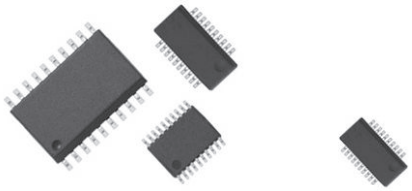
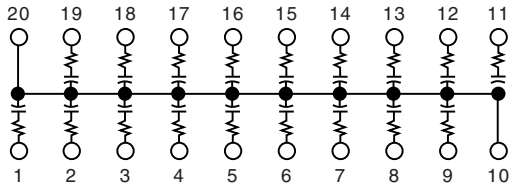
25 mil or 50 mil Pitch, Termination Thin Film Surface Mount Resistor/Capacitor Network



Small outline, surface mount, EMI/RFI reduction, terminator networks

Vishay Thin Film's termination RC network Schematic AC, can support 18 data lines reducing overall cost. Impedance matching of transmission lines is easily done using VTF thin film integrated RC networks. Our product is designed with all components integrated within a single die. It is then packaged in JEDEC standard plastic packages. The use of surface mount technology offers improved design capability through reduced parasitic inductance and capacitance. Available packages SOIC, SSOP and TSSOP.

SCHEMATIC AC



FEATURES

- Resistors and capacitors on a single chip
- Saves board space
- Reduces total assembly costs
- Uniform performance characteristics
- Compatible with automatic surface mounting equipment
- UL 94 V-0 flame resistant
- Rugged, molded case construction
- Compliant to RoHS Directive 2002/95/EC

Pb-free
RoHS COMPLIANT

TYPICAL PERFORMANCE

	TCR	TOLERANCE
RESISTOR	200	10
	TCC	TOLERANCE
CAPACITOR	200	20

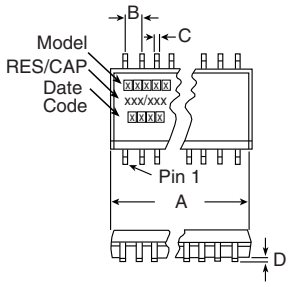
STANDARD VALUES

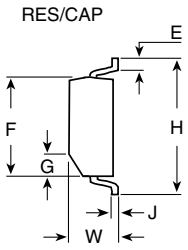
MODELS VSORC	MODELS VSSRC	MODELS VTSRC	R (Ω)	C (pF)
X			50	220
	X		50	250
	X		75	56
X			100	100

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Tantalum nitride on silicon	-
Pin/Lead Number	20	-
Resistance Range	10 Ω to 750 Ω	-
TCR: Absolute	± 200 ppm/°C	0 °C to + 70 °C
TCR: Tracking	± 10 ppm/°C	-
Tolerance: Absolute	± 10 % standard (R), ± 20 % standard (C)	At 1 MHz and V_{RMS} over + 10 °C to + 70 °C
Power Rating: Resistor	100 mW	-
Power Rating: Package	(T)SSOP: 1 W, SOIC: 1.2 W	See derating curve
Stability: Ratio	± 2 %	1000 h
Operating Temperature Range	0 °C to + 70 °C	-
Storage Temperature Range	- 55 °C to + 125 °C	-
Capacitance Range	TSSOP: 10 pF to 150 pF, SOIC/SSOP: 10 pF to 250 pF	-
ESD Protection	> 2 kV	MIL-STD-883, method 3015
Breakdown Voltage	35 V to 50 V	-

DIMENSIONS in inches and millimeters





DIMENSION	JEDEC M0-153AC, VTSRC20-AC		JEDEC M0-137AD, VSSRC20-AC		JEDEC MS-013AC, VSORC20-AC	
	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 x 45°	0.38	0.015 x 45°	0.38	0.025 x 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

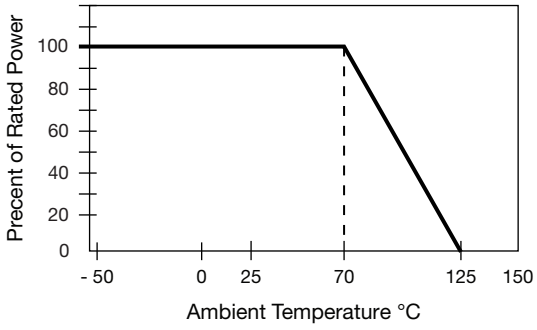
IMPRINTING

VSORC, VSSRC, VTSRC	20	AC	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 % matte Sn
Lead Coplanarity	0.0005"
Marking Resistance to Solvents	Permanency testing per MIL-STD-202, method 215

DERATING CURVE



PACKING INFORMATION

MODEL	LEADS	TAPE AND REEL	TUBES
JEDEC M0-153AC, VTSRC (TSSOP)	20	2500	74
JEDEC M0-137AD, VSSRC (SSOP)	20	2500	55
JEDEC MS-013AC, VSORC (SOIC)	20	1000	38

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: VSSRC20AC330470TF

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

GLOBAL MODEL	NUMBER OF LEADS/ SCHEMATICS	RESISTANCE AND TOLERANCE/ CAPACITANCE AND TOLERANCE	PACKAGING
VSSRC **VTSRC** **VSORC**	**20AC**	**xxxyyy** First 2 digits are significant figures. Last digit specifies number of zeros to follow. K = 10 % resistance tol. fixed M = 20 % capacitor tol. fixed	**UF** = TUBED TAPE AND REEL **TF** = Full reels

Historical Part Number example: VSSRC20AC330K470MT/R (for reference purposes only)

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

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