

Power Splitter/Combiner

QCV-ED13423C/3

2 Way-90°

Important Note

This model has been designed, built and tested in our engineering department. Performance data represents model capability. At present it is a non-catalog model. On request, we can supply a final specification sheet, part number and price/delivery information.

Please click "Back", and then click "Contact Us" for Applications support.



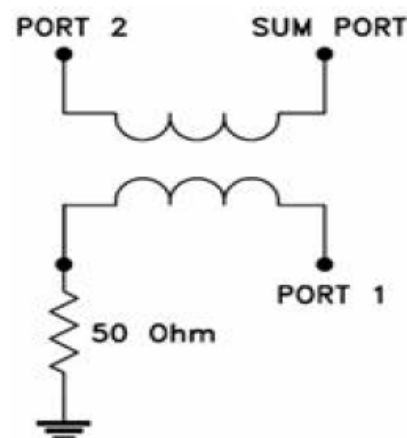
CASE STYLE : JV1210C-1

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C				
Parameter	Min.	Typ.	Max.	Units
Frequency	150		265	MHz
Isolation		20		dB
Insertion Loss Average of Coupled Outputs above 3.0 dB		0.60		dB
Phase Unbalance		5.00		deg.
Amplitude Unbalance		0.30		dB
VSWR		1.20		(:1)
	SUM Port			
	OUT Ports	1.25		(:1)

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	1
PORT 1 (0°)	4
PORT 2 (90°)	6
50 TERM. EXTERNAL	3
GND	2,5

Functional Diagram



2 Way-90° Power Splitter/Combiner

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Typical Performance Data

FREQ.	TOTAL LOSS ¹		AMP. UNBAL.	ISOLATION	PHASE UNBAL.	FREQ.	VSWR		
(MHz)	(dB)		(dB)	(dB)	(Deg.)	(MHz)	(:1)		
	S-1	S-2		1-2			S	1	2
125.0	2.49	4.58	2.09	20.07	85.95	125.0	1.18	1.20	1.18
130.0	2.59	4.43	1.85	20.04	85.89	130.0	1.18	1.20	1.18
135.0	2.68	4.30	1.62	20.01	85.82	135.0	1.17	1.21	1.18
140.0	2.78	4.18	1.40	19.98	85.75	140.0	1.17	1.21	1.18
145.0	2.86	4.07	1.21	19.96	85.71	145.0	1.17	1.21	1.18
150.0	2.94	3.97	1.02	19.96	85.65	150.0	1.17	1.21	1.18
155.0	3.03	3.88	0.85	19.96	85.60	155.0	1.17	1.21	1.18
160.0	3.10	3.80	0.70	20.00	85.54	160.0	1.17	1.21	1.18
165.0	3.17	3.73	0.56	20.01	85.49	165.0	1.17	1.21	1.18
170.0	3.23	3.67	0.43	20.07	85.46	170.0	1.16	1.21	1.18
175.0	3.29	3.61	0.32	20.11	85.42	175.0	1.16	1.21	1.19
180.0	3.35	3.57	0.22	20.16	85.39	180.0	1.16	1.22	1.19
185.0	3.40	3.53	0.13	20.21	85.36	185.0	1.16	1.22	1.19
190.0	3.44	3.50	0.06	20.25	85.35	190.0	1.16	1.22	1.19
195.0	3.48	3.47	0.00	20.29	85.34	195.0	1.16	1.22	1.20
200.0	3.51	3.45	0.05	20.32	85.33	200.0	1.16	1.22	1.20
205.0	3.54	3.44	0.09	20.35	85.33	205.0	1.16	1.22	1.21
210.0	3.56	3.44	0.11	20.36	85.33	210.0	1.17	1.23	1.21
215.0	3.57	3.45	0.12	20.37	85.34	215.0	1.17	1.23	1.22
220.0	3.58	3.46	0.12	20.38	85.36	220.0	1.18	1.24	1.23
225.0	3.58	3.49	0.09	20.39	85.39	225.0	1.19	1.24	1.24
230.0	3.58	3.52	0.06	20.38	85.44	230.0	1.20	1.25	1.25
235.0	3.57	3.56	0.00	20.36	85.50	235.0	1.21	1.25	1.26
240.0	3.55	3.62	0.06	20.32	85.57	240.0	1.22	1.26	1.28
245.0	3.53	3.68	0.15	20.26	85.67	245.0	1.24	1.27	1.29
250.0	3.50	3.76	0.26	20.16	85.79	250.0	1.26	1.28	1.31
255.0	3.47	3.86	0.38	20.03	85.96	255.0	1.28	1.29	1.33
260.0	3.43	3.97	0.53	19.87	86.15	260.0	1.30	1.31	1.35
265.0	3.39	4.09	0.70	19.66	86.40	265.0	1.33	1.32	1.38
270.0	3.34	4.24	0.90	19.42	86.69	270.0	1.36	1.34	1.41
275.0	3.29	4.42	1.13	19.13	87.07	275.0	1.40	1.36	1.44
280.0	3.24	4.62	1.38	18.80	87.53	280.0	1.44	1.39	1.48
285.0	3.19	4.86	1.67	18.42	88.09	285.0	1.48	1.41	1.52
290.0	3.13	5.13	2.00	17.99	88.81	290.0	1.53	1.44	1.56
295.0	3.08	5.44	2.36	17.53	89.69	295.0	1.59	1.48	1.62
300.0	3.03	5.80	2.77	17.03	90.80	300.0	1.65	1.52	1.67

¹Total Loss = Insertion Loss + 3dB Splitter Loss



REV. X1

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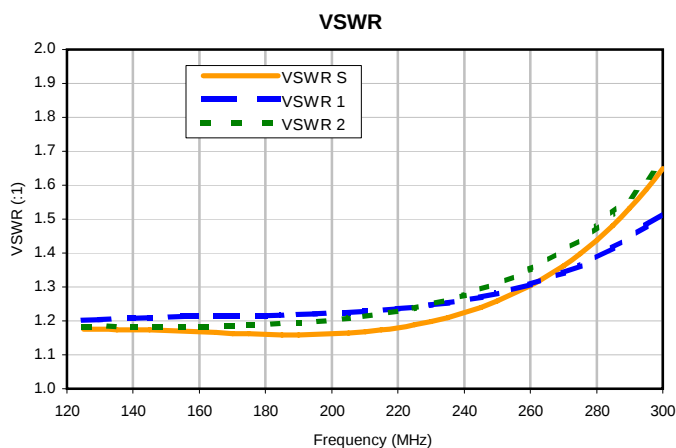
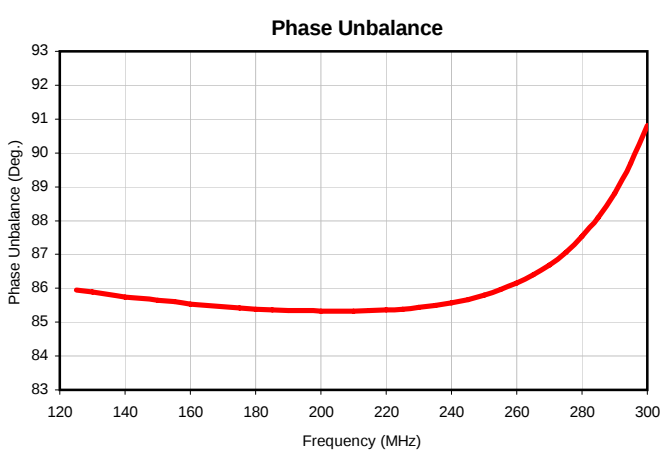
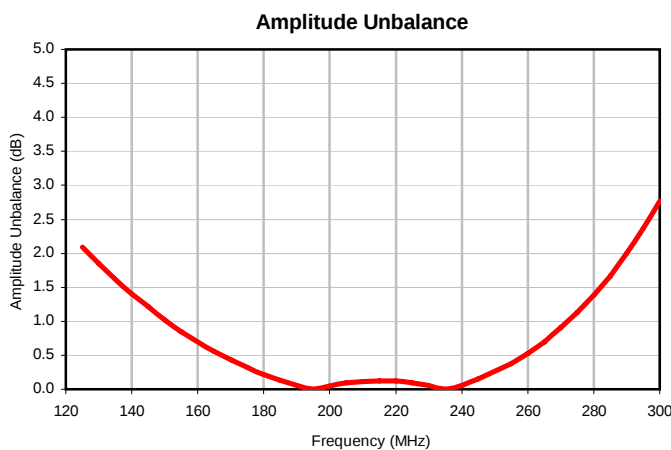
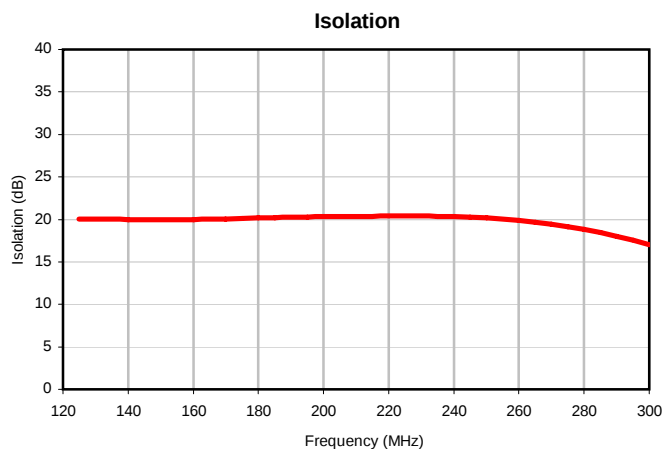
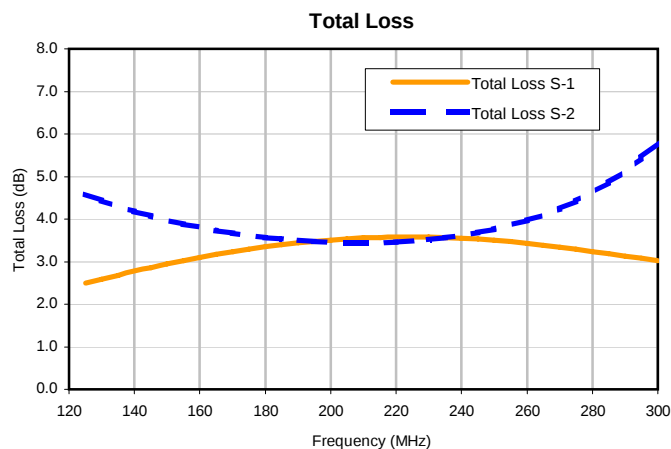
IF/RF MICROWAVE COMPONENTS

QCV-ED13423C/3

2/7/2011

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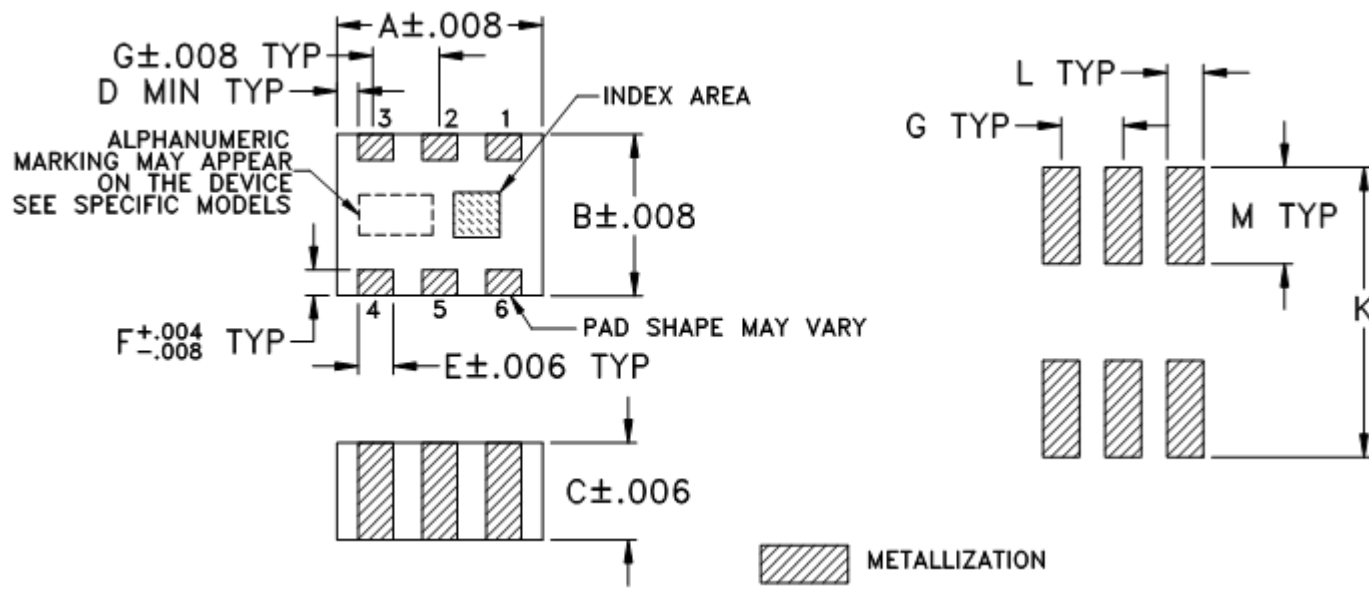
Typical Performance Curves



Outline Dimensions

JV1210C-1

PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

CASE #	A	B	C	D	E	F	G	H	J	K	L	M	WT. GRAM
JV1210C-1	.126 (3.2)	.098 (2.5)	.059 (1.50)	.004 (.1)	.022 (.56)	.016 (.4)	.039 (1.0)	- -	- -	.177 (4.5)	.024 (.6)	.059 (1.5)	.03

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Open style, ceramic base.
- Termination finish: **as shown below or indicated on Data Sheet.**
For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.
- Pad tolerance is non-cumulative. Minimum spacing between each pad is .004.



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RF/IF MICROWAVE COMPONENTS

Tape & Reel Packaging TR-F74

DEVICE ORIENTATION IN T&R

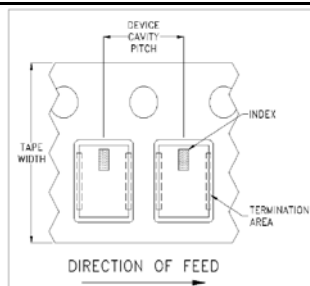


ILLUSTRATION 1

Applicable Case Styles

GE0805C-1
GE0805C-1AP
JV1210C-1
GU2939

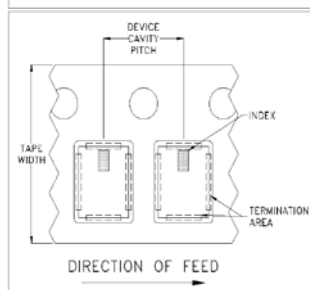


ILLUSTRATION 2

Applicable Case Styles

JV1210C
JV1210C-2
JV1210C-3
JV1210C-4
JV1210C-5
JV1210C-6
JV1210C-11

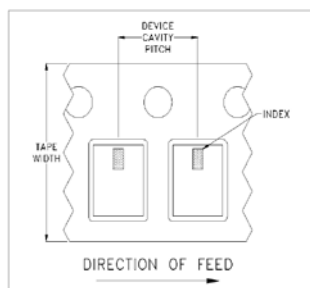


ILLUSTRATION 3

Applicable Case Styles

JC0603C-8
JV1210C-7
JV1210C-8
JV1210C-9
JV1210C-10
JV1210C-13
GE0805C-13

Tape Width, mm	Device Cavity Pitch, mm	Real Size, inches	Devices per Reel	
8	4	7	Small quantity standards (see note)	20
				50
				100
				200
				500
				1000
			Standard	2000
				4000

Note: Small reel availability varies by model. Refer to pricing and availability on individual model dashboard.

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

Go to: www.minicircuits.com/pages/pdfs/tape.pdf



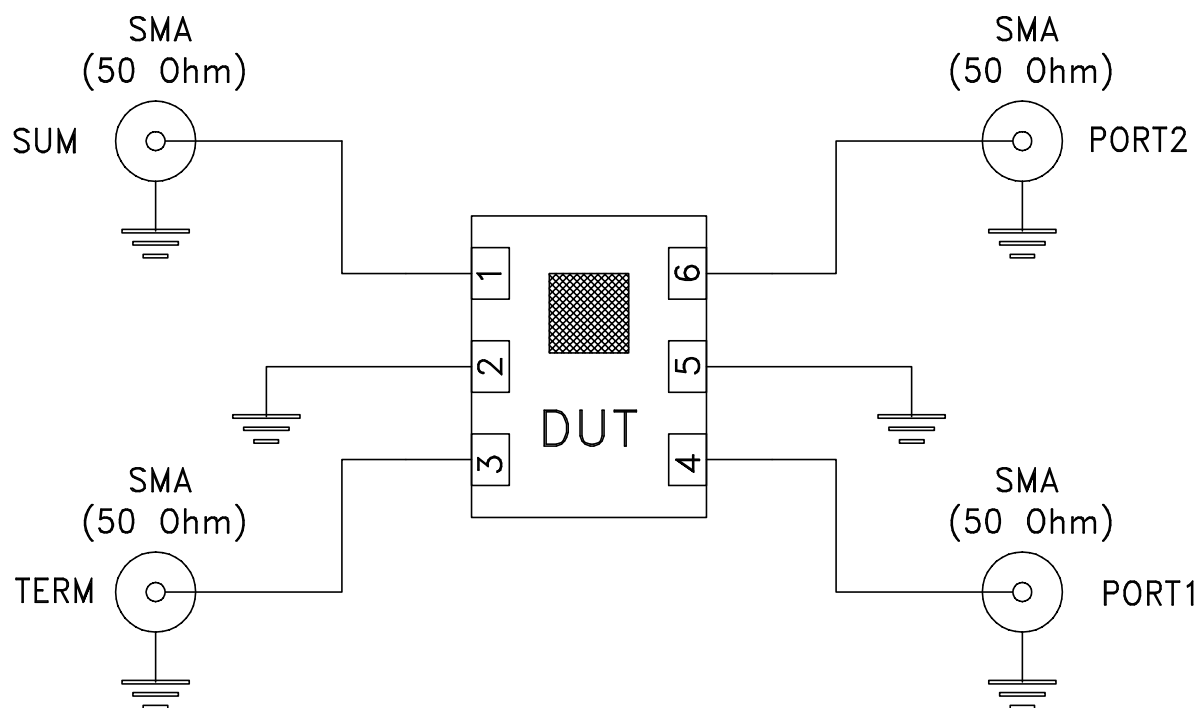
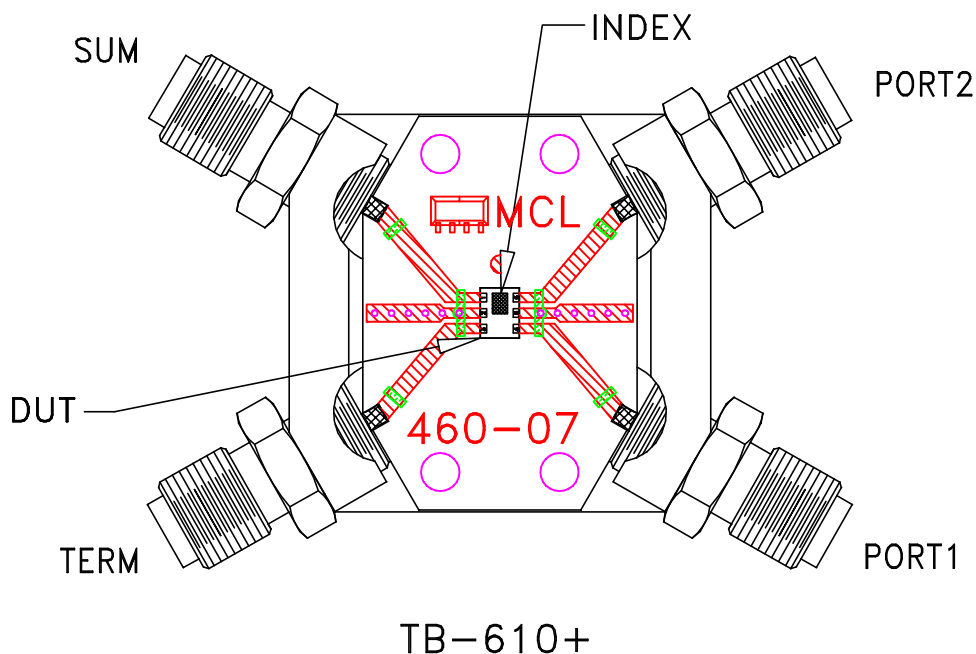
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Evaluation Board and Circuit



Schematic Diagram

NOTES:

1. SMA Female connectors.
2. PCB Material: Rogers R04350 or equivalent, Dielectric Constant=3.5, Thickness=.020 inch.

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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Solder Reflow Heat	Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A