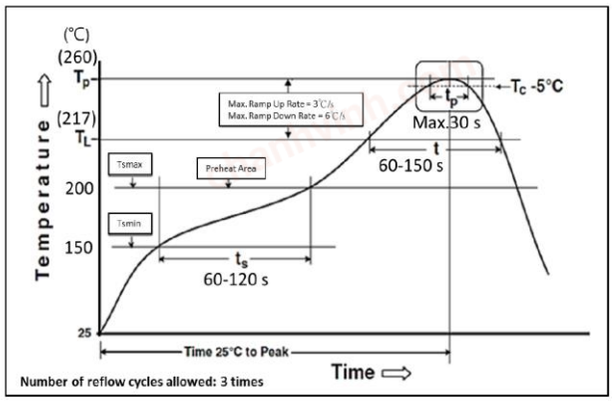
Item	Requirement	Test Method
Temperature Coefficient of Resistance (T.C.R.)	As Spec	MIL-STD-202 Method 304 +25/-55/+25/+125/+25°C
Short Time Overload (2)	±0.5%	Actual power handling capability is limited by the end user mounting process. As with any high-power chip resistor the ability to remove the heat is critical to the overall performance of the device
Insulation Resistance	>9999MΩ	MIL-STD-202 Method 302 Apply 100VDC for 1 minute
Endurance	±1%	MIL-STD-202 Method 108A 70±2°C, RCWV for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"
Damp Heat with Load	±0.4%	MIL-STD-202 Method 103 40±2°C, 90~95% R.H. RCWV for 1000 hrs with 1.5h hrs "ON" and 0.5 hrs "OFF"
Solderability	95% min. coverage	MIL-STD-202 Method 208 245±5°C for 3 seconds
Resistance to Soldering Heat	±0.2%	MIL-STD-202 Method 210 260±5°C for 10 seconds
Low Temperature Operation	±0.2%	JIS-C-5201-1 4.36 1 hour, -65°C, followed by 45 minutes of RCWV
High Temperature Exposure	±0.2%	MIL-STD-202 Method 108 at +155°C for 1000 hrs
Thermal Shock	±0.2%	MIL-STD-202F Method 107 -55°C~150°C, 100 cycles

RCWV(Rated continuous working voltage)= √(P*R) or Max. Operating voltage whichever is lower

- Reference Standards: MIL-STD-202, JIS-C 5201
- Storage Temperature: 15~28°C; Humidity < 80%RH
- Shelf Life: 2 years from production date.

Soldering Condition

(IPC/JEDEC J-STD-020)



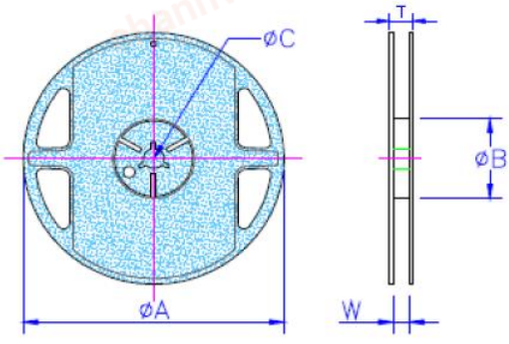
Thin Film Precision Chip Resistors

Packaging

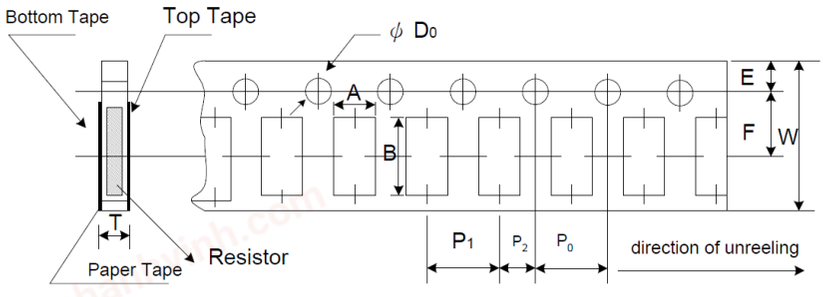
Packaging Quantity & Reel Specification

Unit:mm

Type	ØA	ØB	ØC	W	T	Paper Tape (EA)	Emboss Plastic Tape (EA)
RSTNFN06	178.0±1.0	60.0+1.0	13.5±0.7	9.5±1.0	11.5±1.0	5,000	-
RSTNFN12	178.0±1.0	60.0+1.0	13.5±0.7	13.5±1.0	15.5±1.0	-	4,000

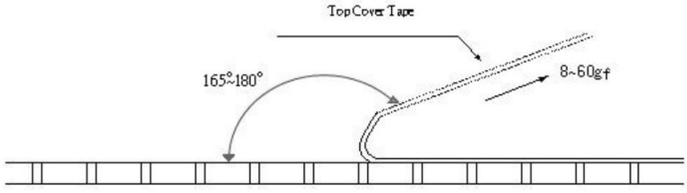


Paper Tape Specifications



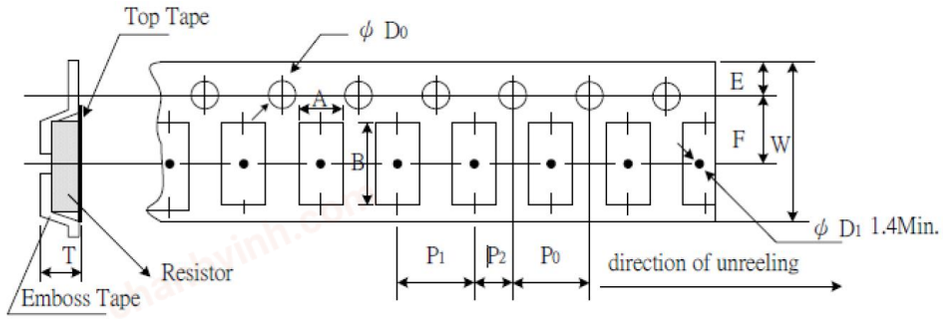
Type	A	B	W	E	F	P0	P1	P2	ΦD0	T
RSTNFN06	2.00±0.05	3.55±0.05	8.00±0.10	1.75±0.05	3.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.55±0.05	0.75±0.05

- Peel force top cover tape
- The peel speed shall be about 300mm/min±5%
- The peel force of top cover tape shall be between 8gf to 60gf



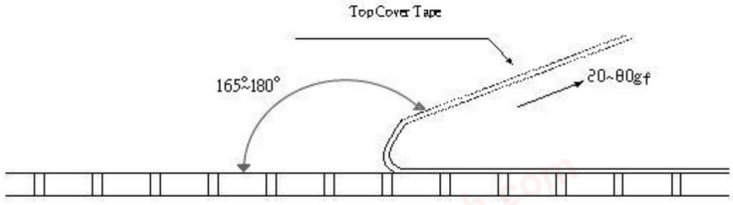
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Emboss Plastic Tape Specifications



Type	A	B	W	E	F	P0	P1	P2	ΦD0	T
RSTNFN12	3.40±0.10	6.65±0.10	12.00±0.10	1.75±0.05	5.5±0.05	4.00±0.10	4.00±0.10	2.00±0.05	1.50±0.10	1.00±0.20

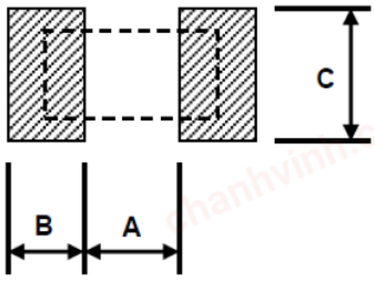
- Peel force top cover tape
- The peel speed shall be about 300mm/min±5%
- The peel force of top cover tape shall be between 20gf to 80gf



Recommended Land Pattern

Type	A	B	C
RSTNFN06	0.60	1.90	1.80±0.1
RSTNFN12	2.77	2.31	3.20±0.2

Unit:mm



- Use a board with a copper thickness of two ounces

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Similar Products

MPN	RS Article Number	
	SSM	MPQ
RSTNFN06BTCS0500	2430511	2430510
RSTNFN06BTCS0750	2430513	2430512
RSTNFN06BTCS1000	2430515	2430514
RSTNFN06BTCS1001	2430517	2430516
RSTNFN06BTCS1002	2430519	2430518
RSTNFN06BTCS1500	2430521	2430520
RSTNFN06BTCS2002	2430523	2430522
RSTNFN06BTCS2200	2430525	2430524
RSTNFN06BTCS2201	2430527	2430526
RSTNFN06BTCS2202	2430529	2430528
RSTNFN06BTCS3012	2430531	2430530
RSTNFN06BTCS3300	2430533	2430532
RSTNFN06BTCS3301	2430535	2430534
RSTNFN06BTCS4700	2430537	2430536
RSTNFN06BTCS4701	2430539	2430538
RSTNFN06BTCS5001	2430541	2430540
RSTNFN12BTCI0500	2430543	2430542
RSTNFN12BTCI0750	2430545	2430544
RSTNFN12BTCI1000	2430547	2430546
RSTNFN12BTCI1001	2430549	2430548
RSTNFN12BTCI1002	2430551	2430550
RSTNFN12BTCI1500	2430553	2430552
RSTNFN12BTCI2200	2430555	2430554
RSTNFN12BTCI2201	2430557	2430556
RSTNFN12BTCI2202	2430559	2430558
RSTNFN12BTCI3012	2430561	2430560
RSTNFN12BTCI3300	2430563	2430562
RSTNFN12BTCI3301	2430565	2430564
RSTNFN12BTCI4700	2430567	2430566
RSTNFN12BTCI4701	2430569	2430568

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RSTNFN12BTCI5601	2430571	2430570