Engineering Development Model

Power Splitter/Combiner PSC-ED5825A/1

12 Way-0°

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 : E10

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		**Min.**	**Typ.**	**Max.**	**Units**
Frequency		2.8		375	MHz
Isolation	**2.8 - 28 MHz**		52		dB
	28 - 187.5 MHz		45		dB
	187.5 - 375 MHz		38		dB
Insertion Loss Above 10.8 dB	**2.8 - 28 MHz**		0.48		dB
	28 - 187.5 MHz		0.71		dB
	187.5 - 375 MHz		1.09		dB
Phase Unbalance	**2.8 - 28 MHz**		0.234		deg.
	28 - 187.5 MHz		1.178		deg.
	187.5 - 375 MHz		3.210		deg.
Amplitude Unbalance	**2.8 - 28 MHz**		0.030		dB
	28 - 187.5 MHz		0.064		dB
	187.5 - 375 MHz		0.253		dB
VSWR	**SUM Port**		1.12		(:1)
	OUT Ports		1.15		(:1)

MAXIMUM RATINGS	
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C

PIN CONNECTIONS	
SUM PORT	5
PORT 1	7
PORT 2	8
PORT 3	1
PORT 4	2
PORT 5	31
PORT 6	32
PORT 7	25
PORT 8	26
PORT 9	22
PORT 10	30
PORT 11	19
PORT 12	27
GND EXT	4
CASE GND	all other pins
NOT USED	11, 14, 21

Functional Diagram

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Typical Performance Data

FREQ. (MHz)	TOTAL LOSS[1] (dB)	AMP. UNBAL. (dB)	ISOLATION (dB)		PHASE UNBAL. (deg.)	FREQ. (MHz)	VSWR (:1)	
			Adjacent	Opposite			S	OUTPUTS
2.8	11.34	0.04	45.55	56.52	0.28	2.8	1.14	1.17
4.6	11.27	0.04	46.37	57.89	0.20	4.6	1.11	1.13
6.4	11.27	0.02	46.48	58.65	0.19	6.4	1.09	1.12
8.2	11.27	0.03	46.30	58.07	0.29	8.2	1.08	1.11
10.0	11.26	0.02	46.02	57.65	0.21	10.0	1.07	1.10
30.4	11.32	0.04	44.33	52.54	0.51	30.4	1.06	1.09
50.8	11.37	0.03	43.33	49.26	0.65	50.8	1.07	1.10
71.2	11.45	0.04	43.00	46.87	0.86	71.2	1.08	1.10
91.6	11.47	0.04	43.14	45.13	1.00	91.6	1.09	1.10
112.0	11.53	0.05	43.64	43.81	1.20	112.0	1.10	1.10
132.4	11.60	0.08	44.91	42.74	1.41	132.4	1.10	1.11
152.8	11.65	0.09	46.52	42.02	1.76	152.8	1.11	1.12
173.2	11.68	0.14	46.82	41.19	2.03	173.2	1.11	1.13
193.6	11.75	0.14	44.39	40.71	2.31	193.6	1.11	1.14
214.0	11.78	0.17	40.71	40.28	2.63	214.0	1.12	1.15
217.6	11.76	0.18	40.08	40.23	2.57	217.6	1.12	1.15
221.2	11.79	0.19	39.42	40.19	2.64	221.2	1.12	1.16
224.8	11.82	0.21	38.96	40.15	2.65	224.8	1.12	1.16
228.4	11.83	0.19	38.36	40.02	2.71	228.4	1.12	1.16
232.0	11.84	0.22	37.86	40.11	2.84	232.0	1.12	1.16
235.6	11.84	0.19	37.31	40.02	2.92	235.6	1.12	1.17
239.2	11.87	0.22	36.79	39.93	2.91	239.2	1.12	1.17
242.8	11.88	0.23	36.23	39.98	2.98	242.8	1.13	1.17
246.4	11.87	0.24	35.72	40.02	2.93	246.4	1.13	1.18
250.0	11.88	0.26	35.24	39.89	3.02	250.0	1.13	1.18
281.3	11.98	0.28	31.43	39.65	3.59	281.3	1.14	1.21
312.5	11.99	0.35	28.58	40.02	4.25	312.5	1.17	1.24
343.8	12.14	0.47	26.23	40.23	4.84	343.8	1.20	1.28
375.0	12.18	0.50	24.22	40.24	5.57	375.0	1.23	1.31

[1] Total Loss = Insertion Loss + 10.8dB Splitter Loss

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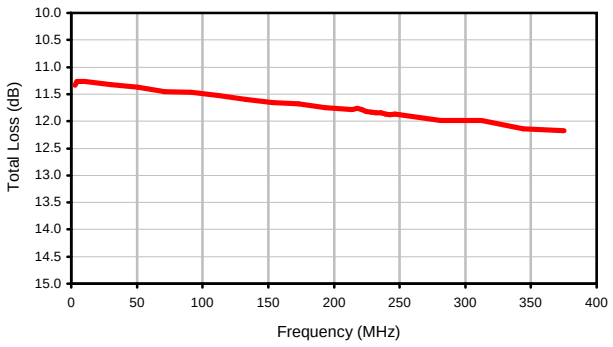
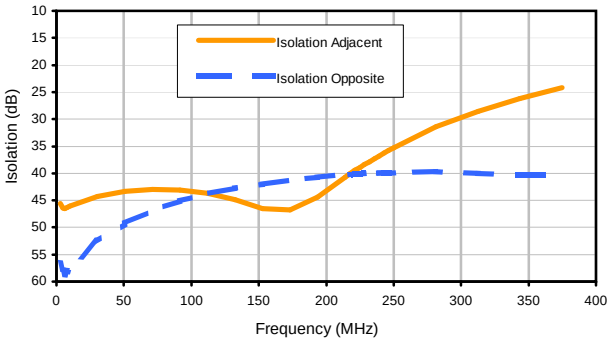
Typical Performance Curves

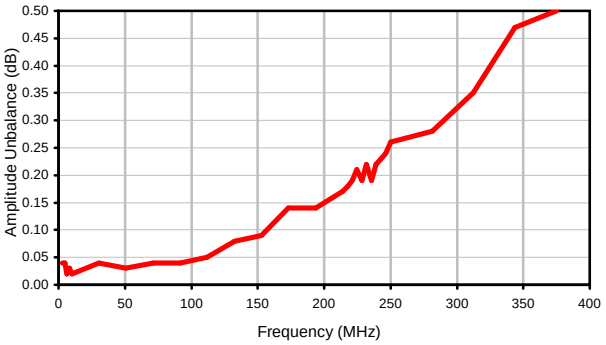
Total Loss



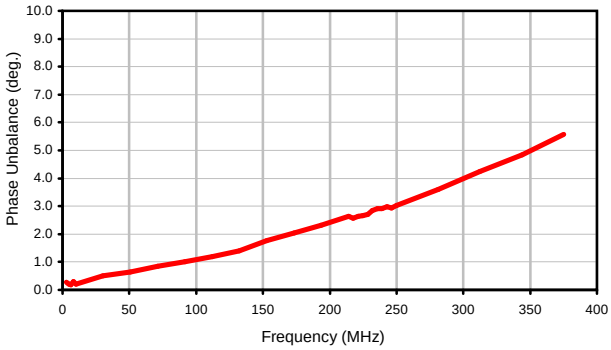
Isolation



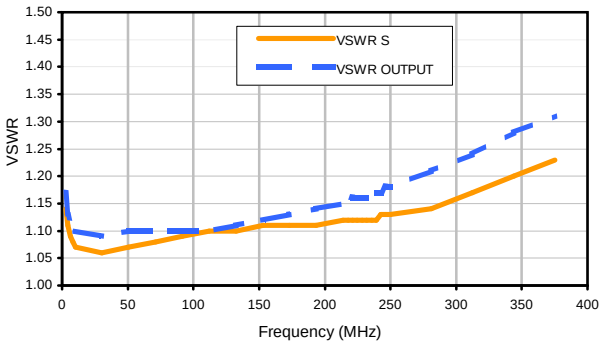
Amplitude Unbalance



Phase Unbalance



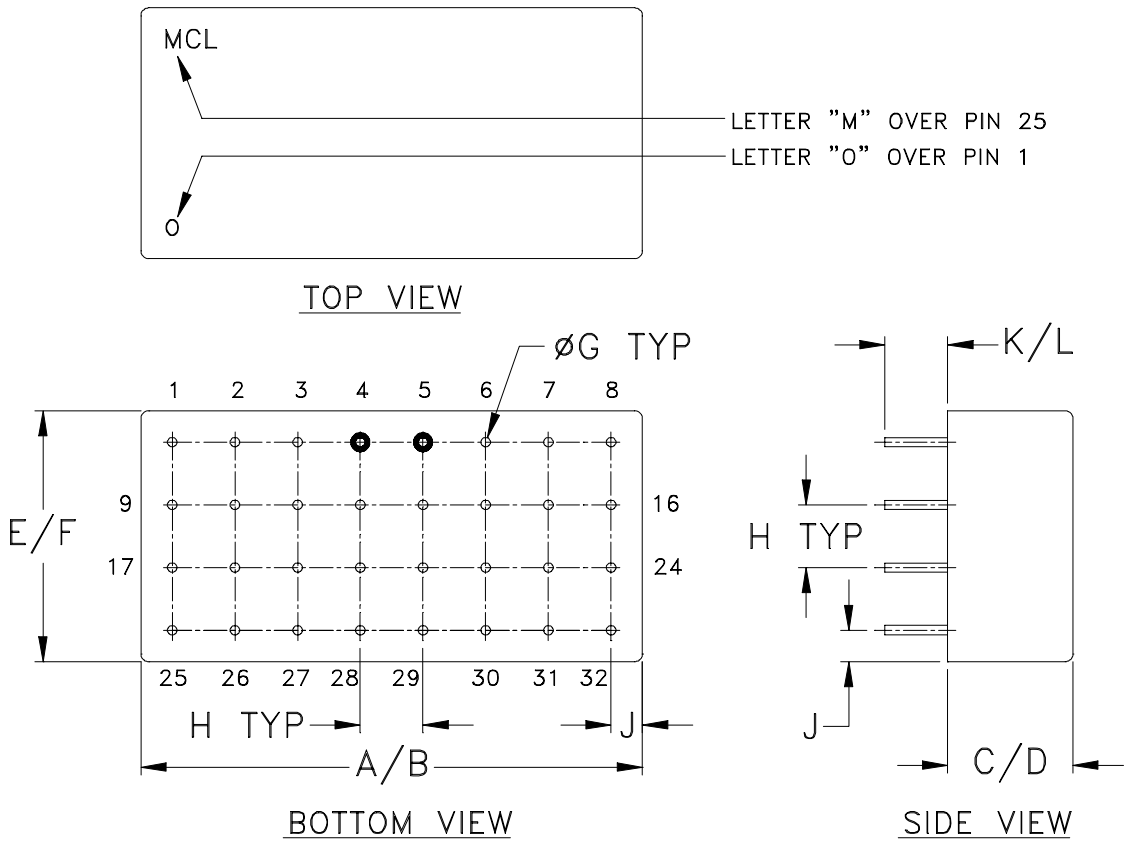
VSWR



Case Style E

E10

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	L	WT, GRAM
E10	1.580 (40.13)	1.620 (41.15)	.380 (9.65)	.410 (10.41)	.770 (19.56)	.810 (20.57)	.030 (.76)	.200 (5.08)	.10 (2.54)	.20 (5.08)	.14 (3.56)	23.0

Dimensions are in inches (mm). Tolerances: 2 Pl. ± .03; 3 Pl. ± .015

Notes:

1. Header material: C.R.S.
   Pin material: #52 alloy.
   Cover material: Cupro-Nickel.
2. Pin finish: Electro Tin-Silver.
3. Tolerance on pin diameter +/-.005 inch.
4. Glass meniscus 0.015 inch max.
5. Blue bead Pins 4 & 5. Pin numbers do not appear on unit, for reference only.

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INTERNET http://www.minicircuits.com
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661
Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010
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Environmental Specifications ENV01

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
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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
Moisture Resistance	10 cycles, 24 hours per cycle	MIL-STD-202, Method 106, Condition A, except 50°C and end point electrical test done within 12 hours
Solderability	10X Magnification	J-STD-002, 95% Coverage
Resistance to Solder Heat	260°C for 10 seconds	MIL-STD-202, Method 210, Condition B
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215
Terminal Strength	4 1/2 Pound Pull	MIL-STD-202, Method 211, Condition A

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
Gross Leak	125°C Bubble Test	MIL-STD-202, Method 112, Condition D
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D