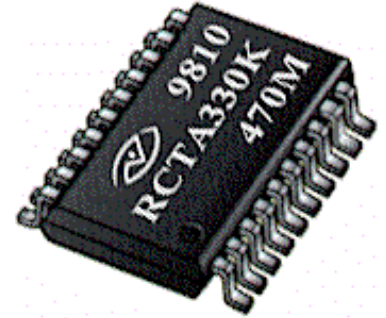


## Product Description

The RCT-A is an integrated AC termination network designed to eliminate or reduce unwanted transmission line effects on high-speed signal lines. AC termination provides an alternative termination strategy over series or parallel termination where power consideration is a concern since DC current is blocked by the capacitor. The RCT-A series has been upgraded to the ACT-A which is recommended for all new designs.

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.



## Features

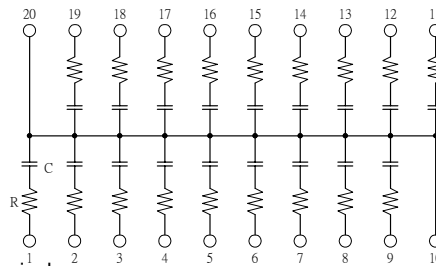
- 18 termination lines per package
- $\pm 10\%$  absolute tolerance (R)
- $\pm 20\%$  absolute tolerance (C)
- 20-pin QSOP package

## Applications

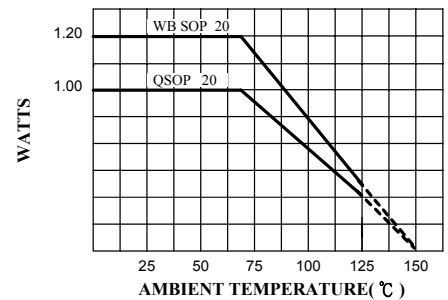
- AC termination
- Low pass filtering

Refer to website for complete datasheet and technical

## Schematic



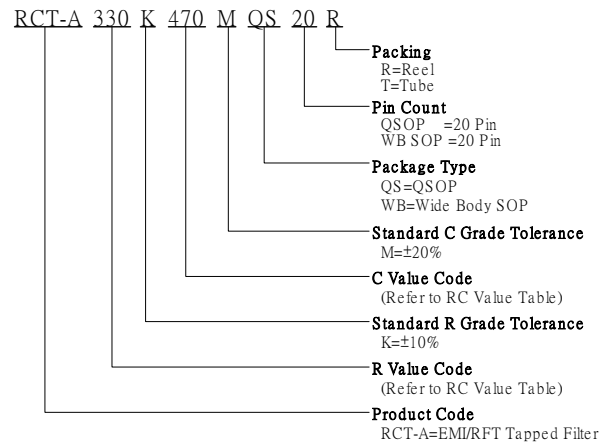
## Power Derating



## Standard Specifications

Description	Values
Absolute Tolerance(R)	$\pm 10\%$
Absolute Tolerance(C)	$\pm 20\%$
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.0 watt / QSOP 1.20 watt / WB SOP
Operation Temperature	-55°C ~ 125°C
Storage Temperature	-65°C ~ 150°C

## How to Order



## Standard Resistance Values

R Value (ohms)	C Value (pF)	BV (Typ)
33	47	134
47	47	134
47	33	191
50	180	35
75	50	126
100	100	63

$\neq$  With 0 source impedance.

\*Concert R,C value to code as

R,C value	Value Code
33Ω	330(=33*10 <sup>0</sup> Ω)
47 pF	470(=47*10 <sup>0</sup> pF)

## Standard Packages

	Pin No.	Ea.tube
QSOP	20	50

## Options

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

- Packages → TSSOP 24 Pin
- Resistance Variation → 10~470 Ω
- Capacitance Variation → 15~220 pF
- Packing → Wafer form

## Product Description

The RCT-B is an IEEE 1284 compliant termination network that provides complete pull-up, series termination, and EMI filtering for an ECP/EPP parallel port. The RCT-B provides a complete parallel port termination solution in just two packages, which saves board space and reduced assembly costs by replacing 54 discrete components.

Advanced, high-speed parallel ports conforming to the IEEE 1284 standard are used to provide communications between the host computer and external devices such as printers, tape back-up drives, ZIP drives, parallel port SCSI adapters, external LAN adapters, scanners, and other PC peripherals. These advanced ports support bi-directional data transfer rates to 2MB/sec and above. The IEEE1284 standard recommends a combined pull-up, termination and filter network between the driver/receiver and cable at both ends of the parallel port interface. In addition, government EMC regulations impose the need to include EMI filtering on the parallel port.



## Features

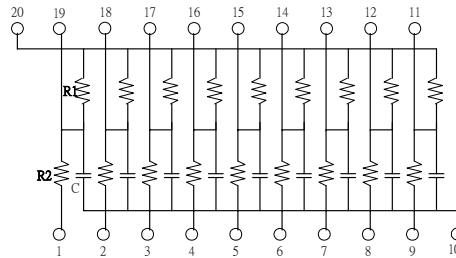
- Meet IEEE-1284 ECP/EPP parallel port termination
- Two chip solution
- 20-pin QSOP package

## Applications

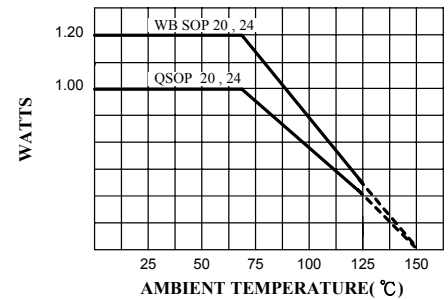
- IEEE 1284 ECP/EPP parallel port termination
- Notebook and desktop computers
- Engineering servers and workstations

Refer to website for complete datasheet and technical

## Schematic



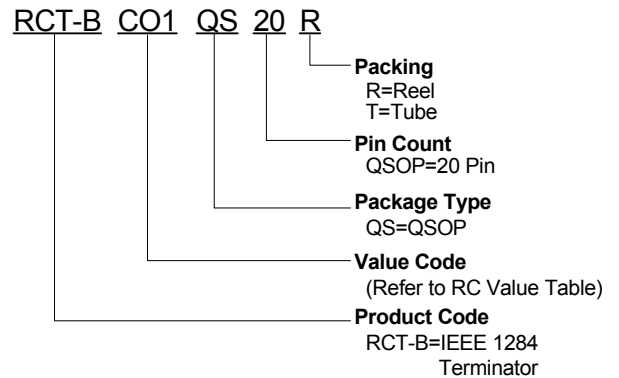
## Power Derating



## Standard Specifications

Description	Values
Absolute Tolerance(R)	±10%
Absolute Tolerance(C)	±20%
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.0 watt / QSOP 1.20 watt / WB SOP
Operation Temperature	-55°C ~ 125°C
Storage Temperature	-65°C ~ 150°C

## How to Order



## Standard Resistance Values

Rs Value (ohms)	R1 Value (ohms)	R2 Value (ohms)	C1 Value (pF)	Cap. BV (Typ.)
CO1	1K	33	180	25
CO2	2.2K	33	220	25
CO3	4.7K	10	180	25
CO4	4.7K	33	180	25
CO5	4.7K	270	33	25
CO6	4.7K	27	33	25
CO7	10K	10	27	25

## Standard Packages

	Pin No.	Ea.tube
QSOP	20	50

## Options

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

- Packages → TSSOP 20 Pin
- R1 Resistance Variation → 1K~10K Ω
- R2 Resistance Variation → 10~270 Ω
- Packing → Wafer form

## Product Description

The RCF-A is an integrated EMI/RFI T Filter designed to Suppress EMI/RFI noise at I/O ports of personal computers, peripherals, and communications equipment. Low pass resistor-capacitor filters are effective at suppressing board-level EMI/RFI since the capacitor bypasses high frequency noise directly to ground, thus eliminating it from the circuit. Discrete RC filters have limitations because of their inherently higher parasitic inductance and capacitance, which create resonance and a notch-like filter characteristic at lower frequencies.

Furthermore, these parasitic effects are highly variable and can turn discrete RC filters into tuned circuits. Using proprietary semiconductor technology, Viking's RCF-A filters exhibit almost pure RC characteristics that extend effective filter performance to the GHz range and provide true broadband attenuation.



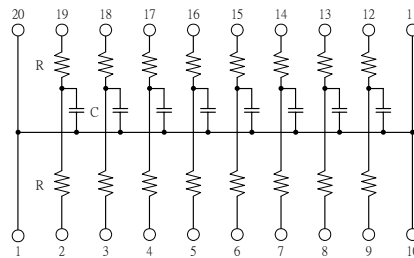
## Features

- 8 filter lines per package
- T filter configuration
- 20-pin QSOP packages

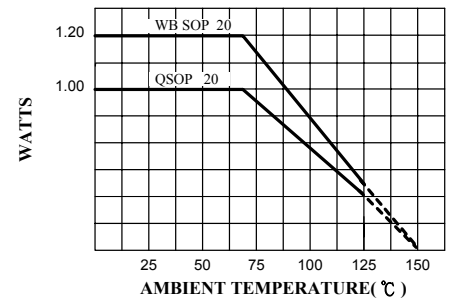
## Applications

- Low pass filtering
- Bi-directional filtering
- I/O interface cards
- LCD panel display filter

## Schematic



## Power Derating

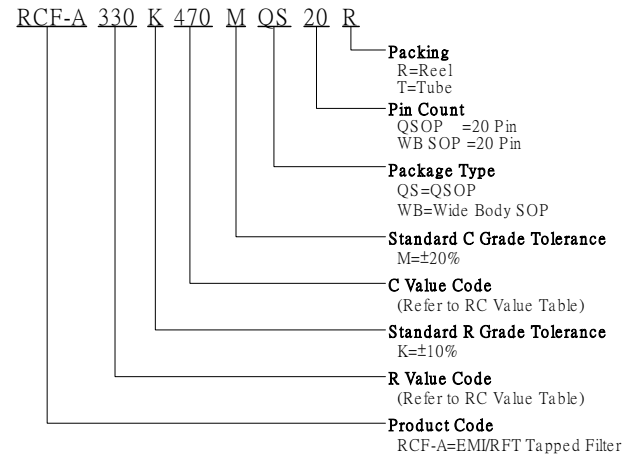


## Specifications<sup>1</sup>

Description	Values
Absolute Tolerance(R)	±10%
Absolute Tolerance(C)	±20%
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.0 watt / QSOP 1.20 watt / WB SOP
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.

## How to Order



## Resistance Values

R Value (ohms)	C Value (pF)	BV (Typ)
15	47	156
25	100	155
25	180	74
25	200	64
27	220	56
40	50	149
47	33	229
100	100	155

\*Convert R,C value to code as  
R,C value      Value Code  
 15Ω                150(=15\*10<sup>0</sup>Ω)  
 47 pF              470(=47\*10<sup>0</sup>pF)

≠ With 0 source impedance.

## Standard Packages

	Pin No.	Ea.tube
QSOP	20	50

## Options

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

- Packages → TSSOP 20 Pin
- Resistance Variation → 10~270 Ω
- Capacitance Variation → 15~220 pF
- Packing → Wafer form

## Product Description

The RCF-B are a series of integrated EMI/RFI Tapped filter designed to suppress EMI/RFI noise in computers and peripherals, data and telecom equipment, and wireless devices. A single RC tapped configuration is ideal for filtering signal waveforms on a unidirectional bus and provides some flexibility for adding components such as ferrite bead inductors for further wave shaping.

Low pass resistor-capacitor filters are effective at suppressing board-level EMI/RFI since the capacitor bypassed high frequency noise directly to ground, thus eliminating it from the circuit. Discrete RC filters have limitations because of their inherently higher parasitic inductance and capacitance, which create resonance and a notch-like filter characteristic at lower frequencies.

Furthermore, these parasitic effects are highly variable and can turn discrete RC filters into tuned circuits. Using proprietary semiconductor technology, Viking's RCF-B filters exhibit almost pure RC characteristics that extend effective filter performance to the GHz range and provide true broadband attenuation.



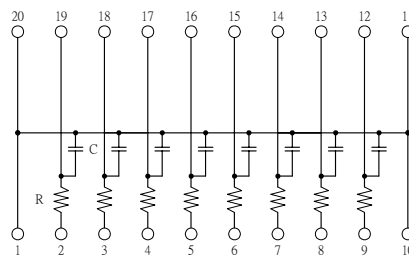
## Features

- 8 filter lines per package
- Tapped filter configuration
- Single pole RC values
- 20-pin QSOPT packages

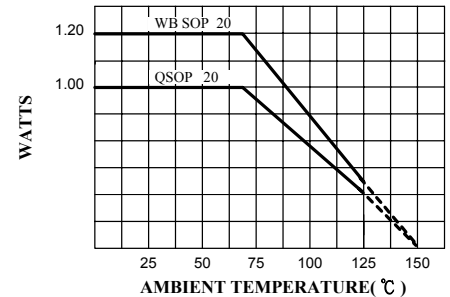
## Applications

- EMI/RFI filtering
- Low pass filter

## Schematic



## Power Derating

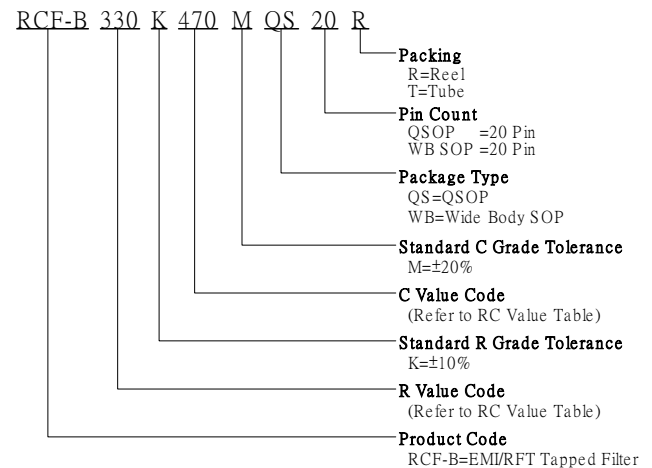


## Specifications<sup>1</sup>

Description	Values
Absolute Tolerance(R)	±10%
Absolute Tolerance(C)	±20%
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.0 watt / QSOPT 1.20 watt / WB SOP
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.

## How to Order



## Resistance Values

R Value (ohms)	C Value (pF)	BV (Typ)
10	15	125
27	15	125
27	47	80
33	47	80
33	100	44
33	220	40
33	250	30
39	220	40
47	47	80
75	50	75
100	100	69
100	150	46

\*Concert R,C value to code as  
 R,C value      Value Code  
 15Ω              150(=15\*10<sup>0</sup>Ω)  
 47 pF            470(=47\*10<sup>0</sup>pF)

≠ With 0 source impedance.

## Standard Packages

	Pin No.	Ea.tube
QSOPT	20	50

## Options

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

- Packages → TSSOP 20 Pin
- Resistance Variation → 10~470 Ω
- Capacitance Variation → 15~220 pF
- Packing → Wafer form

## Product Description

The ACT-A is an integrated AC termination network designed to reduce unwanted transmission line effects on high-speed signal lines.

AC termination provides an alternative termination strategy over series or parallel termination where power consideration is a concern since DC current is blocked by the capacitor. The ACT-A offers superior high frequency performance with minimal lead inductance and parasitic capacitance.

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.



## Features

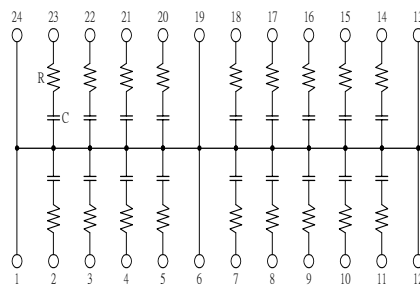
- 18 termination lines per package
- $\pm 10\%$  absolute tolerance (R)
- $\pm 10\%$  absolute tolerance (C)
- 24-pin QSOP package

## Applications

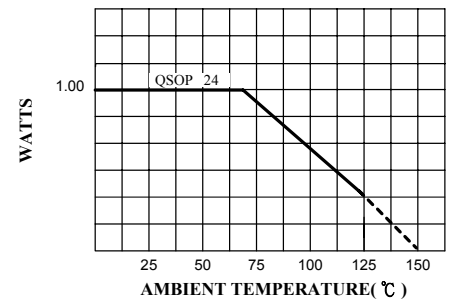
- AC termination
- Low pass filtering

Refer to website for complete datasheet and technical

## Schematic



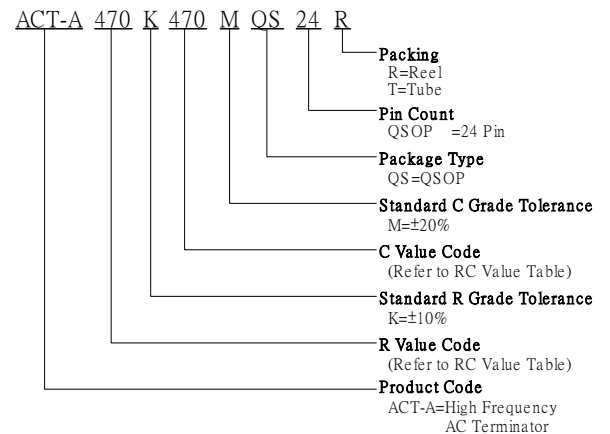
## Power Derating



## Standard Specifications

Description	Values
Absolute Tolerance(R)	$\pm 10\%$
Absolute Tolerance(C)	$\pm 20\%$
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.00 watt / QSOP
Operation Temperature	-55°C ~ 125°C
Storage Temperature	-65°C ~ 150°C

## How to Order



## Standard Resistance Values

R Value (ohms)	C Value (pF)	BV (Typ)
33	47	134
47	47	134
47	33	191
50	180	35
75	50	126
100	100	63

$\neq$  With 0 source impedance.

\*Concert R,C value to code as

R,C value	Value Code
33 $\Omega$	330(=33*10 <sup>0</sup> $\Omega$ )
47 pF	470(=47*10 <sup>0</sup> pF)

## Standard Packages

	Pin No.	Ea.tube
QSOP	24	50

## Options

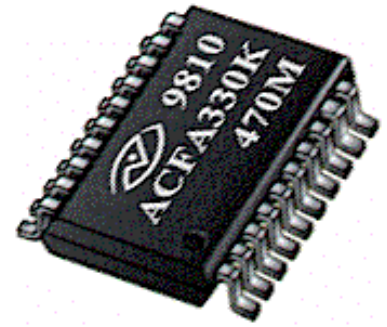
Viking is capable to supply following options based on customer's demand

Packages	→	TSSOP 24 Pin
Resistance Variation	→	10~470 $\Omega$
Capacitance Variation	→	15~220 pF
Resistance Tolerance	→	$\pm 5\%$
Capacitor Tolerance	→	$\pm 10\%$
Packing	→	Wafer form

## Product Description

The ACF-A is an integrated EMI/RFI T-filter designed to suppress EMI/RFI noise in computers, peripherals, data and telecom equipment, and wireless products. The ACF-A has a symmetrical design ideal for filtering signal waveforms traveling in opposite directions such as on a bi-directional bus.

Low pass resistor-capacitor filters are effective at suppressing board-level EMI/RFI since the capacitor bypasses high frequency noise directly to ground, thus eliminating it from the circuit. Discrete RC filters have limitations because of their inherently higher parasitic inductance and capacitance, which create resonance and a notch-like filter characteristic at lower frequencies. Furthermore, these parasitic effects are highly variable and can turn discrete RC filters into tuned circuits. Using proprietary semiconductor technology, Viking's ACF-A filters exhibit almost pure RC characteristics that extend effective filter performances to the GHz range and provide true broadband attenuation.



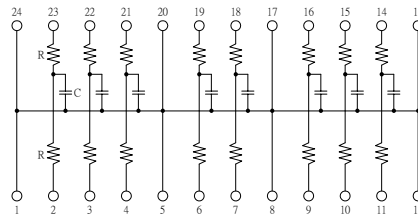
## Features

- 8 filter lines per package
- T filter configuration
- Superior high frequency performance
- Low crosstalk, <5% (typical)
- 24-pin QSOP packages

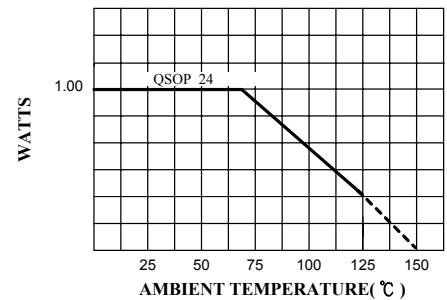
## Applications

- EMI/RFI suppression
- I/O interface cards
- SCSI port filter
- Low pass filtering
- LCD panel display filter

## Schematic



## Power Derating

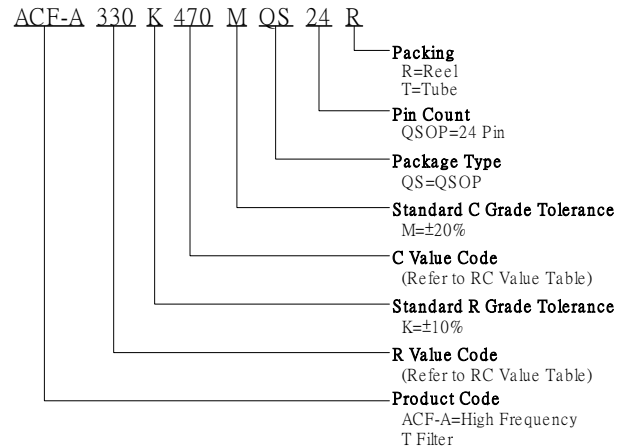


## Specifications

Description	Values
Absolute Tolerance(R)	±10%
Absolute Tolerance(C)	±20%
Power Rating / Resistor @Ta=70°C	0.100 watt
Package Power Rating @Ta=70°C	1.00 watt / QSOP
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.

## How to Order



## Resistance Values

R Value (ohms)	C Value (pF)	BV (Typ)
10	15	175
10	100	47
15	47	100
25	100	47
25	200	39
33	47	100
33	180	43
33	220	35
39	50	94
39	220	35
47	33	142
47	47	100
100	100	77

\*Concert R,C value to code as  $\neq$  With 0 source impedance.

R,C value	Value Code
33Ω	330(=33*10 <sup>0</sup> Ω)
47 pF	470(=47*10 <sup>0</sup> pF)

## Standard Packages

	Pin No.	Ea.tube
QSOP	24	50

## Options

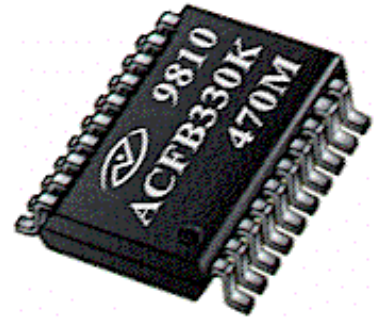
- Viking is capable to supply following options based on customer's demand
- Packages → TSSOP 24 Pin
  - Resistance Variation → 10~270 Ω
  - Capacitance Variation → 15~220 pF
  - Resistance Tolerance → ±5%
  - Capacitor Tolerance → ±10%
  - Packing → Wafer form

## Product Description

The ACF-B is an integrated EMI/RFI Tapped filter designed to suppress EMI/RFI noise in computers and peripherals, data and Telecom equipment, and wireless devices. A single RC tapped configuration is ideal for filtering signal waveforms on a unidirectional bus and provides flexibility for adding components such as ferrite bead inductors for further wave shaping.

**Note: ACF-B is an upgraded version of the RCF-B series and is recommended for all new designs.**

Low pass resistor-capacitor filters are effective at suppressing board-level EMI/RFI since the capacitor bypasses high frequency noise directly to ground, thus eliminating it from the circuit. Discrete RC filters have limitations because of their inherently higher parasitic inductance and capacitance, which create resonance and a notch-like filter characteristic at lower frequencies. Furthermore, these parasitic effects are highly variable and can turn discrete RC filters into tuned circuits. Using proprietary semiconductor technology, Viking's ACF-B filters exhibit almost pure RC characteristics that extend effective filter performance to the GHz range and provide true broadband attenuation.



## Features

- 8 filter lines per package
- Tapped filter configuration
- Superior high frequency performance
- Low crosstalk, <5% (typical)
- 24-pin QSOP packages

## Applications

- EMI/RFI suppression
- I/O interface cards
- SCSI port filter
- Low pass filtering
- LCD panel display filter

## Specifications

Description	Values
<b>Absolute Tolerance(R)</b>	±10%
<b>Absolute Tolerance(C)</b>	±20%
<b>Power Rating / Resistor @Ta=70°C</b>	0.100 watt
<b>Package Power Rating @Ta=70°C</b>	1.00 watt / QSOP
<b>Operation Temperature</b>	-55°C ~ 125°C
<b>Storage Temperature</b>	-65°C ~ 150°C

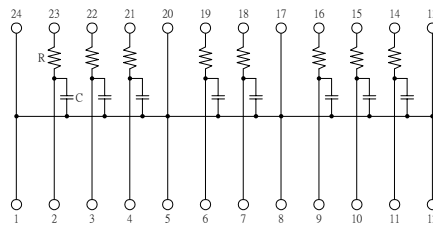
Note 1: A Non-Recurring Engineering (NRE) charge and a minimum order/lot size may apply for all fully customized requirements.

## Resistance Values

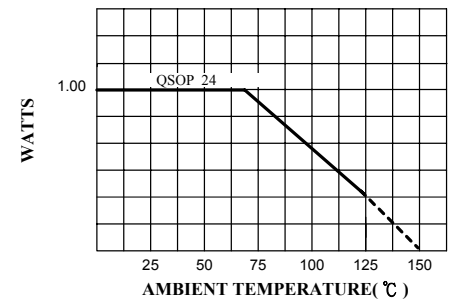
R Value (ohms)	C Value (pF)	BV (Typ)
10	15	175
10	100	47
15	47	100
25	100	47
25	200	39
33	47	100
33	180	43
33	220	35
39	50	94
39	220	35
47	33	142
47	47	100
100	100	77

\*Concert R,C value to code as  $\neq$  With 0 source impedance.  
 R,C value      Value Code  
 33 Ω              330(=33\*10<sup>0</sup>Ω)  
 47 pF             470(=47\*10<sup>0</sup>pF)

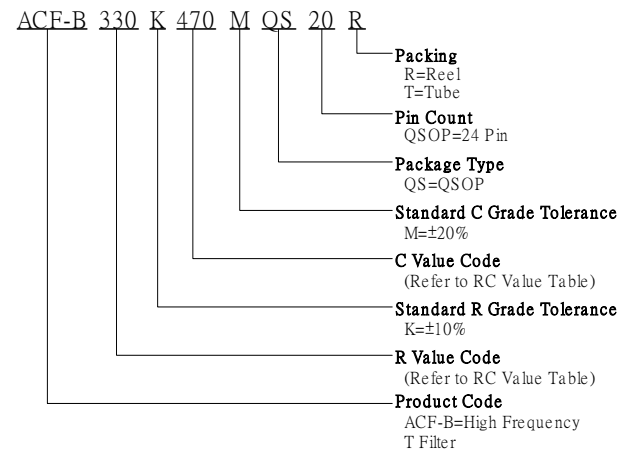
## Schematic



## Power Derating



## How to Order



## Standard Packages

	Pin No.	Ea.tube
QSOP	24	50

## Options

- Viking is capable to supply following options based on customer's demand
- Packages → TSSOP 24 Pin
  - Resistance Variation → 10~270 Ω
  - Capacitance Variation → 15~220 pF
  - Resistance Tolerance → ±5%
  - Capacitor Tolerance → ±10%
  - Packing → Wafer form