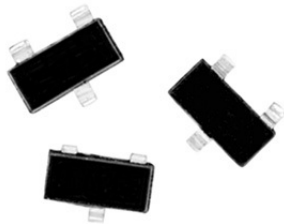


## Molded, SOT-23 Resistor/Capacitor Network



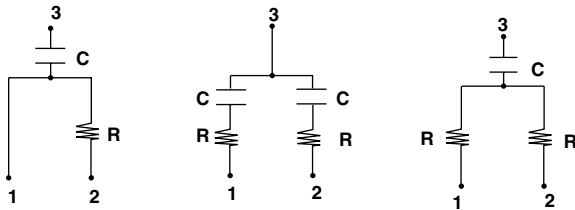
Vishay's R/C Network, packaged in the standard SOT-23, can be strategically placed on your PC board to do localized filtering. The R/C Network can be located at the point of emission before transients are carried through the design.

The sophisticated process of integrating the Resistor and Capacitor on a single substrate provides you with higher performance and more consistent results over discrete components. A real estate savings will also be gained.

Applications include EMI/RFI suppression and AC termination. These networks, in the SOT-23, along with Vishay's high component count R Networks and R/C Networks in a variety of standard IC packages, provides you with the exact solution for your redesign or new design.

Visit our website for the total picture on available R Networks and R/C Networks from our guaranteed stock program.

### SCHEMATIC



**D**  
Tapped Filter

**C**  
AC Termination

**A**  
T Filter

### FEATURES

- Lead (Pb)-free standard
- Resistor and capacitor **integrated** into a Thin Film Network
- Filters at the source of emissions
- More consistent performance characteristics than discrete



**RoHS**  
COMPLIANT

### TYPICAL PERFORMANCE

	TCR	TOLERANCE
<b>RESISTOR</b>	200	10 %
	TCC	TOLERANCE
<b>CAPACITOR</b>	200	20 %

### VR TOOLED VALUES (1)

SCHEMATIC	R ( $\Omega$ )	C (pF)
D	33	47
C	47	47
A	100	80

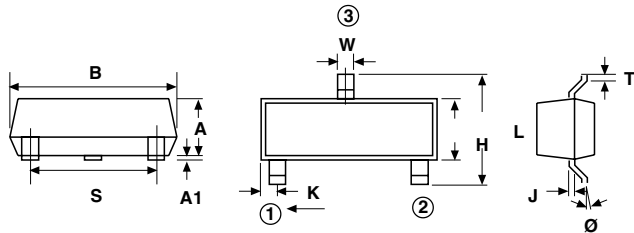
#### Note

(1) Consult Application Engineering for Custom Values

### STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
<b>Resistance Range</b>	10 $\Omega$ to 500 $\Omega$	
<b>TCR:</b>	<b>Absolute</b> $\pm 200$ ppm/ $^{\circ}$ C	0 $^{\circ}$ C to + 70 $^{\circ}$ C
<b>Tolerance:</b>	<b>Absolute</b> $\pm 10$ % Standard (R)	
	<b>Absolute</b> $\pm 20$ % Standard (C)	at 1 MHz and $V_{RMS}$ over + 10 $^{\circ}$ C to + 70 $^{\circ}$ C
<b>Power Rating:</b>	<b>Package</b> 1 W at + 70 $^{\circ}$ C	
<b>Power Rating/Resistor</b>	100 mW	
<b>Capacitance Range (pF)</b>	10 - 80	
<b>Breakdown Voltage</b>	25 - 45 V	
<b>Operating Temperature Range</b>	0 to + 70 $^{\circ}$ C	
<b>Storage Temperature Range</b>	- 55 $^{\circ}$ C to + 125 $^{\circ}$ C	

**DIMENSIONS AND IMPRINTING** in inches and millimeters

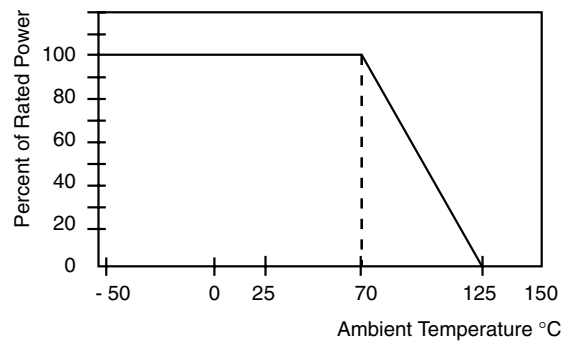


JEDEC STANDARD TO-236				
DIMENSION	INCHES		MILLIMETERS	
	MIN.	MAX.	MIN.	MAX.
A	0.027	0.040	0.70	1.02
A1	0.001	0.004	0.02	0.15
B	0.105	0.120	2.67	3.04
S	0.071	0.079	1.80	2.00
W	0.015	0.021	0.38	0.54
L	0.083	1.03	2.10	2.64
H	0.047	0.055	1.20	1.40
T	0.050	0.157	0.13	0.40
J	0.003	0.008	0.089	0.15
K	0.017	0.022	0.44	0.55
Ø	0	8°	0	8°

IMPRINTING	
	SCHEMATIC
VRA	AA
VRC	AC
VRD	AD

MECHANICAL SPECIFICATIONS	
Resistive Element	Tantalum Nitride
Capacitive Element	Thin Film
Substrate Material	Silicon
Body	Molded Epoxy
Terminals	Copper Alloy
Plating	100 % Sn Matte
Lead Coplanarity	0.0005 Inches
Marking Resistance to Solvents	Permanency testing per MIL-STD-202, Method 215

**DERATING CURVE**



RC NETWORKS

PACKAGING INFORMATION		
MODEL	LEADS	TAPE AND REEL
VR	3	3000



**GLOBAL PART NUMBER INFORMATION**

New Global Part Numbering: VRD330K470MTF (preferred part number format)

V R D 3 3 0 K 4 7 0 M T F

GLOBAL MODEL	SCHEMATICS	RESISTANCE AND TOLERANCE/ CAPACITANCE AND TOLERANCE	PACKAGING
VR (Lead (Pb)-free) (e1)	D = Tapped Filter C = AC Termination A = T Filter	xxxK/yyyM  First 2 digits are significant figures. Last digit specifies number of zeroes to follow e.g. 330K/470M = 330 W, 10 % 47 pF 20 % K = 10 % M = 20 %	UF = TUBED  TAPE AND REEL TF = Full Reels

Historical Part Number example: VRD330K479MT/R (will continue to be accepted)

VR	D	330K	470M	T/R
MODEL	SCHEMATIC	RESISTANCE	TOLERANCE	PACKAGING



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