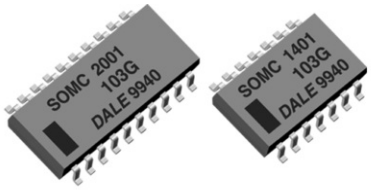
Thick Film Resistor Networks, Dual-In-Line, Medium Body, Small Outline, Molded DIP, Surface Mount



FEATURES

- Isolated, bussed and dual terminator schematics available
- 14, 16 or 20 terminal package
- Molded case construction
- Thick film resistive elements
- Reflow solderable
- Compatible with automatic surface mounting equipment
- Reduces total assembly costs
- For wave flow soldering contact factory
- Compliant to RoHS directive 2002/95/EC

Pb Available

e1 RoHS* COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	POWER RATING				CIRCUIT	MAXIMUM WORKING VOLTAGE (2) V_{DC}	TEMPERATURE COEFFICIENT (1) ± ppm/°C	TOLERANCE (3) ± %	RESISTANCE RANGE Ω	E-SERIES
	ELEMENT $P_{70\,°C}$ W	PACKAGE $P_{70\,°C}$ W								
		14	16	20						
SOMC	0.08 0.16 0.08	1.05 1.125 1.05	1.20 1.28 1.20	1.52 1.60 1.52	01 03 05	50	100	1, 2, 5 1, 2, 5 1, 2, 5	10 to 1M	24

Notes

- DSCC has created series of drawings to support the need for a surface mount gull wing resistor network product. Vishay Dale is listed as a resource on this drawing as follows:

DSCC DRAWING NUMBER	VISHAY DALE MODEL	CIRCUIT	POWER RATING		RESISTANCE RANGE Ω	TOLERANCE ± %	TEMPERATURE COEFFICIENT (0 °C to 70 °C) ± ppm/°C	MAXIMUM WORKING VOLTAGE (2) V_{DC}
			ELEMENT $P_{70\,°C}$ W	PACKAGE $P_{70\,°C}$ W				
87012	SOMC1601..16 SOMC1603..17 SOMC1605..48	01 (B) 03 (A) 05 (J)	0.08 0.16 0.08	1.20	10 to 2.2M	1, 2, 5	100, 300	50
87013	SOMC1401..6 SOMC1403..13 SOMC1405..22	01 (B) 03 (A) 05 (J)	0.08 0.16 0.08	1.00	10 to 2.2M	1, 2, 5	100, 300	50

  These drawings can be viewed at: www.dscc.dla.mil/Programs/milSpec/ListDwgs.asp?DocType=DSCCdwg.
- Power rating depends on the max. temperature at the solder point,the component placement density and the substrate material.
- Jumper: 0 Ω-resistor on request (100 mΩ).
- Packaging: According to EIA; see appropriate catalog or web page.

(1) Temperature range: - 55 °C to + 125 °C.
(2) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.
(3) ± 2 % standard, ± 1 % and ± 5 % available.

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	01 CIRCUIT	03 CIRCUIT	05 CIRCUIT
Rated dissipation at 70 °C per element	W	0.08	0.16	0.08
Limiting element voltage (4)	V_{DC}	50		
Voltage coefficient	ppm/V	< 50		
Insulation voltage (1 min)	$V_{DC/AC}$ peak	200		
Category temperature range	°C	- 55/+ 150		
Insulation resistance	Ω	$> 10^{10}$		
TC tracking (- 55 °C to + 125 °C)	ppm/°C	50		

Note

(4) Rated voltage: $\sqrt{P \times R}$.

* Pb containing terminations are not RoHS compliant, exemptions may apply

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: SOMC16011K00GDC (preferred part numbering format)

S	O	M	C	1	6	0	1	1	K	0	0	G	D	C			

GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
SOMC	**14** **16** **20**	**01** = Bussed **03** = Isolated **00** = Special	**R** = Ω **K** = kΩ **M** = MΩ **10R0** = 10 Ω **680K** = 680 kΩ **1M00** = 1.0 MΩ	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 % **S** = Special	**EJ** = Lead (Pb)-free, tube **EA** = Lead (Pb)-free, tape and reel **DC** = Tin/lead, tube **RZ** = Tin/lead, tape and reel	Blank = Standard (Dash number) (Up to 3 digits) From **1 to 999** as applicable

Historical Part Number Example: SOMC1601102G (will continue to be accepted)

SOMC	16	01	102	G	D02
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

New Global Part Numbering: SOMC2005500BGRZ (preferred part numbering format)

S	O	M	C	2	0	0	5	5	0	0	B	G	R	Z			

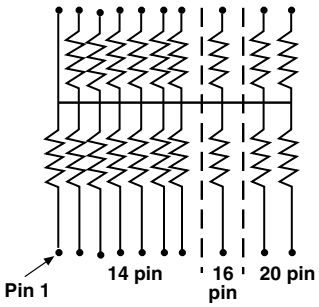
GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
SOMC	**14** **16** **20**	**05** = Dual terminator	3 digit impedance code, followed by alpha modifier (see Impedance table)	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 %	**EJ** = Lead (Pb)-free, tube **EA** = Lead (Pb)-free, tape and reel **DC** = Tin/lead, tube **RZ** = Tin/lead, tape and reel	Blank = Standard (Dash number) Up to 3 digits From **1 to 999** as applicable

Historical Part Number Example: SOMC2005820131G (will continue to be accepted)

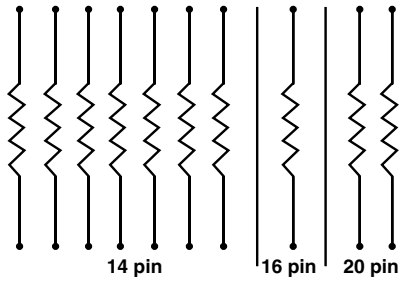
SOMC	20	05	820	131	G	R61
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE 1	RESISTANCE VALUE 2	TOLERANCE CODE	PACKAGING

CIRCUIT SCHEMATICS

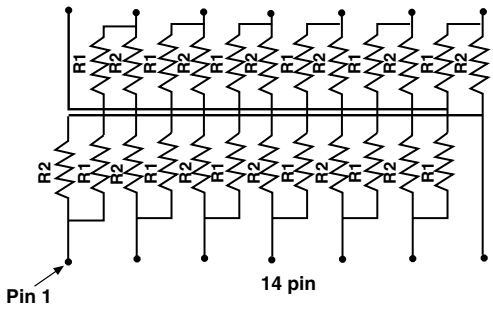
01 Circuit



03 Circuit

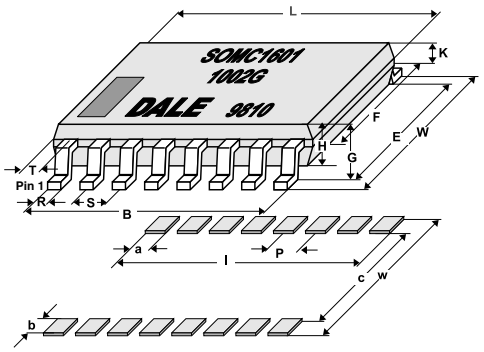


05 Circuit



Thick Film Resistor Networks, Dual-In-Line, Medium Body, Small Outline, Molded DIP, Surface Mount

DIMENSIONS



SOLDER PAD DIMENSIONS in millimeters						
	a	b	c	l	p	w
WAVE	0.64	1.91	5.34	9.53	1.27	9.15
REFLOW	0.64	1.91	5.34	9.53	1.27	9.15

Notes

- The dimension shown are for a 16 pin part. For parts with different pin numbers use the same pitch and add or subtract pads as required.
- Maximum solder reflow temperature + 255 °C.

DIMENSIONS in millimeters											
PIN NO#	L	W	B	E	F	G	H	K	R	S	T
14	9.91	7.62	7.62	6.20	5.59	2.16	2.03	0.914	0.457	1.27	1.14
16	11.18	7.62	8.89	6.20	5.59	2.16	2.03	0.914	0.457	1.27	1.14
20	13.72	7.62	11.43	6.20	5.59	2.16	2.03	0.914	0.457	1.27	1.14
Tol.	± 0.254	± 0.381	± 0.254	± 0.381	± 0.127	± 0.127	± 0.127			± 0.254	

IMPEDANCE CODES					
CODE	R_1 (Ω)	R_2 (Ω)	CODE	R_1 (Ω)	R_2 (Ω)
500B	82	130	141A	270	270
750B	120	200	181A	330	390
800C	130	210	191A	330	470
990A	160	260	221B	330	680
101C	180	240	281B	560	560
111C	180	270	381B	560	1.2K
121B	180	390	501C	620	2.7K
121C	220	270	102A	1.5K	3.3K
131A	220	330	202B	3K	6.2K

PERFORMANCE		
TEST	CONDITIONS OF TEST	TEST RESULTS (TYPICAL TEST LOTS)
Power conditioning	MIL-STD-202	± 0.5 %
Load life at 70 °C	MIL-STD-202	± 0.5 %
Short time overload	MIL-STD-202	± 0.25 %
Thermal shock	MIL-STD-202	± 0.5 %
Moisure resistance	MIL-STD-202	± 0.5 %
Resistance to soldering heat	MIL-STD-202	± 0.25 %
Low temperature operation	MIL-STD-202	± 0.25 %
Vibration	MIL-STD-202	± 0.25 %
Shock	MIL-STD-202	± 0.25 %
Terminal strength	MIL-STD-202	± 0.25 %

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 and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. 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.

Material Category Policy

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.