

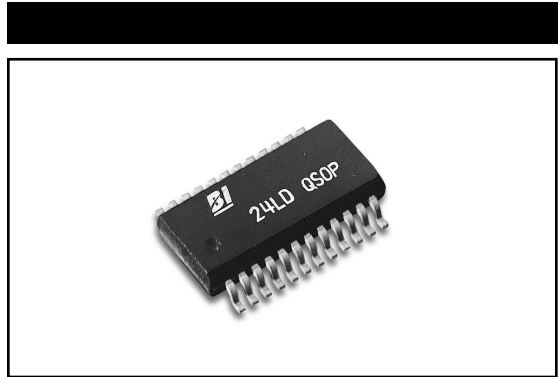
# MODEL NQS SERIES

.025" Pitch DIP

Precision Thin Film

Surface Mount

Resistor Networks



## FEATURES/BENEFITS

- **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-0 Rated
Storage Temperature Range	-55°C to +125°C

Specifications subject to change without notice.

**MECHANICAL**

Lead Plating	85/15 Tin Lead
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	B	D	F	G	J
Absolute Resistance Tolerances, at 25°C	0.1%	0.5%	1.0%	2%	5%
Ratio Matching (Matched to R1)	0.1%	0.1%	0.5%	1%	1%
Temperature Coefficient of Resistance			±25ppm/°C (Q)		
			±50ppm/°C (P)		
			±100ppm/°C		
Temperature Coefficient of Resistance, Tracking			±5ppm/°C		

**STANDARD RESISTANCE VALUES, OHMS**

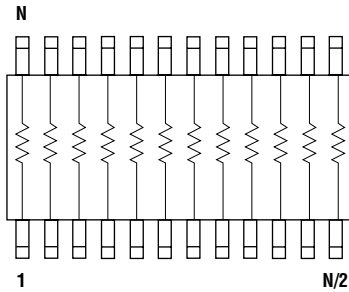
NQS16A		NQS20A		NQS20B		NQS24A	
Ohms	Code	Ohms	Code	Ohms	Code	Ohms	Code
1K	1001	3K	3001	10K	1002	3K	3001
10K	1002	267K	2673				
34K	3402						
47K	4702						
100K	1003						

**POWER DISSIPATION, WATTS AT 70°C**

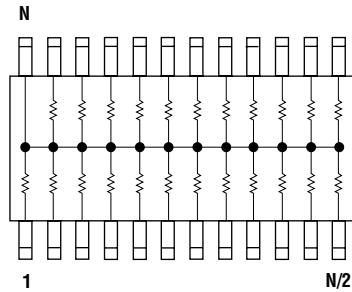
Model	Package	Resistor
NQS16	0.8	0.1
NQS20	1.0	0.1
NQS24	1.0	0.1

## SCHEMATICS

**NQS16A, NQS20A, NQS24A**  
Isolated Resistors

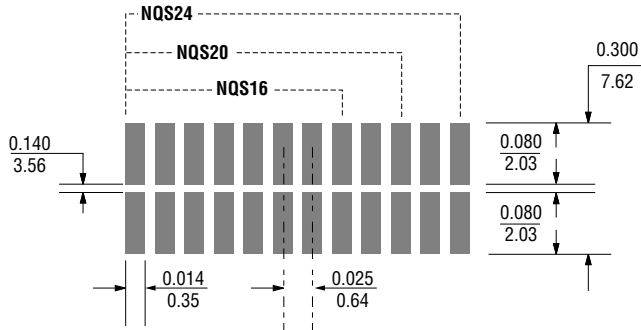


**NQS16B, NQS20B, NQS24B**  
Bussed Resistors

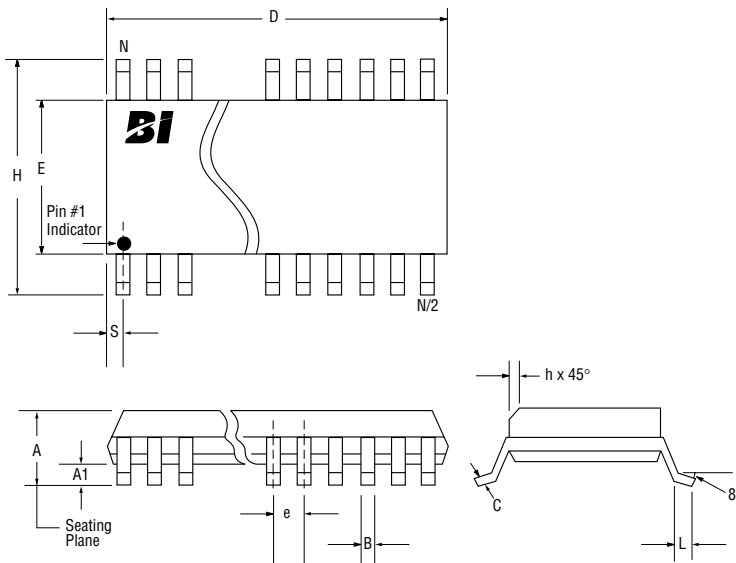


Note: Model NQS16: N = 16 Leads, Model NQS20: N = 20 Leads, Model NQS24: N = 24 Leads.

## RECOMMENDED SOLDER PAD LAYOUTS



## 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	<b>7" Reel</b>	<b>13" Reel</b>
	Capacity	= 1,000 Units	2,500 unit

## ORDERING INFORMATION

