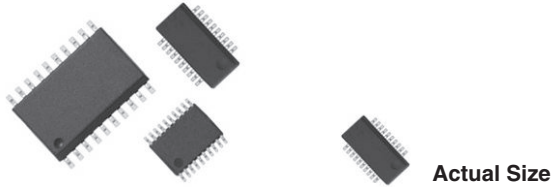




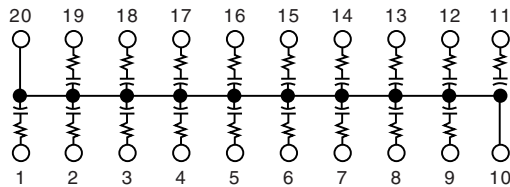
25 mil or 50 mil Pitch, Termination Thin Film Surface Mount Resistor/Capacitor Network



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



TYPICAL PERFORMANCE

	TCR	TOLERANCE
RESISTOR	200	10
	TCC	TOLERANCE
CAPACITOR	200	20

STANDARD VALUES

MODELS			R (Ω)	C (pF)
VSORC	VSSRC	VTSRC		
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

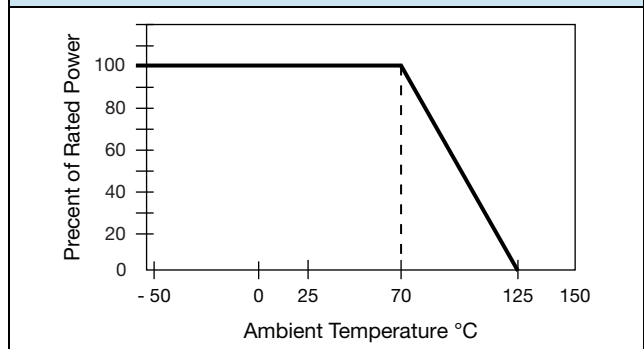

DIMENSION	JEDEC M0-153AC, VT SRC20-AC		JEDEC M0-137AD, VSS RC20-AC		JEDEC MS-013AC, VSOR C20-AC	
	INCHES	MILLIMETERS	INCHES	MILLIMETERS	INCHES	MILLIMETERS
A	0.256 ± 0.003	6.5 ± 0.08	0.344 max.	8.74 max.	0.500 ± 0.010	12.7 ± 0.25
B (ref.)	0.025	0.65	0.025	0.64	0.050	1.27
C (ref.)	0.0087	0.22	0.010	0.25	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, VT SRC	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, VT SRC (TSSOP)	20	2500	74
JEDEC M0-137AD, VSS RC (SSOP)	20	2500	55
JEDEC MS-013AC, VSOR C (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				xxxxyy				UF = TUBED TAPE AND REEL TF = Full reels					
First 2 digits are significant figures. Last digit specifies number of zeros to follow. K = 10 % resistance tol. fixed M = 20 % capacitor tol. fixed																	
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												



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.