



CERAMIC

Power Splitter/Combiner

SCG-2-722+

2 Way-0° 50Ω 4.2 to 7.2 GHz

THE BIG DEAL

- Industry leading combination of size/power handling
- Rugged, ceramic construction
- Good power handling, 2W



Generic photo used for illustration purposes only
CASE STYLE: GE0805C-1

+RoHS Compliant

The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- 5G SUB 6Hz
- WIFI 6

PRODUCT OVERVIEW

Mini-Circuits new LTCC 0° Power Splitter, model SCG-2-722+, offers industry leading combination of operating performance and size. The outstanding phase and amplitude unbalance make this component a versatile building block for use in a variety of systems and sub-system designs.

KEY FEATURES

Feature	Advantages
LTCC Construction	Provides repeatable performance in a rugged, ceramic package well suited for tough environments such as high humidity and temperature extremes.
Good power handling, 2W	Supports a wide range of system power requirements.
Wrap-around terminations	Provides excellent solderability and easy visual inspection
Wide band Performance	Operate from 4.2 to 7.2 GHz to cover multiple telecom applications



CERAMIC

Power Splitter/Combiner

SCG-2-722+

2 Way-0° 50Ω 4.2 to 7.2 GHz

ELECTRICAL SPECIFICATIONS AT 25°C

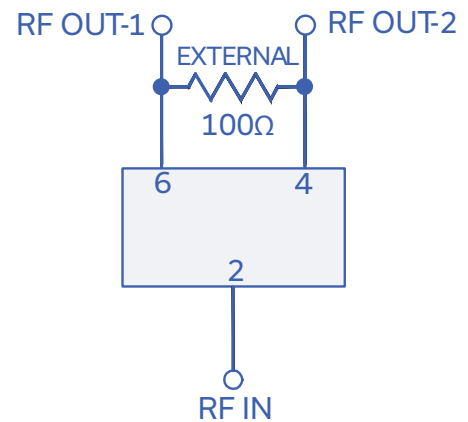
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		4200		7200	MHz
Insertion Loss, above 3.0 dB	4200-6400		0.9	1.3	dB
	6400-7200		1.7		
Isolation	4200-7200	10	13		dB
Phase Unbalance	4200-6400		2	6	Degree
	6400-7200		3	9	
Amplitude Unbalance	4200-7200		0.2	0.5	dB
Return Loss (Input)	4200-6400	8.5	12		dB
	6400-7200		7.5		
Return Loss (Output)	4200-6400	11	16		dB
	6400-7200		9		

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
Power Input (as a splitter)	2W* max.

* Derate linearly to 0.7W at 100°C ambient, power input as combiner is limited by rating of external resistor 100Ω resistor. Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC





CERAMIC

Power Splitter/Combiner

SCG-2-722+

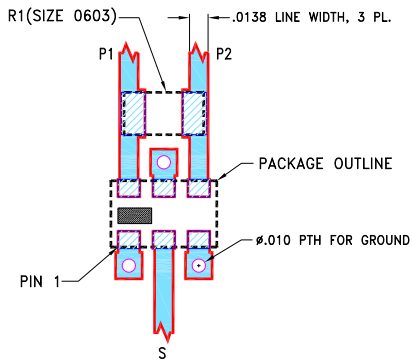
2 Way-0° 50Ω 4.2 to 7.2 GHz

PAD CONNECTIONS

SUM PORT	2
PORT 1	6
PORT 2	4
GROUND	1,3,5
PORT 1-2	resistor external 100 ohms

PRODUCT MARKING: SK

DEMO BOARD MCL P/N: TB-1043+
SUGGESTED PCB LAYOUT (PL-560)

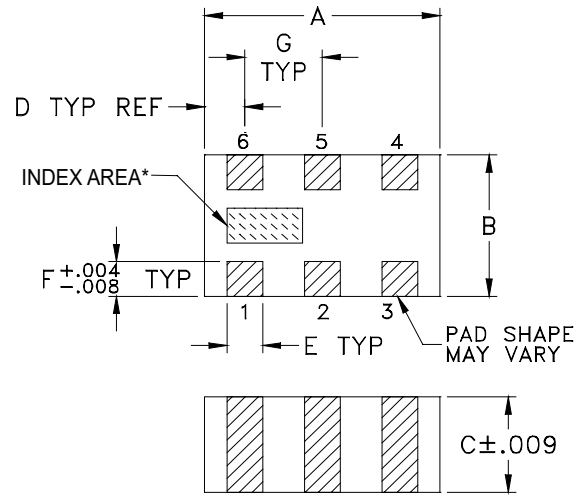


NOTES:

1. LINE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .0066±.0007. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS LINE WIDTH MAY NEED TO BE MODIFIED.
2. UNIT FOOT PRINT IS OPTIMIZED FOR PERFORMANCE AND IS DIFFERENT FROM CASE STYLE GE0805C-1 RECOMMENDATIONS.
3. CHIP COMPONENT FOOT PRINT IS SHOWN FOR REFERENCE. FOR COMPONENT VALUE REFER TO TB-1043+.
4. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

OUTLINE DRAWING



*Shape of index marking may vary

OUTLINE DIMENSIONS (Inches/mm)

A	B	C	D	E	F	G	wt
.079	.049	.033	.014	.012	.012	.026	grams
2.01	1.24	0.84	0.36	0.30	0.30	0.65	.008

TAPE & REEL INFORMATION: F74



CERAMIC

Power Splitter/Combiner

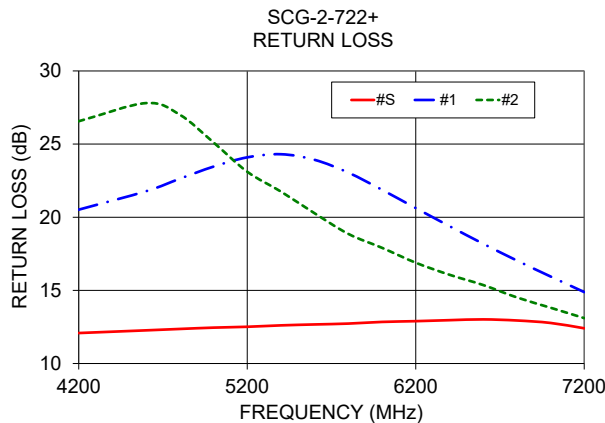
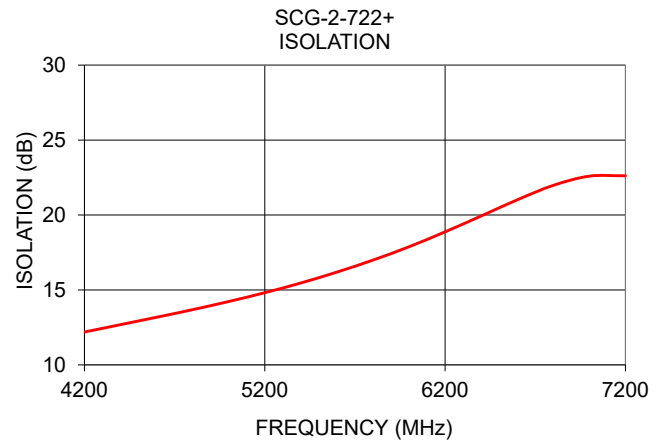
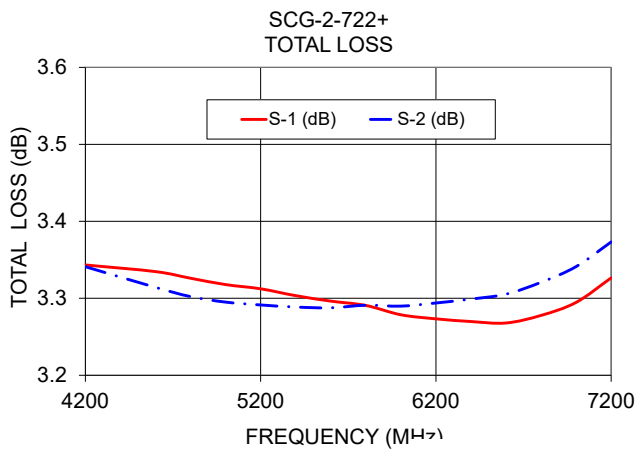
SCG-2-722+

2 Way-0° 50Ω 4.2 to 7.2 GHz

TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB)		
	S-1	S-2				S	1	2
4200	3.34	3.34	0.00	12.19	2.79	12.08	20.52	26.56
4600	3.33	3.31	0.02	13.18	2.77	12.27	21.78	27.80
4800	3.33	3.30	0.02	13.68	2.78	12.36	22.63	27.01
5000	3.32	3.30	0.02	14.23	2.77	12.45	23.46	25.11
5200	3.31	3.29	0.02	14.82	2.78	12.51	24.09	23.11
5400	3.30	3.29	0.01	15.47	2.82	12.61	24.31	21.75
5600	3.30	3.29	0.01	16.19	2.85	12.67	23.92	20.27
5800	3.29	3.29	0.00	16.99	2.91	12.73	23.05	18.86
6000	3.28	3.29	0.01	17.88	2.99	12.84	21.88	17.91
6200	3.27	3.29	0.02	18.88	3.10	12.89	20.62	16.89
6400	3.27	3.30	0.03	19.94	3.20	12.96	19.39	16.07
6600	3.27	3.31	0.04	21.01	3.34	13.02	18.19	15.37
6800	3.28	3.32	0.04	21.98	3.49	12.94	17.04	14.52
7000	3.29	3.34	0.05	22.59	3.63	12.77	15.95	13.81
7200	3.33	3.37	0.05	22.61	3.80	12.41	14.88	13.10

1. Total Loss = Insertion Loss + 3dB splitter loss.



- NOTES**
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
 - B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
 - C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard. Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

