#### **ISOLATED RESISTOR NETWORK-**-RN′

#### Product Description

The RN-1 is an isolated resistor network designed to offer a highly integrated and stable resistor network for general-purpose applications. Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature coefficient of resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components



Viking

#### Power Derating



Packing T=Tube

Pin Count QSOP =16,20,24 Pin NB SOP = 8,14,16 Pin

QS=QSOP

Package Type

Ratio Tolerance - Tolerance Value Code - Product Code

NB=Narrow Body SOP TCR

#### **F**eatures -Reliable TaN thin-film-on-silicon technology

- -8, 10,12 terminating lines per package
- -PCB board space saving, assembly cost reduction

#### **Applications**

- -Series termination
- -Parallel termination
- Digital pulse squaring
- -Coding and decoding
- Telemetry

## Specifications



#### How to Order

Description	Standard	Nor	n-Stand	ard <sup>1</sup>	RN1 102 J X H QS 24 T
Abs. Tolerance code	J	D	F	G	
Absolute Tolerance (R)	±5%	±0.5%	±1%	±2%	
Ratio Tolerance cade	Х	R	Q	Р	
Ratio Tolerance (R)	No Ratio Tol.	±0.1%	±0.2%	±0.5%	
TCR code	Н	Α	В	С	QS=
TCR (ppm/°C)	±100	±75	±50	±25	
TTCR (ppm/°C)	±25		±5, ±10		Ĩ     <u> </u>
Power Rating / Resistor	0.1	100 watt f	or $\leq 1K$		
@Ta=70℃	0.0	)25 watt f	for $> 1K$		
Maximum Operating Voltage		50V	r		-
Minimum Insulation Resistance		10,000	MΩ		Note 1: A Non-Recurring Engineering
<b>Operation Temperature</b>		-55°C ~	<b>125°</b> ℃		size may apply for all fully customized
Storage Temperature		-65°C ~ ′	<b>150</b> ℃		requirements.

#### Standard Resistance Values

Resistance ( $\Omega$ )	10	22	33	39	47	51	68	220	330	470	510	680	1K	2.2K	4.7K	10K	20K	50K	100K
Correspondent Value Code	100	220	330	390	470	510	680	221	331	471	511	681	102	222	472	103	203	503	104

#### Standard Packages

	Pin No.	Ea.tube
	16	100
QSOP	20	50
	24	50
	8	100
N/B SOP	14	50
	16	50

#### **Options**

Viking is capable of supply following options based on customer's

$\rightarrow$	TSSOP 20,24 Pin
$\rightarrow$	<b>10~100Κ</b> Ω
$\rightarrow$	Wafer form
	$\rightarrow$ $\rightarrow$ $\rightarrow$

# **BUSSED RESISTOR NETWORK—RN2**

# Viking

#### **Product Description**

eatures

standards

**Applications** 

-Pull up / pull down

-Parallel termination

Digital pulse squaring
 Coding and decoding

The RN-2 is a bussed resistor network designed to offer a highly integrated and stable resistor network for general-purpose applications. Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature coefficient of resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components



#### P<mark>ower Derating</mark>



Description	Standard	No	-Standa	ird <sup>1</sup>	<u>RN2 102 J X H</u>
Abs. Tolerance code	J	D	F	G	
Absolute Tolerance (R)	<b>±5</b> %	±0.5%	±1%	<u>+</u> 2%	
Ratio Tolerance cade	Х	R	Q	Р	
Ratio Tolerance (R)	No Ratio Tol.	±0.1%	±0.2%	±0.5%	
TCR code	Н	А	В	С	
TCR (ppm/°C)	±100	±75	±50	±25	
TTCR (ppm/°C)	±25		±5, ±10	<u>.</u>	1   <u> </u>
Power Rating / Resistor	0.	100 watt f	or $\leq 1K$		
@Ta=70℃	0.	025 watt f	or >1K		
Operation Temperature		-55℃ ~ ′	<b>125</b> ℃		Note 1: A Non-Recu
Storage Temperature		-65℃ ~ ^	<b>150</b> ℃		(NRE) cnarge and a min may apply for all requirements.

## Standard Specifications

-Reliable TaN thin-film-on-silicon technology

-Ultra-miniature package complies to JEDEC

-Multiple resistors tied to a common mode

#### Standard Resistance Values

Resistance ( $\Omega$ )	100	220	270	330	390	470	1K	1.5K	2K	2.2K	4.7K	10K	100K
Correspondent value Code	101	221	271	331	391	471	102	152	202	222	472	103	104

#### <mark>S</mark>tandard Packages

	Pin No.	Ea.tube
	16	100
QSOP	20	50
	24	50
	8	100
N/B SOP	14	50
	10	50

#### S<mark>chematic</mark>

≩ ≩

n = Number of Pins

≷

pin # n

9

pin # 1

# How to Order



#### **Options**

Viking is capable of supply following options based on customer's

demand		
Packages	$\rightarrow$	TSSOP 20,24 Pin
Resistance Variation	$\rightarrow$	<b>10~100Κ</b> Ω
Packing	$\rightarrow$	Wafer form

#### **DUAL THEVENIN TERMINATION NETWORK—RN3** Viking

#### Product Description

The RN-3 is an integrated dual Therein termination network designed to eliminate transmission line effects on high-speed data lines. SCSI (Small Computer Systems Interface) is a bus interface covered by an ANSI Standard that allows for peripheral devices to be connected in a daisy chain and communicate with the host processor Fast edge signals transmitted through the SCSI cable can generate ringing on the bus that can slow down communication between the host and peripherals. The SCSI standard recommends Therein termination at the host and peripheral locations to eliminate these transmission line effects.

Proper resistor termination requires a resistor whose value closely matches the characteristic impedance of the transmission line. Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature Coefficient of Resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components.



#### **F**eatures

- -Proven TaN thin-film-on technology
- -Saves board space and reduces assembly cost -Ultra-miniature package complies to JEDEC standards

#### **Applications**

- Therein termination
- -SCSI termination
- -SCSI Buss device
- -Pull UP / pull down

#### Specifications<sup>1</sup>

Description					
Description		values			
Tolerance code	F	G	J		
Absolute Tolerance (R)	±1%	±2%	<b>±5</b> %		
TCR (ppm/°C)	±50	±100	±100		
TTCR (Typical)	<b>±25ppm/°</b> ℃				
Power Rating / Resistor	0.100 wett				
@Ta=70℃		). 100 wa	u		
Maximum Operating Voltage	50V				
Operation Temperature	-55	5℃ ~ <b>12</b>	5℃		
Storage Temperature	-65°C ~ 150°C				
Note 1: A Non-Recurring Enginee minimum order/lot size may appl requirements.	ring (NR y for all	E) charg fully cu	e and a stomized		

#### Resistance Values

Resistance ( $\Omega$ )	Correspondent Value Code
R1=220, R2=330	R1=221, R2=331

#### Standard Packages

	Pin No.	Ea.tube
QSOP	16	100
N/B SOP	16	50





#### Power Derating



#### How to Order



#### **Options**

Viking is capable of supply following options based on customer's demand Packing

Wafer form

# SCSI DIFFERENTIAL TERMINATOR—RN4

#### **Product Description**

The RN-4 is a Small Computer System Interface (SCSI) compliant termination network that provides the mechanical, electrical, and functional requirements for an input/output bus to connect small computers with a variety of peripheral devices. The most common application of this bus is to connect small computers with disk drive (mass storage) units. The RN-4 provides 7 or 9 sets of three-resistor terminator configuration for the differential-line version of the SCSI bus in just one package, which saves board space and reduced assembly costs by replacing 21 or 27 discrete components.

Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature Coefficient of Resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components

Schematic

#### **F**eatures

- -Reliable TaN thin-film-on-silicon technology
- -SCSI Termination
- -18 terminating lines / package

#### **Applications**

-Differential SCSI termination

-SCIS Buss devices

	19 0		17		15 0		13 0		11 0
Rl		× I	× I	N N	N N	N N			
R2	$\mathbb{N}$	×	×	N I	W I	₩ ₩	$\mathbb{N}$	$\mathbb{N}$	N I
R1	×			1×	×		×		
	$O_2$	6 3		0 5	6	$\mathbf{O}_{1}$	$\mathbf{O}_{8}$	0 9	0

Power Derating



#### Specifications<sup>1</sup>

Description	Values			
Tolerance code	F	G	J	
Absolute Tolerance (R)	±1%	±2%	<b>±5</b> %	
TCR (ppm/°C)	±50	±100	±100	
TTCR (Typical)	<b>±25ppm/</b> ℃			
Power Rating / Resistor		++		
@Ta=70℃	0.100 wall			
Maximum Operating Voltage	50V			
Operation Temperature	-55℃ ~ 125℃			
Storage Temperature-65°C ~ 150°C			D°C	
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.				

#### R<mark>esistance Values</mark>

Resistance ( $\Omega$ )	Correspondent Value Code
R1=330, R2=150	R1=331, R2=151

#### <mark>S</mark>tandard Packages

	Pin No.	Ea.tube
QSOP	20	50

#### How to Order



#### Options

Viking is capable of supply following options based on customer's demand

Packages	$\rightarrow$	TSSOP 20 Pin
Packing	$\rightarrow$	Wafer form



# SCSI DIFFERENTIAL TERMINATOR—RN5

#### **Product Description**

The RN-5 is a Small Computer System Interface (SCSI) compliant termination network that provides the mechanical, electrical, and functional requirements for an input/output bus to connect small computers with a variety of peripheral devices. The most common application of this bus is to connect small computers with disk drive (mass storage) units. The RN-5 provides 7 or 9 sets of three-resistor terminator configuration for the differential-line version of the SCSI bus in just one package, which saves board space and reduced assembly costs by replacing 21 or 27 discrete components.

Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature Coefficient of Resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components

**S**chematic

R2

#### eatures

- Proven TaN thin-film technology
- -QSOP available
- -SCSI termination

#### **Applications**

- -Differential SCSI termination
- -SCSI Buss devices

Specifications<sup>1</sup>

Description	Values				
Tolerance code	F	F G J			
Absolute Tolerance (R)	±1% ±2% ±5				
TCR (ppm/°C)	±50 ±100 ±				
TTCR (Typical)	<b>±10</b> , <b>±25ppm/</b> °C				
Power Rating / Resistor	0.100		++		
@Ta=70℃	0.100 watt				
Maximum Operating Voltage	50V				
Operation Temperature	-55℃ ~ 125℃				
Storage Temperature -65°C ~ 150°C			O°C		
Note 1: A Non-Recurring Enginee minimum order/lot size may appl requirements.	ering (NR ly for all	E) charg fully cu	e and a istomized		
Posistanos Valuos					

#### Resistance Values

Resistance ( $\Omega$ )	Correspondent Value Code
R1=330, R2=150	R1=331, R2=151

#### <mark>S</mark>tandard Packages

	Pin No.	Ea.tube
QSOP	16	100

#### 

Power Derating



### How to Order



#### Options

Packing

Viking is capable of supply following options based on customer's demand

→ Wafer form



Viking

# **R/2R LADDER NETWORKS—RA1**

#### **Product Description**

The R/2R Ladder Network is commonly used for Digital to Analog (D/A) conversions and Analog to Digital (A/D) conversion by successive approximations. The bits of the lassoer are the points at which input signals are presented to the ladder and the output terminal (OUT) is the point at which the output is taken from the R/2R ladder. This terminal (OUT) is commonly used to drive an operational amplifier. The terminating resistor is always connected to ground.

Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature Coefficient of Resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components.

#### eatures

- -1:2 ratio for resistor ladder
- -Proven TaN thin-film technology
- -QSOP available

#### **Applications**

- -D/A converters
- -A/D converters



# Power Derating NB SOP 1 0.80 NATTS OSÓF



#### Specifications<sup>1</sup>

Description		Values		
Tolerance code	F G J			
Absolute Tolerance (R)	±1%	±2%	<b>±5</b> %	
TCR (ppm/°C)	±50	±100	±100	
TTCR (Typical)	<b>±25ppm/</b> ℃			
Power Rating / Resistor	0.100 wott			
<b>@Ta=70</b> ℃	0.100 wall		u	
Maximum Operating Voltage	50V			
Operation Temperature	-55℃ ~ 125℃		5℃	
Storage Temperature -65°C ~ 150°C		C°C		
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.				

# How to Order



RA1=R/2R Ladder

#### Resistance Values

Resistance ( $\Omega$ )	Correspondent Value Code
R1=10K, R2=20K	R1=103, R2=203
R1=25K, R2=50K	R1=253, R2=503

#### Standard Packages

	Pin No.	Ea.tube
QSOP	16	100

#### Options

Viking is capable of supply following options based on customer's demand

Resistance Variation	$\rightarrow$	<b>10~10Κ</b> Ω
Packing	$\rightarrow$	Wafer form



Viking

# **HIGH PERFORMANCE GTL/ECL**

# **TERMINATION NETWORK—RA2**

#### **Product Description**

The RA-2 is a high performance bus termination network ideal for high speed bus termination applications. The RA-2 meets all intel<sup>®</sup> Pentium termination specifications as well as the termination requirements of other high-speed microprocessors such as the DEC Alpha, Motorola PowerPC, SGI MIPS, and Sun SPARC. A 300-line termination solution can be achieved with just 14 RA-2 networks. A terminating resistor is used to eliminate unwanted transmission line effects such as ringing, overshoots and undershoots on printed circuit board traces, and/or provide DC pull-up/pull-down. Proper resistor termination requires a resistor whose value closely matches the characteristic impedance of the transmission line. Thin film networks offer significant advantages over conventional thick film processes in terms of tighter absolute and ratio tolerances, greater stability, lower noise, and Temperature Coefficient of Resistance (TCR). Furthermore, they offer superior high frequency performance with minimal parasitic inductance and capacitance. Integrated thin film networks also afford the benefits of board space savings, reduced assembly costs, and increased reliability with fewer components.



#### **F**eatures

- -22-Line high-speed termination
- -Stable thin-film-on-silicon technology
- -Miniaturized package as QSOP

#### **Applications**

- -Servers, Desktops & mobile
- -Computing Devices
- -High speed microprocessor system termination

Description

Power Rating / Resistor @Ta=70°C

Package Power Rating @ Ta=70°C

Note 1: A Non-Recurring Engineering (NRE) charge and a minimum

Maximum Operating Voltage

**Operation Temperature** 

-GTL / ECL Termination

Specifications<sup>1</sup>

TTCR (Typical)

TCR

Absolute Tolerance (R)

#### Schematic

#### pin # 24



#### Power Derating



#### How to Order



# order/lot size may apply for all fully customized requirements.

Storage Temperature

Resistance ( $\Omega$ )	33	47	50	56	68	75	90
Correspondent Value Code	330	470	500	560	680	750	900

Values

**±2% ±5**%

±100ppm/°C

**±25ppm/°**C

0.100 watt

1.00watt / QSOP

50V

-55°C ~ 125°C

-65°C ~ 150°C

#### Standard Packages

	Pin No.	Ea.tube
QSOP	24	50

#### Options

Viking is capable of supply following options based on customer's demand

Packages	$\rightarrow$	TSSOP 24 Pin
Resistance Variation	$\rightarrow$	<b>10~10Κ</b> Ω
Packing	$\rightarrow$	Wafer form

# **NTL TERMINATOR** —RA3

### **Product Description**

**F**eatures

-6-Line NTL termination

**Applications** 

-NTL, GTL systems

Specifications<sup>1</sup>

-Stable thin-film-on-silicon technology

-Ultra-miniature 16-pin QSOP package

-High-speed transceiver bus termination

- Ideal for space-constrained applications

The NTL Terminator is designed for terminating high speed bus lines where NTL (NMOS) Transceiver Logic) and other high-speed system devices are employed. R1 and R2 value are selected according to standard requirements. Fabricated with Tantalum Nitride on Silicon, these resistors feature excellent stability, TCR and Tracking Performance. The NTL Terminator is packaged in a 16-pin QSOP package offering exceptional functional density for space-constrained applications.

R1

Schematic Schematic

1:

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Viking



AMBIENT TEMPERATURE( °C )

Description	Values		
Tolerance code	F	G	J
Absolute Tolerance (R)	±1%	±2%	<b>±5</b> %
TCR (ppm/°C)	±50	±100	±100
TTCR (Typical)	<b>±25ppm/</b> ℃		
Power Rating / Resistor	0.400		
@Ta=70℃	0.100 wall		.L
Maximum Isolation Resistance	<b>10000meg</b> Ω		
Maximum Operating Voltage	50V		
Operation Temperature $-55^{\circ}$ C~ $125^{\circ}$ C		5℃	
Storage Temperature -65°℃ ~ 150°℃		Ŋ℃	
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum			
order/lot size may apply for all fully cus	stomized re	equiremer	nts.

## How to Order

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#### Resistance Values

Resistance ( $\Omega$ )	Correspondent Value Code
R1=22K, R2=90K	R1=220, R2=900

#### Standard Packages

	Pin No.	Ea.tube
QSOP	16	100
N/B SOP	16	50

#### **O**ptions

Viking is capable of supply following options based on customer's demand Packing Wafer form

# **TERMINATION NETWORK FOR NETWORKING**

# **APPLICATIONS—RA4**

#### **Product Description**

The **RA-4** is a high performance termination network that ensures proper signal integrity between transmitter and receiver sections of the ITU-T V.35 communications protocol interface. The RA-4 is configured as a T or delta network for termination at the generator and receiver ends of the V.35 interface.



Viking

#### Features

- Proven TaN thin-film technology
- -Meets IUT-T V.35 termination specification
- Separate ground for transmit terminations
- Version for receiver input impedance compensation

#### Applications

- IUT-T V-.35 termination in communications equipment

#### Specifications<sup>1</sup>

Description	Values		
Tolerance code	F	G	J
Absolute Tolerance (R)	±1%	<u>+</u> 2%	<b>±5</b> %
TCR (ppm/°C)	±50	±100	±100
TTCR (Typical)	<b>±25ppm/</b> °C		
Power Rating / Resistor @Ta=70° $\mathbb C$	0.100 watt		
Maximum Operating Voltage	50V		
Operation Temperature-55°C ~ 125°C			
Storage Temperature-65°C~ 150°C			
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.			



#### Power Derating





#### Resistance Values

Rs Value Code	R1 Value ( $\Omega$ )	<b>R2 Value</b> ( $\Omega$ )	R3 Value ( $\Omega$ )	R4 Value ( $\Omega$ )
CO1	50	125	50	125
CO2	50	125	515	124

#### <mark>S</mark>tandard Packages

	Pin No.	Ea.tube
QSOP	20	50

#### **O**ptions

Packing

Package

Viking is capable of supply following options based on customer's demand

 $\rightarrow$  Wafer form

TSSOP 20 pin

# V.35 "STAR" TERMINATOR —RA5

## **Product Description**

The V.35 Terminator is used to terminate fax modem lines according to the V.35 standard. Two alternative termination configurations exit: 'Star' and 'Delta'. These electrically equivalent circuits both fulfill the V.35 standard specifications.

Fabricated with Tantalum Nitride on Silicon, these termination resistors feature excellent stability, TCR and tracking performance. The JEDEC standard miniature QSOP package offers the most space efficient V.35 Terminator array available

Schematic

#### **F**eatures

- -Proven TaN Thin-film technology
- -Multiple V.35 termination resistors
- Stable thin-film-on-silicon technology
- Ultra-miniature package complies to JEDEC
  Standards

#### **Applications**

- -Line Termination to V.35 standard
- Ideal for space-constrained applications
- -Specified for modem

# 



Viking



|--|

Description	Values		
Tolerance code	F	G	J
Absolute Tolerance (R)	±1%	<u>+</u> 2%	<b>±5</b> %
TCR (ppm/°C)	±50	±100	±100
TTCR (Typical)	<b>±25ppm/</b> °C		
Power Rating / Resistor	0.100 wott		
@Ta=70℃	0.100 wall		.L
Maximum Operating Voltage	50V		
Operation Temperature	-55℃ ~ 125℃		
Storage Temperature-65℃ ~ 150℃			℃
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.			

#### R<mark>esistance Values</mark>

Rs Value	R1 Value	R2 Value
Code	(ohms)	(ohms)
CO1	50	125

#### Standard Packages

	Pin No.	Ea.tube
QSOP	16	100
N/B SOP	16	50

#### How to Order





Viking is capable of supply following options based on customer's demand Packing  $\rightarrow$  Wafer form

TEL: 886-3-5972931 FAX: 886-3-5973494 E-mail: Sales@ Viking.com.tw URL:http//www.viking.com.tw

# V.35 "DELTA" TERMINATOR -RA6

#### **Product Description**

The V.35 Terminator is used to terminate fax modem lines according to the V.35 standard. Two alternative termination configurations exit: 'Star' and 'Delta'. These electrically equivalent circuits both fulfill the V.35 standard specifications.

Fabricated with Tantalum Nitride on Silicon, these termination resistors feature excellent stability, TCR and tracking performance. The JEDEC standard miniature QSOP package offers the most space efficient V.35 Terminator array available

Schematic

#### **F**eatures

- -Proven TaN Thin-film technology
- -Multiple V.35 termination resistors
- -Stable thin-film-on-silicon technology
- -Ultra-miniature package complies to JEDEC Standards

#### Applications

- -Line Termination to V.35 standard
- Ideal for space-constrained applications
- -Excellent for modem communication





Viking



## Specifications<sup>1</sup>

Description	Values		
Tolerance code	F	G	J
Absolute Tolerance (R)	±1%	<u>+</u> 2%	<b>±5</b> %
TCR (ppm/°C)	±50	±100	±100
TTCR (Typical)	<b>±25</b> ppm/℃		
Power Rating / Resistor	0.100		
@Ta=70℃	0.100 watt		.l
Maximum Operating Voltage	50V		
Operation Temperature	-55℃ ~ 125℃		
Storage Temperature	-65°C ~ 150°C		
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.			

#### Resistance Values

Resistance ( $\Omega$ )	Correspondent Value Code
R1=330, R2=120	R1=331, R2=121

#### Standard Packages

	Pin No.	Ea.tube
QSOP	16	100
N/B SOP	16	50

## How to Order



RA6=V.35 Delta Terminator

#### Options

Viking is capable of supply following options based on customer's demand **Resistance Variation 10~500**Ω Packing Wafer form



# HSTL DUAL TERMINATOR -RA7

### **Product Description**

The HSTL Dual Terminator is designed primarily for terminating bus lines in HSTL systems (High-Speed-Transceiver-Logic). Resistor values have been selected for that the therein impedance, i.e. the parallel combination of R1 and R2, will match the most common line-termination impedances associated with such systems. Fabricated with tantalum Nitride on Silicon, these resistors feature excellent stability, TCR and tracking performance. The HSTL Dual Terminator is packaged in a 24pin QSOP package offering exceptional functional density for space constrained applications



Viking

#### **F**eatures

- 16-Line Thevenin termination
- -Stable thin-film-on-silicon technology
- Ultra-miniature package complies to JEDEC
  Standards

#### **Applications**

- -High-speed bus termination
- -Designed for HSTL Systems
- Ideal for space-constrained applications

#### Specifications<sup>1</sup>

Description	Values		
Tolerance code	F	G	J
Absolute Tolerance (R)	±1%	±2%	<b>±5</b> %
TCR (ppm/°C)	±50	±100	±100
TTCR (Typical)	<b>±25ppm/°</b> ℃		
Power Rating / Resistor	0.100 watt for $\leq 1k$		
@Ta=70℃	0.025watt for >1k		
Maximum Operating Voltage	50V		
Operation Temperature	-55℃ ~ 125℃		
Storage Temperature	-65°C ∼ 150°C		
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.			

#### Resistance Values

Rs Value Code	R1 Value (ohms)	R2 Value (ohmS)	RT Value (ohms)
CO1	94	94	47
CO2	100	100	50
CO3	112	112	56
CO4	136	136	68

#### Standard Packages

	Pin No.	Ea.tube
QSOP	24	50

#### Schematic



# 1.0 QSOP 16

25

#### 50 75 100 125 150 AMBIENT TEMPERATURE(℃)

#### How to Order



#### **O**ptions

Viking is capable of supply following options based on customer's demand

Package	$\rightarrow$	TSSOP 24 pin
Packing	$\rightarrow$	Wafer form

TEL: 886-3-5972931 FAX: 886-3-5973494 E-mail: Sales@ Viking.com.tw URL:http//www.viking.com.tw