



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

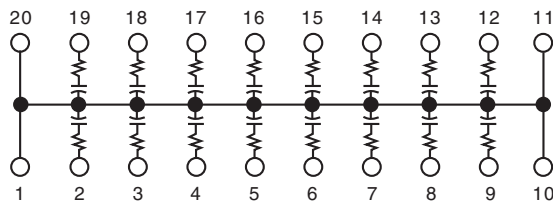


Small outline, surface mount, EMI/RFI reduction

If your design calls for the elimination of transmission line effects on high speed data lines Vishay Thin Film's integrated RC network, schematic AB is the answer. The planar design of our single die thin film networks offer low noise and predictable component behavior over a wide frequency range. Care must be taken when choosing matching networks that their frequency response matches that of the transmission line. Our product will reduce total assembly costs through surface mount technology, reduced component count and improved performance characteristics.

Available packages SOIC, SSOP and TSSOP.

SCHEMATIC AB



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



TYPICAL PERFORMANCE

	TCR	TOL.
RESISTOR	200	10
	TCC	TOL.
CAPACITOR	200	20

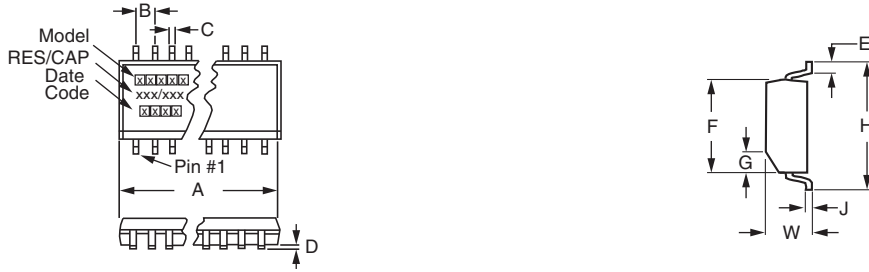
STANDARD VALUES

MODELS			R (Ω)	C (pF)
VSORC	VSSRC	VTSRC		
	X		47	33

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	See derating curve
	SOIC: 1.2 W	
Stability: Ratio	± 2 %	1000 h at + 70 °C
Operating Temperature Range	0 °C to + 70 °C	-
Storage Temperature Range	- 55 °C to + 125 °C	-
Capacitance Range	10 pF to 150 pF for TSSOP	-
	10 pF to 250 pF for SOIC/SSOP	
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, VT SRC20-AB		JEDEC M0-137AD, VSSRC20-AB		JEDEC MS-013AC, VSORC20-AB	
	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

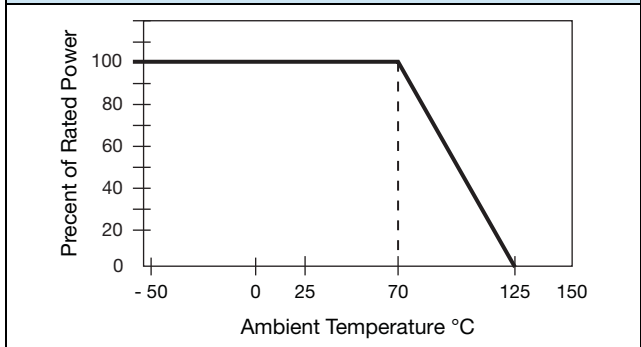
IMPRINTING

VSORC, VSSRC, VT SRC	20	AB	XXX	/	XXX
MODEL	PIN COUNT	SCHEMATIC	RESISTANCE Code: e.g. 100 = 10 W	/	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



PACKAGING INFORMATION

MODEL	LEADS	TAPE AND REEL	TUBES
JEDEC M0-153AC, VT SRC (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: VSORC20AB330470TF																
V	S	O	R	C	2	0	A	B	3	3	0	4	7	0	T	F
GLOBAL MODEL				NUMBER OF LEADS/ SCHEMATICS				RESISTANCE AND TOLERANCE/ CAPACITANCE AND TOLERANCE				PACKAGING				
VSORC VTSRC VSSRC				20AB				xxxxyy 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: VSORC20AB330K470MT/R (for reference purposes only)																
VSORC		20		AB		330K		470M		T/R						
MODEL		NUMBER OF LEADS		SCHEMATIC		RESISTANCE		TOLERANCE		PACKAGING						



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

[VSSRC20AB470330UF](#)