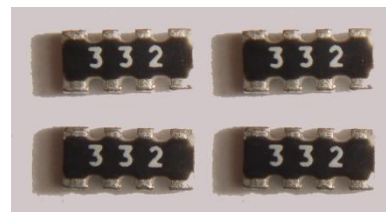


### Features:

- Thick film resistor element
- Multiple circuit types available
- Ideal SMD substitute for leaded networks
- RoHS compliant and halogen free
- Auto-placement capability
- Square corner construction standard
- Zero ohm jumper available
- RAVF 324D is standard with scalloped corner
- Styles 102D, 104D and 164D are qualified to AEC-Q200



Electrical Specifications						
Type / Code, # of Elements, Circuit Type	Power Rating (W) (per element) @ 70°C	Maximum Working Voltage (V) <sup>(1)</sup>	Maximum Overload Voltage (V)	TCR (ppm/°C)	Ohmic Range (Ω) and Tolerance	
					1%	2%, 5%
RAVF052D	0.031 Jumper: 0.5A	12.5V	25V	± 500	-	3 - 9.1
				± 300	-	10 - 910
				± 200	-	1K - 1M
RAVF102D	0.063 Jumper: 1A	25V	50V	± 400	-	1 - 9.1
				± 200	10 - 1M	
					0.025 max	0.05 max
RAVF104D	0.063 Jumper: 1A	25V	50V	± 400	-	1 - 9.1
				± 200	10 - 1M	
					0.025 max	0.05 max
RAVF162D	0.063 Jumper: 1A	50V	100V	± 200	10 - 1M	1 - 1M
				-	-	0.05 max
RAVF164D	0.063 Jumper: 1A	50V	100V	± 400	-	1 - 9.1
				± 200	10 - 1M	
RAVF168D	0.063 Jumper: 1A	25V	50V	± 250	-	1 - 1M
				± 200	10 - 1M	-
RAVF324D	0.125	200V	400V	± 200	22 - 1M	10 - 1M
RAVF328N	0.063	25V	50V	± 200	-	22 - 1M
RAVF328R	0.063	25V	50V	± 200	-	22 - 1M

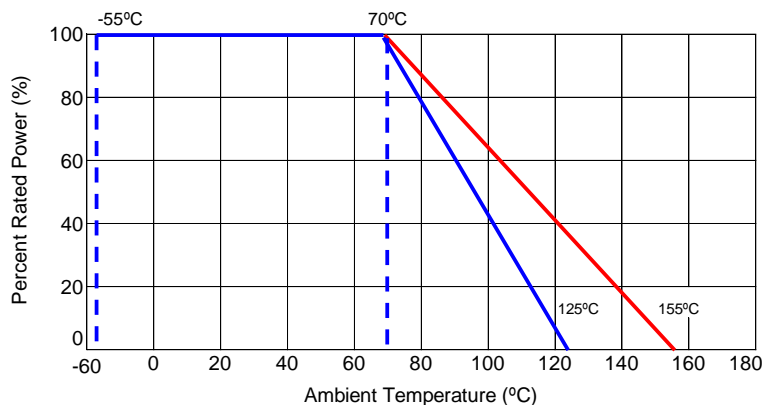
(1) Lesser of  $\sqrt{P \cdot R}$  or maximum working voltage.

Performance Characteristics	
Test	Test Result (JIS C 5202)
Load Life in Moisture	±3%
Temperature cycle	±1%
Load Life	±3%
Resistance to Soldering heat	±1%
Terminal Adhesion	±1%
Short Time Overload	±2%

Operating temperature range is -55 °C to +155 °C, except for RAVF328N and RAVF328R

Operating temperature range for RAVF328N and RAVF328R is -55 °C to +125 °C

### Power Derating Curve:



- RAVF052D, RAVF102D, RAVF104D
- RAVF162D, RAVF164D, RAVF168D
- RAVF324D
- RAVF328N
- RAVF328R

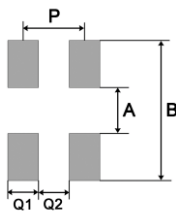
### Schematics

Isolated Circuit - 2D	Isolated Circuit - 4D	Isolated Circuit - 8D	Bussed Circuit - N	Bussed Circuit - R

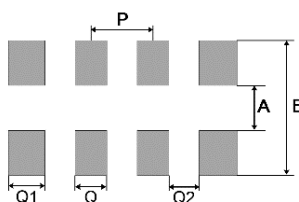
### Terminations

RAVF - 2 Resistors / 4 Terminations (D)	RAVF - 4 Resistors / 8 Terminations (D)	RAVF - 8 Resistors / 10 Terminations (NR)							
Type / Code # of Elements Circuit Type	L Body Length	W Body Width	H Body Height	P Element Spacing	Q Termination Width	R Termination Width	D Bottom Termination	A Top Termination	Unit
RAVF052D	0.031 ± 0.004 0.80 ± 0.10	0.024 ± 0.004 0.60 ± 0.10	0.012 ± 0.002 0.30 ± 0.05	0.020 ± 0.006 0.50 ± 0.15	-	0.014 ± 0.004 0.35 ± 0.10	0.006 ± 0.002 0.15 ± 0.05	0.006 ± 0.004 0.15 ± 0.10	Inches mm
RAVF102D	0.039 ± 0.004 1.00 ± 0.10	0.039 ± 0.004 1.00 ± 0.10	0.014 ± 0.004 0.35 ± 0.10	0.026 ± 0.039 0.67 ± 1.00	-	0.013 ± 0.004 0.34 ± 0.10	0.010 ± 0.039 0.25 ± 1.00	0.006 ± 0.004 0.15 ± 0.10	Inches mm
RAVF104D	0.079 ± 0.008 2.00 ± 0.20	0.039 ± 0.006 1.00 ± 0.15	0.014 ± 0.006 0.35 ± 0.15	0.020 ± 0.006 0.50 ± 0.15	0.012 ± 0.004 0.30 ± 0.10	0.017 ± 0.004 0.43 ± 0.10	0.008 +0.006/-0.004 0.20 +0.15/-0.10	0.008 ± 0.004 0.20 ± 0.10	Inches mm
RAVF162D	0.063 ± 0.006 1.60 ± 0.15	0.063 ± 0.006 1.60 ± 0.15	0.020 ± 0.006 0.50 ± 0.15	0.031 ± 0.002 0.80 ± 0.05	-	0.024 ± 0.006 0.60 ± 0.15	0.012 ± 0.006 0.30 ± 0.15	0.012 ± 0.006 0.30 ± 0.15	Inches mm
RAVF164D	0.126 ± 0.008 3.20 ± 0.20	0.063 ± 0.008 1.60 ± 0.20	0.020 ± 0.004 0.50 ± 0.10	0.031 ± 0.008 0.80 ± 0.20	0.020 ± 0.006 0.50 ± 0.15	0.024 ± 0.006 0.61 ± 0.15	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	Inches mm
RAVF168D	0.157 ± 0.008 4.00 ± 0.20	0.063 ± 0.006 1.60 ± 0.15	0.016 ± 0.004 0.40 ± 0.10	0.020 ± 0.006 0.50 ± 0.15	0.010 ± 0.004 0.25 ± 0.10	0.015 ± 0.004 0.38 ± 0.10	0.012 ± 0.008 0.30 ± 0.20	0.012 ± 0.008 0.30 ± 0.20	Inches mm
RAVF324D	0.201 ± 0.009 5.10 ± 0.22	0.122 ± 0.008 3.10 ± 0.20	0.022 ± 0.006 0.55 ± 0.15	0.051 ± 0.008 1.30 ± 0.20	0.031 ± 0.008 0.80 ± 0.20	0.031 ± 0.008 0.80 ± 0.20	0.022 ± 0.012 0.55 ± 0.30	0.020 ± 0.008 0.50 ± 0.20	Inches mm
RAVF328N	0.126 ± 0.006 3.20 ± 0.15	0.063 ± 0.006 1.60 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.025 ± 0.002 0.64 ± 0.05	0.013 ± 0.006 0.34 ± 0.15	0.019 ± 0.006 0.49 ± 0.15	0.010 ± 0.006 0.25 ± 0.15	0.012 ± 0.008 0.30 ± 0.20	Inches mm
RAVF328R	0.126 ± 0.006 3.20 ± 0.15	0.063 ± 0.006 1.60 ± 0.15	0.022 ± 0.004 0.55 ± 0.10	0.025 ± 0.002 0.64 ± 0.05	0.013 ± 0.006 0.34 ± 0.15	0.019 ± 0.006 0.49 ± 0.15	0.010 ± 0.006 0.25 ± 0.15	0.012 ± 0.008 0.30 ± 0.20	Inches mm

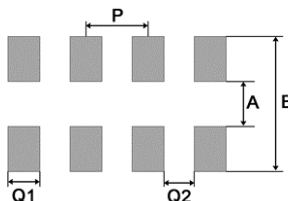
**Recommended Pad Layout**



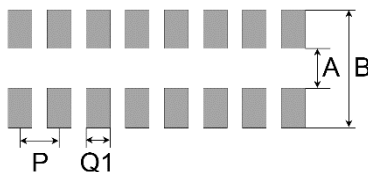
Type / Code	A	B	P	Q1	Q2	Unit
RAVF052D	0.012 0.30	0.035 0.90	0.020 0.50	0.012 0.30	0.008 0.20	Inches mm
RAVF102D	0.020 0.50	0.079 2.00	0.026 0.67	0.013 0.33	0.013 0.34	Inches mm
RAVF162D	0.039 1.00	0.102 2.60	0.031 0.80	0.016 0.40	0.016 0.40	Inches mm



Type / Code	A	B	P	Q	Q1	Q2	Unit
RAVF104D	0.020 0.50	0.079 2.00	0.020 0.50	0.012 0.30	0.011 0.28	0.009 0.22	Inches mm

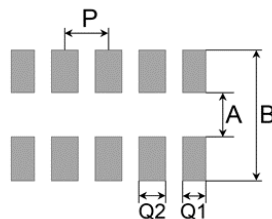


Type / Code	A	B	P	Q1	Q2	Unit
RAVF164D	0.039 1.00	0.102 2.60	0.031 0.80	0.016 0.40	0.016 0.40	Inches mm
RAVF324D	0.079 2.00	0.187 4.75	0.051 1.30	0.035 0.90	0.015 0.38	Inches mm



Type / Code	A	B	P	Q1	Unit
RAVF168D	0.039 1.00	0.110 2.80	0.020 0.50	0.012 0.30	Inches mm

**Recommended Pad Layout (cont.)**



Type / Code	A	B	P	Q1	Q2	Unit
RAVF328R	0.031 0.80	0.122 3.10	0.025 0.64	0.013 0.34	0.018 0.45	Inches mm

**RoHS Compliance**

Stackpole Electronics has joined the worldwide effort to reduce the amount of lead in electronic components and to meet the various regulatory requirements now prevalent, such as the European Union’s directive regarding “Restrictions on Hazardous Substances” (RoHS 3). As part of this ongoing program, we periodically update this document with the status regarding the availability of our compliant components. All our standard part numbers are compliant to EU Directive 2011/65/EU of the European Parliament as amended by Directive (EU) 2015/863/EU as regards the list of restricted substances.

**RoHS Compliance Status**

Standard Product Series	Description	Package / Termination Type	Standard Series RoHS Compliant	Lead-Free Termination Composition	Lead-Free Mfg. Effective Date (Std Product Series)	Lead-Free Effective Date Code (YY/WW)
RAVF	Thick Film Surface Mount Chip Resistor Array Convex Terminations	SMD	YES(1)	100% Matte Sn over Ni	Jan-04 (Japan) Jul-04 (Taiwan)	04/01 04/27

Note (1): RoHS Compliant by means of exemption 7c-1.

**“Conflict Metals” Commitment**

We at Stackpole Electronics, Inc. are joined with our industry in opposing the use of metals mined in the “conflict region” of the eastern Democratic Republic of the Congo (DRC) in our products. Recognizing that the supply chain for metals used in the electronics industry is very complex, we work closely with our own suppliers to verify to the extent possible that the materials and products we supply do not contain metals sourced from this conflict region. As such, we are in compliance with the requirements of Dodd-Frank Act regarding Conflict Minerals.

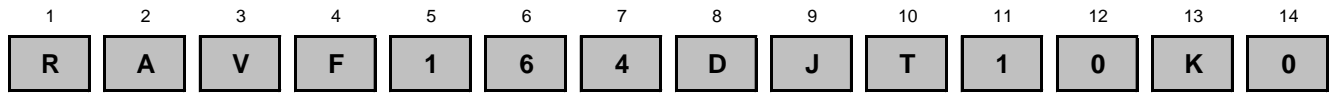
**Compliance to “REACH”**

We certify that all passive components supplied by Stackpole Electronics, Inc. are SVHC (Substances of Very High Concern) free and compliant with the requirements of EU Directive 1907/2006/EC, “The Registration, Evaluation, Authorization and Restriction of Chemicals”, otherwise referred to as REACH. Contact us for complete list of REACH Substance Candidate List.

**Environmental Policy**

It is the policy of Stackpole Electronics, Inc. (SEI) to protect the environment in all localities in which we operate. We continually strive to improve our effect on the environment. We observe all applicable laws and regulations regarding the protection of our environment and all requests related to the environment to which we have agreed. We are committed to the prevention of all forms of pollution.

**How to Order**



Product Series	
Code	Description
RAVF	Convex Termination

Size	
Code	W
052D	0.031
102D	0.063
104D	0.063
162D	0.063
164D	0.063
168D	0.063
324D	0.125
328N	0.063
328R	0.063

Tolerance <sup>(1)</sup>		
Code	Tol	Value
F	1%	E24
G	2%	
J	5%	
Z	jumper	

Packaging			
Code	Description	Size	Quantity
T	Tape and Reel	052D, 102D, 104D	10000
		162D, 164D, 168D	5000
		328N, 328R	
		324D	4000

Resistance Value
Four characters with the multiplier used as the decimal holder.
10 ohm = 10R0
10.2 Kohm = 10K2
1 Mohm = 1M00
Zero ohm jumper = 0R00

Note (1): 1% tolerance is available in E24 values only.  
E96 values are generally not available. Contact Stackpole for details.

D = Isolated  
N = Bussed  
R = Bussed