



NAV 10, 16, 32, 64

MEGASTAR-OHM NAV series is a chip resistor array enabling high density SMD mounting. This array reduces PC board space requirement by 20% compared to individual chip resistors. Ideal for space critical applications such as disc drives, laptop computers, audio equipment and portable communications.

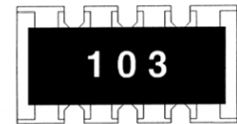
LEADFREE
RoHS Compliant

Features

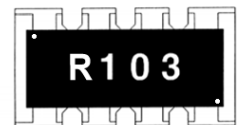
1. Thick film Uthenium Oxide Element
2. Multiple circuit types available.
3. Sqare corner construction
4. Zero ohm jumpers available in all sizes.
5. E24 & E96 standard values.

Marking

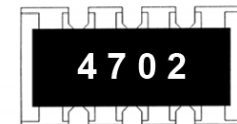
Standard Marking: 3 Digits
1%, 5% E24 & E96 Values



Optional Marking: 3 Digits
1%, 5% E24 & E96 Values



Standard Marking: 4 Digits
1% E96 Values



Performance Characteristics (Tested per MIL-STD-202)

Type	Rated power @ 70°C w/element	Maximum working voltage-V	Maximum overload voltage-V	Resistance Tolerance	Resistance Range E24 & E96 Series	Resistance temperature coefficient ppm/°C
NAV10-2D	0.031	25	50	±1%, ±5%	10Ω-1MΩ	±200
NAV10-4D	0.031	25	50	±1%, ±5%	10Ω-1MΩ	±200
NAV16-2D	0.063	50	100	±1%, ±5%	10Ω-1MΩ	±200
NAV16-4D	0.063	50	100	±1%, ±5%	10Ω-1MΩ	±200
NAV32-4D	0.125	200	400	±1%, ±5%	100Ω-100KΩ	±200
NAV32-8N/R	0.031	25	50	±1%, ±5%	33Ω-100KΩ	±200
NAV64-8N/R	0.063	50	100	±1%, ±5%	10Ω-100KΩ	±200

PART NUMBERING SYSTEM

NAV	16-4	D	—	XXX or XXXX	F	T	4
Type	Circuit Type	Resistance Tolerance	Packaging	Marking			
NAV	D Isolated N Common (bussed) R Reverse Common (bussed)	F ±1% J ±5% *Omit tolerance for jumper	B Bulk T Tape & Reel (paper carrier) TE Tape & Reel (plastic carrier) Please refer to packaging explanation on page 3	Nil 3 Digits Marking 1%, 5% E24 & E96 (Standard) 4 4 Digit Marking 1% E96 (Optional)			

Code	Dimensions	Elements	Resistance Value: 3 DIGIT CODE (5% Tolerance E24 xxx)							
10-2	1.0mm(L) x 1.0mm(W)	2 resistors	Code	100	101	102	103	104	105	000
10-4	2.0mm(L) x 1.0mm(W)	4 resistors	Values	10Ω	100Ω	1KΩ	10KΩ	100KΩ	1MΩ	JUMPER

First two digits are significant figures and third digit is number of zeros.
Letter "R" indicates decimal values under 100 ohms.

Code	Dimensions	Elements	Resistance Value: 4 DIGIT CODE (1% Tolerance E96 xxxx)						
16-2	1.6mm(L) x 1.6mm(W)	2 resistors	Code	10R0	1000	1001	1002	1003	1004
16-4	3.2mm(L) x 1.6mm(W)	4 resistors	Values	10Ω	100Ω	1K	10K	100K	1M

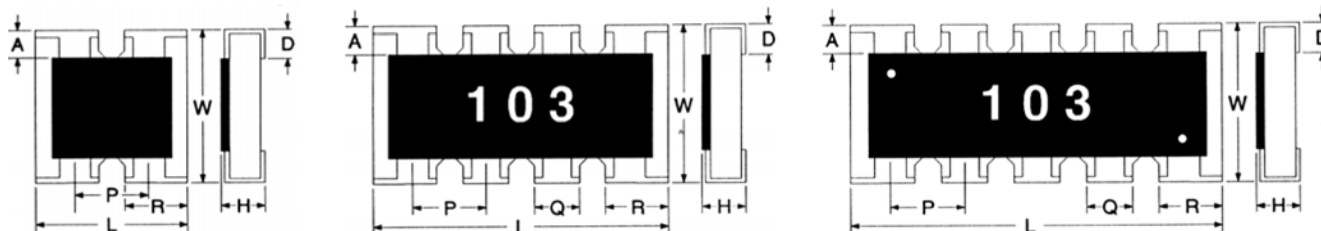
First three digits are significant figures and fourth digit is number of zeros.
Letter "R" indicates decimal values under 100 ohms.



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Dimensions



2 Resistors 4 Terminations (D)

4 Resistors 8 Terminations (D)

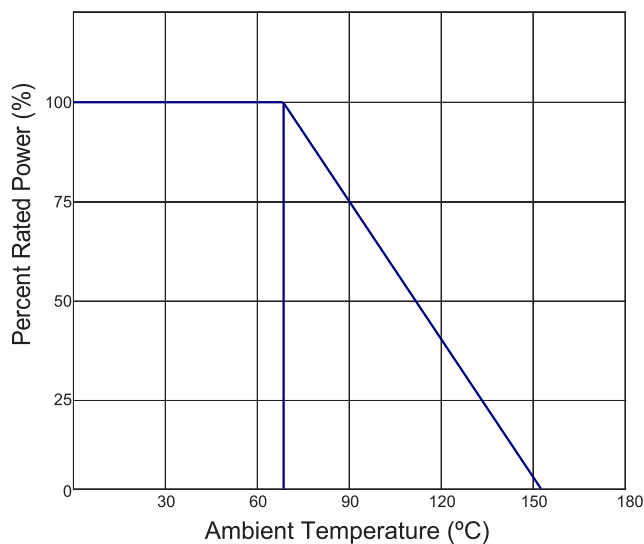
8 Resistors 10 Terminations (N/R)

Type	L	W	H	P*	Q	R	D	A	Circuit Schematic
	Body Length	Body Width	Body Height	Element Spacing* (reference only)	Termination Width	Termination Width	Bottom Termination	Top Termination	
NAV10-2D	1.0 ± 0.10	1.0 ± 0.10	0.35 ± 0.10	0.65	-	0.33 ± 0.05	0.25 ± 0.10	0.15	D
NAV10-4D	2.0 ± 0.20	1.0 ± 0.15	0.35 ± 0.10	0.50	0.30 ± 0.15	-	0.25 ± 0.10	0.15	D
NAV16-2D	1.6 ± 0.10	1.6 ± 0.10	0.50 ± 0.10	0.80	-	0.50 ± 0.10	0.25 ± 0.10	0.15	D
NAV16-4D	3.2 ± 0.20	1.6 ± 0.10	0.50 ± 0.10	0.80	0.40 ± 0.15	0.60 ± 0.15	0.25 ± 0.10	0.30	D
NAV32-4D	5.08 ± 0.20	3.1 ± 0.20	0.55 ± 0.10	1.27	0.80 ± 0.15	1.10 ± 0.15	0.30 ± 0.10	-	D
NAV32-8N/R	3.2 ± 0.20	1.6 ± 0.20	0.50 ± 0.10	0.64	0.34 ± 0.15	0.49 ± 0.15	0.25 ± 0.10	0.30	N or R
NAV64-8N/R	6.4 ± 0.20	3.2 ± 0.20	0.60 ± 0.10	1.27	0.90 ± 0.15	1.10 ± 0.15	0.50 ± 0.10	0.50 ± 0.15	N or R

Environmental Characteristics

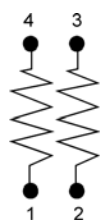
Description	Performance
Operating Temperature Range	-55°C to +155°C
Short Time Overload	±2.0% maximum
Terminal Strength	±1.0% maximum
Solder-Heat Resistance	±1.0% maximum
Solderability	95% min. coverage
Temperature Cycle	±1.0% maximum
Load Life in Moisture	±3.0% maximum
Load Life	±3.0% maximum
Test methods per EIA 575 and JIS C5202	

Derating Curve

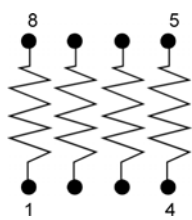


Circuit Diagram Schematics

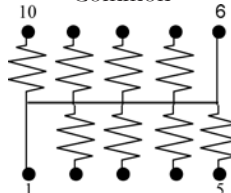
Isolated Circuit -2D



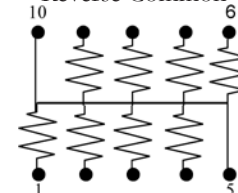
Isolated Circuit -4D



Bussed Circuit - N
Common



Bussed Circuit - R
Reverse Common





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Packaging Specifications: Inch (mm)

Features	NAV10-2D	NAV10-4D	NAV16-2D	NAV16-4D & 32-8	NAV32-4D & NAV64-8
A- Pocket Width	0.46±0.004 (1.17±0.10)	0.51±0.008 (1.30±0.20)	0.71±0.004 (1.80±0.10)	0.79±0.008 (2.00±0.20)	0.134±0.004 (3.40±0.10)
B- Pocket Length	0.46±0.004 (1.17±0.10)	0.91±0.008 (2.30±0.20)	0.71±0.004 (1.80±0.10)	0.142±0.008 (1.17±0.20)	0.220±0.004 (5.60±0.10)
P- Pocket Spacing	0.79±0.002 (2.00±0.05)	0.79±0.002 (2.00±0.05)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)
C- Pin Spacing	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)
D- Pin Diameter	0.06±0.004/-0 (1.5±0.1/-0)	0.06±0.004/-0 (1.5±0.1/-0)	0.06±0.004/-0 (1.5±0.1/-0)	0.06±0.004/-0 (1.5±0.1/-0)	0.06±0.004/-0 (1.5±0.1/-0)
F- Pin to Pocket C/L	0.138±0.002 (3.50±0.5)	0.138±0.002 (3.50±0.5)	0.138±0.002 (3.50±0.5)	0.138±0.002 (3.50±0.5)	0.217±0.002 (5.50±0.5)
W- Strip Width	0.315±0.008 (8.00±0.20)	0.315±0.008 (8.00±0.20)	0.315±0.008 (8.00±0.20)	0.315±0.008 (8.00±0.20)	0.472±0.008 (12.0±0.20)
T1- Strip Thickness	0.04 max. (1.0max.)	0.04 max. (1.0max.)	0.04 max. (1.0max.)	0.04 max. (1.0max.)	0.010±0.002 (0.25±0.05)
T2- Total Thickness	0.06 max. (1.4max.)	0.06 max. (1.4max.)	0.06 max. (1.4max.)	0.06 max. (1.4max.)	0.043 max. (1.10max.)
H- Reel Diameter	7.00±0.08 (178.0±2.0)	7.00±0.08 (178.0±2.0)	7.00±0.08 (178.0±2.0)	7.00±0.08 (178.0±2.0)	7.10+0/-0.12 (180+0/-3.0)
J- Hub Diameter	2.0 (50) approx.	2.0 (50) approx.	2.0 (50) approx.	2.0 (50) approx.	2.4+0.04/-0 (60+1.0/-0)
K- Hole Diameter	0.51±0.04 (13.0±1.0)	0.51±0.04 (13.0±1.0)	0.51±0.04 (13.0±1.0)	0.51±0.04 (13.0±1.0)	0.51±0.04 (13.0±1.0)
L- Key Diameter	0.83±0.04 (21.0±1.0)	0.83±0.04 (21.0±1.0)	0.83±0.04 (21.0±1.0)	0.83±0.04 (21.0±1.0)	0.83±0.04 (21.0±1.0)
M- Key Width	0.08±0.04 (2.0±1.0)	0.08±0.04 (2.0±1.0)	0.08±0.04 (2.0±1.0)	0.08±0.04 (2.0±1.0)	0.08±0.04 (2.0±1.0)
S- Steel Inside Width	0.53±0.08 (13.5±2.0)	0.53±0.08 (13.5±2.0)	0.53±0.08 (13.5±2.0)	0.53±0.08 (13.5±2.0)	0.35±0.01 (9.0±0.3)
T- Side Thickness	0.03±0.01 (0.8±0.2)	0.03±0.01 (0.8±0.2)	0.03±0.01 (0.8±0.2)	0.03±0.01 (0.8±0.2)	-
U- Reel Outside Thickness	-	-	-	-	0.45±0.04 (11.4±1.0)
Material	Paper	Paper	Paper	Paper	Embossed
Pieces/Reel	10,000	10,000	5,000	5,000	4,000
Pieces in Bulk	5,000	5,000	5,000	5,000	1,000

