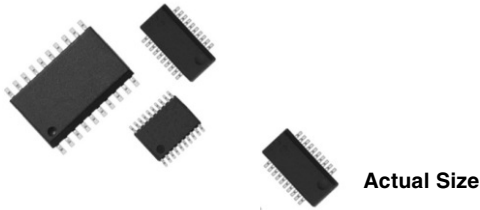


## 25 or 50 Mil Pitch, T-Filter Resistor/Capacitor Networks

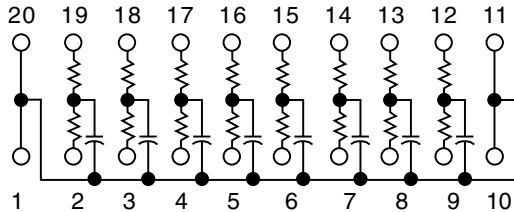


Small Outline, Surface Mount, EMI/RFI Reduction

Vishay Thin Film's T filter network is an integrated thin film network on a single die. Noise suppression is at a maximum with the use of thin film technology. The T filter network, schematic AA is designed to suppress EMI/RFI noise with such applications as I/O ports of personal computers and peripherals, workstations and Local Area Networks. With a rugged molded case to protect the circuit from the environment and an integrated thin film network this product is your choice when reduced size, improved accuracy and surface mount capability are your goals.

Available packages SOIC, SSOP and TSSOP.

### SCHEMATIC AA



### FEATURES

- Lead (Pb)-free standard
- Resistors and capacitors on a single chip
- Saves board space
- Reduces total assembly costs
- Uniform performance characteristics
- UL 94V-0 flame resistant
- Rugged, molded case construction
- VTSRC - JEDEC mo-153AC
- VSSRC - JEDEC mo-137AD
- VSORC - JEDEC ms-013AC



RoHS  
COMPLIANT

### TYPICAL PERFORMANCE

	TCR	TOLERANCE
RESISTOR	200	10 %
	TCC	TOLERANCE
CAPACITOR	200	20 %

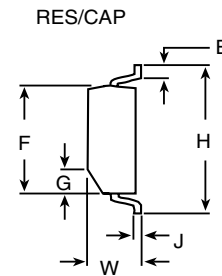
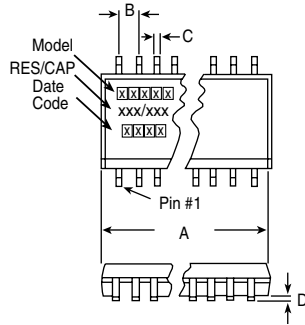
MODELS			STANDARD VALUES	
VSORC	VSSRC	VTSRC	R (Ω)	C (pF)
	X		10	100
	X		25	200
X			100	390

### STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Tantalum Nitride on Silicon	
Resistance Range	10 Ω to 750 Ω	
TCR:	Tracking	± 10 ppm/°C
	Absolute	± 200 ppm/°C
Tolerance:	Absolute	± 10 % Standard (R)
	Absolute	± 20 % Standard (C)
Power Rating:	Package	1 W - (T)SSOP. 1.2 W - SOIC
Capacitance Range		10 pF to 150 pF - TSSOP/10 pF to 250 pF - SOIC and SSOP
Stability:	ΔR Ratio	± 2 %
ESD Protection		> 2 kV
Breakdown Voltage		35 - 50 V
Operating Temperature Range		0 °C to + 70 °C
Storage Temperature Range		- 55 °C to + 125 °C
Power Rating/Resistor		100 mW



**DIMENSIONS AND IMPRINTING** in inches and millimeters

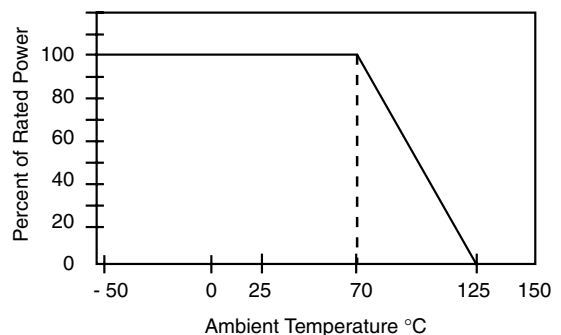


MODEL	VTSRC20-AA		VSSRC20-AA		VSORC20-AA	
	INCHES	MILLIMETERS	INCHES	MILLIMETERS	INCHES	MILLIMETERS
A	0.256 ± 0.003	6.5 ± 0.08	0.344 Max.	8.74 Max.	0.500 ± 0.010	12.7 ± 0.25
B (Ref.)	0.025	0.65	0.025	0.64	0.050	1.27
C (Ref.)	0.0087	0.22	0.010	0.25	0.016	0.41
D	0.004	0.10	0.006	0.15	0.008	0.20
E (Typ.)	0.024	0.61	0.025	0.64	0.030	0.76
F	0.173 ± 0.003	4.39 ± 0.08	0.154 ± 0.003	3.9	0.293 ± 0.003	7.44
G	0.015 × 45°	0.38	0.015 × 45°	0.38	0.025 × 45°	0.64
H	0.252 ± 0.005	6.4 ± 0.13	0.236 ± 0.008	6.0 ± 0.20	0.406 ± 0.005	10.31
J (Ref.)	0.005	0.13	0.010	0.25	0.010	0.25
W	0.043 ± 0.005	1.09 ± 0.13	0.064 ± 0.005	1.6	0.100 ± 0.005	2.59

IMPRINTING					
VSORC, VSSRC, VTSRC	20	AA	XXX / XXX		
MODEL	PIN COUNT	SCHEMATIC	RESISTANCE Code: e.g. 100 = 10 Ω	/	CAPACITANCE Code: e.g. 101 = 100 pF
		XXXX Date Code	* Optional marking		

MECHANICAL SPECIFICATIONS	
Resistive Element	Tantalum Nitride
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

PACKING INFORMATION			
MODEL	LEADS	TAPE AND REEL	TUBES
VTSRC (TSSOP)	20	2500	74
VSSRC (SSOP)	20	2500	55
VSORC (SOIC)	20	1000	38

# VTSRC, VSSRC, VSORC-AA

Vishay Thin Film 25 or 50 Mil Pitch, T-Filter Resistor/Capacitor Networks



## GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: VTSRC20AA330470TF (preferred part number format)

V T S R C 2 0 A A 3 3 0 4 7 0 T F

GLOBAL MODEL	NUMBER OF LEADS/ SCHEMATICS	RESISTANCE AND TOLERANCE/ CAPACITANCE AND TOLERANCE	PACKAGING
VTSRC VSSRC VSORC	20AA	xxxyyy  First 2 digits are significant figures. Last digit specifies number of zeroes to follow.  K = 10 % Capacitor Tol. fixed M = 20 % Resistance Tol. fixed	UF = TUBED  TAPE AND REEL TF = Full Reels

Historical Part Number example: VTSRC20AA330K470MT/R (will continue to be accepted)

VTSRC	20	AA	330K	470M	T/R
MODEL	NUMBER OF LEADS	SCHEMATIC	RESISTANCE	TOLERANCE	PACKAGING



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