Thin Film Resistor Networks
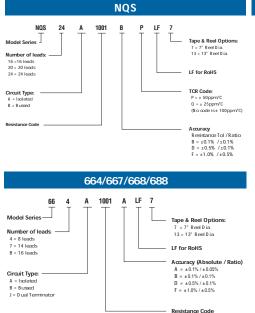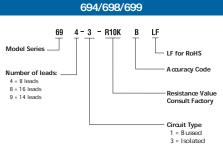
Ultra Precision
Thin Film - Ceramic
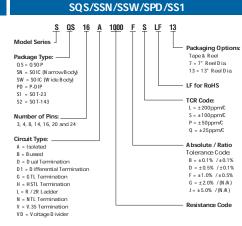
Model	NQS	664/667/668	688	694/698/699
Number of Leads	16/20/24	8/14/16	16	8/16/14
Available Circuit Type	A, B	A, B	A, B	-3, -1
Dimensions, Inches				
Body Length, Maximum	0.196/0.344/0.344	0.196/0.344/0.393	0.413	0.375/0.760/0.760
Height Off Board, Maximum	0.068	0.068	0.104	0.2
Body Style/Width	(QSOP) 0.157	(SOICN) 0.157	(SOICW) 0.300	(PDIP) 0.300
Resistance				
Range, Ohms	10 to 140K	10 to 275K	10 to 275K	10 to 275K
Tolerance (%)	±0.1	±0.1	±0.1	±0.1
Temp. Coefficient, ppm/°C	±25	±25	±25	±25
Temp. Coefficient Tracking, ppm/°C	±5	±5	±5	±5
Power Rating, Watts at 70°C				
Per Resistor	0.1	0.1	0.1	0.1
Per Package	NQS16 = 0.8 NQS20/24 = 1.0	664 = 0.4 667/668 = 0.8	1	694 = 0.4 698/699 = 0.6
Packaging Options				
Tubes	NQS20/24 = 56 NQS16 = 100	664 = 100 667/668 = 50	50	694 = 50 698/699 = 25
Tape & Reel: 7"	1000	664 = 1000 667/668 = 500	500	
Tape & Reel: 13"	2500	2500	1500	
Vial				

Ordering Information

NQS

NQS 24 A 1001 B P LF 7

Model Series
Number of leads:
16 = 16 leads
20 = 20 leads
24 = 24 leads

Circuit Type:
A = Isolated
B = Bussed

Resistance Code

Accuracy
Resistance Tol / Ratio
B = ±0.1% / ±0.1%
D = ±0.5% / ±0.1%
F = ±1.0% / ±0.5%

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

LF for RoHS

Tape & Reel Options:
7 = 7" Reel Dia.
13 = 13" Reel Dia.

664/667/668/688

66 4 A 1001 A LF 7

Model Series
Number of leads:
4 = 8 leads
7 = 14 leads
8 = 16 leads

Circuit Type:
A = Isolated
B = Bussed
J = Dual Terminator

Resistance Code

Accuracy (Absolute / Ratio)
A = ±0.1% / ±0.05%
B = ±0.1% / ±0.1%
D = ±0.5% / ±0.1%
F = ±1.0% / ±0.5%

LF for RoHS

Tape & Reel Options:
7 = 7" Reel Dia.
13 = 13" Reel Dia.

694/698/699

69 4 -3 - R10K B LF

Model Series
Number of leads:
4 = 8 leads
8 = 16 leads
9 = 14 leads

Circuit Type:
1 = Bussed
3 = Isolated

Resistance Value
Consult Factory

Accuracy Code

LF for RoHS

SQS/SSN/SSW/SPD/SS1

S QS 16 A 1000 F S LF 13

Model Series

Package Type:
QS = QSOP
SN = SOIC (Narrow Body)
SW = SOIC (Wide Body)
PD = P-DIP
S1 = SOT-23
S2 = SOT-143

Number of Pins:
3, 4, 8, 14, 16, 20 and 24

Circuit Type:
A = Isolated
B = Bussed
D = Dual Termination
D1 = Differential Termination
G = GTL Termination
H = HSTL Termination
L = R / 2R Ladder
N = NTL Termination
V = V.35 Termination
VD = Voltage Divider

Resistance Code

Absolute / Ratio
Tolerance Code:
B = ±0.1% / ±0.1%
D = ±0.5% / ±0.1%
F = ±1.0% / ±0.5%
G = ±2.0% / (N/A)
J = ±5.0% / (N/A)

TCR Code:
L = ±200ppm/°C
S = ±100ppm/°C
P = ±50ppm/°C
Q = ±25ppm/°C

LF for RoHS

Packaging Options:
Tape & Reel
7 = 7" Reel Dia
13 = 13" Reel Dia

Precision Thin Film - Silicon

SQS	SSN	SSW	SPD	SS1
16, 20, 24	8, 14, 16	16, 18, 20	8, 14, 16	3
A, B, D, D1, G, H, L, N, V	A, B, D, D1, L, N, V	A, B, D, D1, L, V	A, B, L	VD
0.196/0.344/0.344	0.196/0.344/0.393	0.406/0.459/0.506	0.375/0.760/0.760	0.119
0.068	0.068	0.104	0.2	0.044
(QSOP) 0.157	(SOICN) 0.157	(SOICW) 0.300	(PDIP) 0.300	(SOT23) 0.096
10 to 250k	10 to 250k	10 to 250k	10 to 250k	1k to 50k
±0.1	±0.1	±0.1	±0.1	±0.1
±25	±25	±25	±25	±25
±5	±5	±5	±5	±5
0.1	0.1	0.1	0.1	0.1
SQS16 = 0.8 SQS20/24 = 1.0	SSN8 = 0.4 SSN14/16 = 0.8	1.0	SPD8 = 0.4 SPD14/16 = 0.6	0.2
SQS16 = 100 SQS20/SQS24 = 50	SSN8 = 100 SSN14/SSN16 = 50	50	SPD8 = 50 SPD14/SPD16 = 25	
1000	SSN8 = 1000 SSN14/16 = 500	500		
2500	2500	1500		
				500

Schematics

Isolated Resistors

Resistance Code: First 3 digits are significant. Fourth digit denotes number of trailing zeros

Bussed Resistors

Resistance Code: First 3 digits are significant. Fourth digit denotes number of trailing zeros

Dual Terminator/SCSI
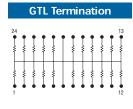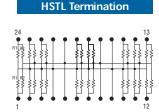

Resistance Code (R1/R2w): 01 = 220/330

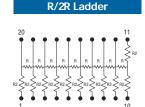### Differential Ended SCSI Termination

Resistance Code (R1/R2/R1w): 01 = 330/150/330

GTL Termination

Resistance Code: First 3 digits are significant. Fourth digit denotes number of trailing zeros
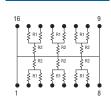
HSTL Termination

Resistance Code (R1/R2w):
01 = 94/94, 02 = 100/100, 03 = 112/112, 04 = 136/136

R/2R Ladder

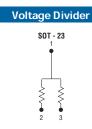Resistance Codes w : 01 = 25k/50k, 02 = 10k/20k, 03 = 50k/100k

NTL Termination

Resistance Codes (R1/R2w): 01 = 22/90

V.35 Termination

Resistance Codes (R1/R2w): 01 = 50/125

Voltage Divider

SOT - 23

Consult Factory for resistance codes