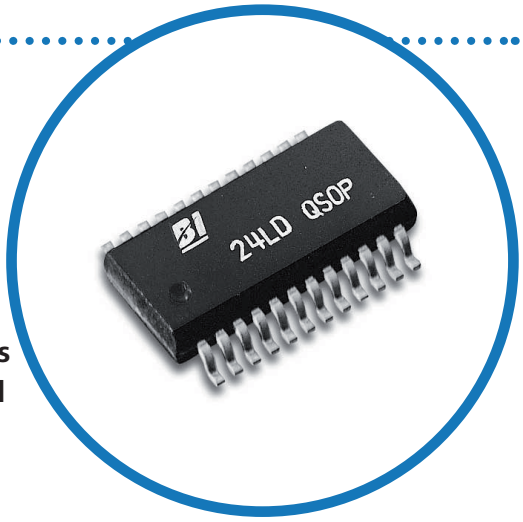
Nichrome Resistor Networks on Ceramic Substrates

NQS Series



- **.025" Pitch DIP**
- **Precision Thin Film**
- **Surface Mount**
- **Resistor Networks**
- **RoHS Compliant**
- **Unique passivation coating eliminates moisture concerns and allows for use in applications traditionally restricted to tantalum nitride**
- **Outperforms other thin film resistor materials providing excellent tolerances, ratio matching, temperature coefficient, and temperature tracking**
- **Improved performance over silicon substrates in stray capacitance, frequency response and stability**

Electrical

Operating Temperature Range	-55°C to +125°C
Resistance Voltco	≈0
Interlead Capacitance	<2pF
Operating Voltage, Maximum	100 Vdc or √PR
Insulation Resistance	≥10,000 Megohms
Noise, Maximum (MIL-STD-202, Method 308)	-40dB

Environmental

Thermal Shock plus Power Conditioning	ΔR 0.25%
Low Temperature Operation	ΔR 0.10%
Short Time Overload	ΔR 0.10%
Terminal Strength	ΔR 0.10%
Moisture Resistance	ΔR 0.20%
Mechanical Shock	ΔR 0.25%
Vibration	ΔR 0.25%
Low/High Temperature Storage	ΔR 0.10%
Load Life, 1,000 Hours	ΔR 0.10%
Resistance to Solder Heat	ΔR 0.10%
Dielectric Withstanding Voltage	100V for 1 minute
Temperature Exposure, Maximum	215°C for 3 minutes
Marking Permanency	per MIL-STD-202, Method 215
Lead Solderability	per MIL-STD-202, Method 208
Flammability	UL-94V-O Rated
Storage Temperature Range	-55°C to +125°C

Specifications subject to change without notice.

General Note

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Mechanical

Lead Plating	100% matte Tin (RoHS)
Lead Material	Copper Alloy
Lead Configuration	Gull Wing
Lead Coplanarity	0.004" (0.102mm)
Substrate Material	Alumina
Resistor Material	Nichrome
Body Material	Molded Epoxy

Tolerances

Accuracy Code	A	B	D	F	G	J
Absolute Resistance Tolerances, at 25°C	±0.1%	±0.1%	±0.5%	±1.0%	±2%	±5%
Ratio Matching (Matched to R1)	±0.05%	±0.1%	±0.1%	±0.5%	NA	NA
Temperature Coefficient of Resistance			±25ppm/°C (Q) ±50ppm/°C (P) ±100ppm/°C			
Temperature Coefficient of Resistance, Tracking			±5ppm/°C			

Standard Resistance Values, Ohms

NQS16A		NQS20A		NQS20B		NQS24A	
Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code
1K	1001	3K	3001	10K	1002	3K	3001
10K	1002	267K	2673	-	-	-	-
34K	3402	-	-	-	-	-	-
47K	4702	-	-	-	-	-	-
100K	1003	-	-	-	-	-	-

Power Dissipation, Watts At 70°C

Model	Package	Resistor
NQS16	0.8	0.1
NQS20	1.0	0.1
NQS24	1.0	0.1

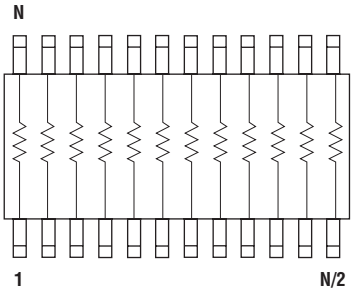
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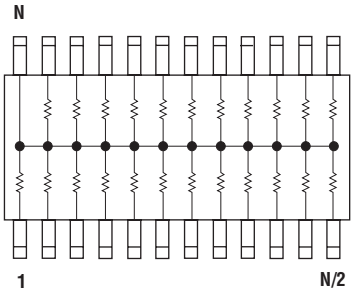
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Schematics

NQS16A, NQS20A, NQS24A
Isolated Resistors

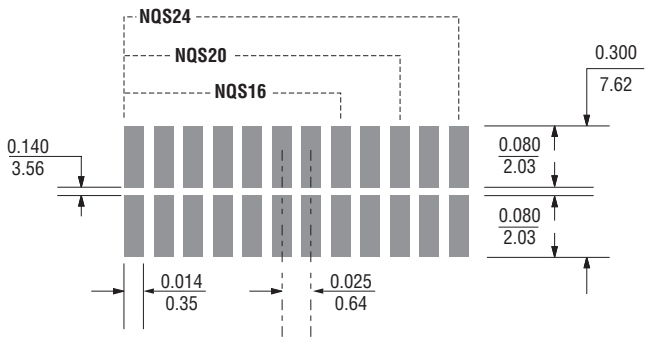


NQS16B, NQS20B, NQS24B
Bussed Resistors



Note: Model NQS16: N = 16 Leads, Model NQS20: N = 20 Leads,Model NQS24: N = 24 Leads.

Recommended Solder Pad Layouts

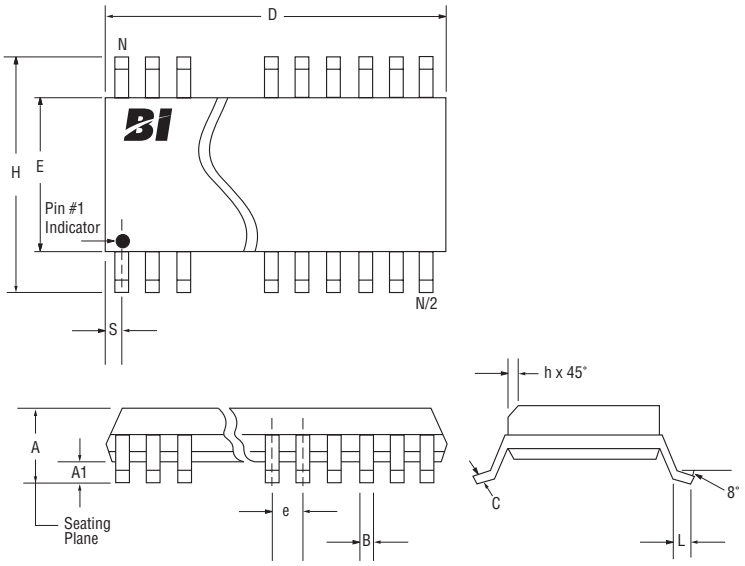


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Outline Dimensions (Inch/mm)



Model	NQS16	NQS20	NQS24
Dim. A (Max.)	0.068	0.068	0.068
	1.727	1.727	1.727
Dim. A1 (Max.)	0.008	0.008	0.008
	0.203	0.203	0.203
Dim. B (Max.)	0.012	0.012	0.012
	0.305	0.305	0.305
Dim. C (Max.)	0.0098	0.0098	0.0098
	0.249	0.249	0.249
Dim. D (Max.)	0.197	0.345	0.345
	5.004	8.763	8.763
Dim. E (Max.)	0.157	0.157	0.157
	3.988	3.988	3.988
Dim. e (Max.)	0.025	0.025	0.025
	0.635	0.635	0.635
Dim. H (Max.)	0.244	0.244	0.244
	6.198	6.198	6.198
Dim. h (Max.)	0.016	0.016	0.016
	0.406	0.406	0.406
Dim. L (Max.)	0.035	0.035	0.035
	0.889	0.889	0.889
Dim. S (Max.)	0.010	0.06	0.035
	0.254	1.524	0.889

Packaging

Standard:	Magazine All units oriented with lead #1 to the same side..		
Magazine:	Capacity =	100 Units (16 Leads) 50 Units (20 and 24 Leads)	
Option:	Embossed Tape & Reel (per EIA 481).		
Reel:	Diameter = Capacity =	7" Reel 1,000 Units	13" Reel 2,500 Units

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Ordering Information

NQS 24 A 1001 B P LF 13

Model Series

No. of Leads:
16 = 16 Leads
20 = 20 Leads
24 = 24 Leads

Circuit Type:
A = Isolated
B = Bussed

Resistance Code

Packaging Option:
7 = 7" Embossed Tape, 1K/Reel
13 = 13" Embossed Tape, 2.5K/Reel
(No code used for Magazines.)

Lead Finish:
LF = Lead Free (RoHS)

TCR Code:
P = ±50ppm/°C
Q = ±25ppm/°C
(No code used for ±100ppm/°C.)

Accuracy Code: Resistance Tol./Ratio
A = 0.1%/0.05%
B = 0.1%/0.1%
D = 0.5%/0.1%
F = 1.0%/0.5%
G = 2.0%/1.0%
J = 5.0%/1.0%

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