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



FEATURES

- Isolated, bussed and dual terminator schematics available
- 0.110" (2.79 mm) maximum seated height
- Rugged, molded case construction
- 0.050" (1.27 mm) lead spacing
- Reduces total assembly costs
- Compatible with automatic surface mounting equipment
- Uniform performance characteristics
- Meets EIA PDP 100, SOGN-0003 outline dimensions
- Available in tube pack or tape and reel pack
- Compliant to RoHS directive 2002/95/EC

Pb Available

e1 RoHS* COMPLIANT

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SCHEMATIC	POWER RATING ELEMENT $P_{70\,°C}$ W	POWER RATING PACKAGE $P_{70\,°C}$ W	TOLERANCE (1) ± %	RESISTANCE RANGE Ω	MAXIMUM WORKING VOLTAGE (2) V_{DC}	TEMPERATURE COEFFICIENT ± ppm/°C
SOGC16	01	0.1	1.6	1, 2, 5	10 to 1M	50	100
	03	0.19	1.6	1, 2, 5	10 to 1M	50	100
	05	0.1	1.6	2, 5	10 to 1M	50	100
SOGC20	01	0.1	2.0	1, 2, 5	10 to 1M	50	100
	03	0.19	2.0	1, 2, 5	10 to 1M	50	100
	05	0.1	2.0	2, 5	10 to 1M	50	100

Notes

- 100 mΩ maximum on 0 Ω-jumper.

(1) ± 2 % standard, ± 1 % and ± 5 % available.

(2) Continuous working voltage shall be $\sqrt{P \times R}$ or maximum working voltage, whichever is less.

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: SOGC200310K0GDC (preferred part number format)

S	O	G	C	2	0	0	3	1	0	K	0	G	D	C			

GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
SOGC	**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 % **S** = Special **Z** = 0 Ω Jumper	**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: SOGC2003103G (will continue to be accepted)

SOGC	20	03	103	G	D02
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING

New Global Part Numbering: SOGC1605131AGRZ (preferred part number format)

S	O	G	C	1	6	0	5	1	3	1	A	G	R	Z			

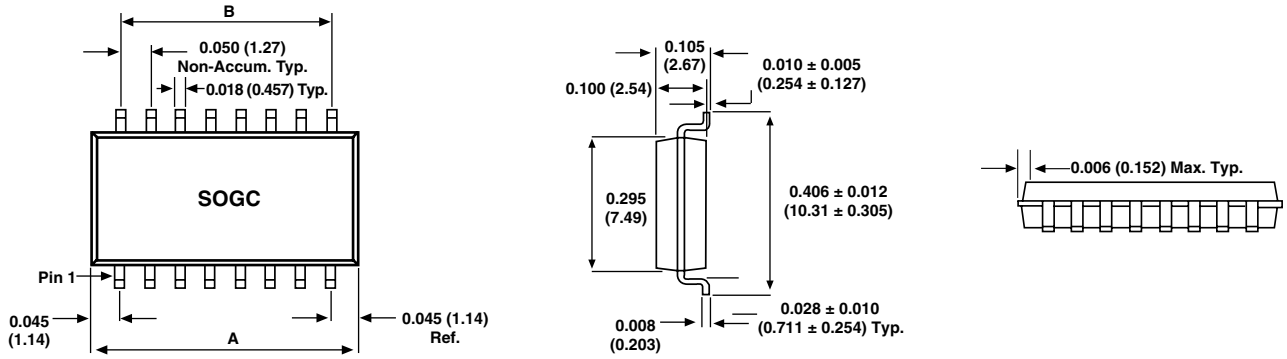
GLOBAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE	TOLERANCE CODE	PACKAGING	SPECIAL
SOGC	**16** **20**	**05** = Dual terminator	3 digit impedance code, followed by alpha modifier (see Impedance Codes table)	**F** = ± 1 % **G** = ± 2 % **J** = ± 5 %	**EJ** = Lead (Pb)-free, tube **EA** = Lead (Pb)-free, 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: SOGC1605221331G (will continue to be accepted)

SOGC	16	05	221	331	G	R61
HISTORICAL MODEL	PIN COUNT	SCHEMATIC	RESISTANCE VALUE 1	RESISTANCE VALUE 2	TOLERANCE CODE	PACKAGING

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

DIMENSIONS in inches (millimeters)



GLOBAL MODEL	A	B
SOGC16	0.440 (11.18)	0.350 (8.89)
SOGC20	0.540 (13.72)	0.450 (11.43)

TECHNICAL SPECIFICATIONS			
PARAMETER	UNIT	SOGC16	SOGC20
Package power rating (max. at + 70 °C)	W	1.6	2.0
TCR tracking (- 55 °C to + 125 °C)	ppm/°C	± 50	
Voltage coefficient of resistance	ppm/V	< 50 typical	
Maximum operating voltage	V_{DC}	50	
Operating temperature range	°C	- 55 to + 125	
Storage temperature range	°C	- 55 to + 150	

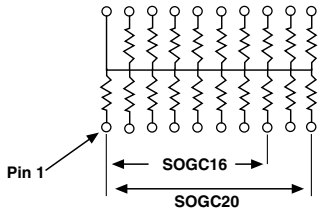
MECHANICAL SPECIFICATIONS	
Marking	Model number, schematic number, value tolerance, pin 1 indicator, date code
Marking resistance to solvents	Permanency testing per MIL-STD-202, method 215
Maximum solder reflow temperature	+ 255 °C
Solderability	Per MIL-STD-202, method 208E
Terminals	Copper alloy. Solder dipped terminal
Body	Molded epoxy

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

CIRCUIT APPLICATIONS

01 Schematic

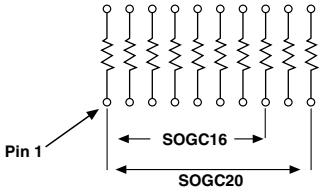


15 or 19 resistors with one pin common

The SOGCxx01 circuit provides a choice of 15 or 19 nominally equal resistors, each connected between a common lead (16 or 20) and a discrete PC board pin. Commonly used in the following applications:

- MOS/ROM pull-up/pull-down
- Open collector pull-up
- "Wired OR" pull-up
- Power driven pull-up
- TTL input pull-down
- Digital pulse squaring
- TTL unused gate pull-up
- High speed parallels pull-up

03 Schematic

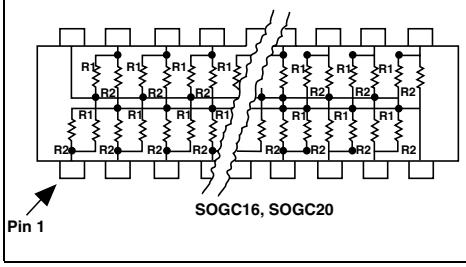


8 or 10 isolated resistors

The SOGCxx03 circuit provides a choice of 8 or 10 nominally equal resistors with each resistor isolated from all others and wired directly across. Commonly used in the following applications:

- "Wired OR" pull-up
- Power driven pull-up
- Powergate pull-up
- Line termination
- Long-line Impedance balancing
- LED current limiting
- ECL output pull-down
- TTL input pull-down

05 Schematic



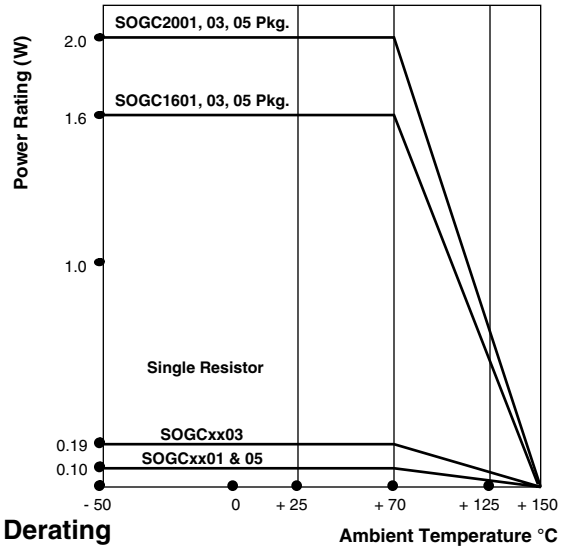
TTL dual-line terminator; pulse squaring, 14 or 18 pairs of resistors

(R_1 resistors are common to leads 16 or 20)

(R_2 resistors are common to leads 8 or 10)

The SOGCxx05 circuit contains 14 or 18 pairs of resistors. Each pair is connected between ground and a common line. The junctions of these resistor pairs are connected to the input leads.

The 05 circuits are designed for TTL dual-line termination and pulse squaring.



PERFORMANCE	
TEST	**MAX. ΔR (TYPICAL TEST LOTS)**
Power conditioning	± 0.50 % ΔR
Thermal shock	± 0.50 % ΔR
Short time overload	± 0.25 % ΔR
Low temperature operation	± 0.25 % ΔR
Moisture resistance	± 0.50 % ΔR
Resistance to soldering heat	± 0.25 % ΔR
Shock	± 0.25 % ΔR
Vibration	± 0.25 % ΔR
Load life	± 0.50 % ΔR
Terminal strength	± 0.25 % ΔR
Insulation resistance	10 000 MΩ (minimum)
Dielectric withstanding voltage	No evidence of arcing or damage (200 V_{RMS} for 1 min)

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