

Power Splitter/Combiner

HT-SYPS-3-142W+



3 Way-0° 50Ω 5 to 1450 MHz

Electrical Schematic



Transformer Electrical Specifications

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1450	MHz
Insertion Loss Above 4.8 dB	5-400	-	0.7	1.3	dB
	400-1200	-	1.5	2.4	
	1200-1450	-	2.2	3.3	
Isolation	5-400	17	24	-	dB
	400-1200	15	20	-	
	1200-1450	13	19	-	
Phase Unbalance	5-400	-	-	2.0	Degree
	400-1200	-	-	5.0	
	1200-1450	-	-	9.0	
Amplitude Unbalance	5-400	-	-	0.3	dB
	400-1200	-	-	0.7	
	1200-1450	-	-	0.9	
VSWR (Port S)	5-400	-	1.20	-	:1
	400-1200	-	1.65	-	
	1200-1450	-	1.65	-	
VSWR (Port 1-3)	5-400	-	1.10	-	:1
	400-1200	-	1.20	-	
	1200-1450	-	1.20	-	

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1 W max.
Internal Dissipation	0.15W max.
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

SUM PORT	8 (input)
PORT 1	1 (output1)
PORT 2	4 (output2)
PORT 3	5 (output3)
GROUND	2,3,6,7

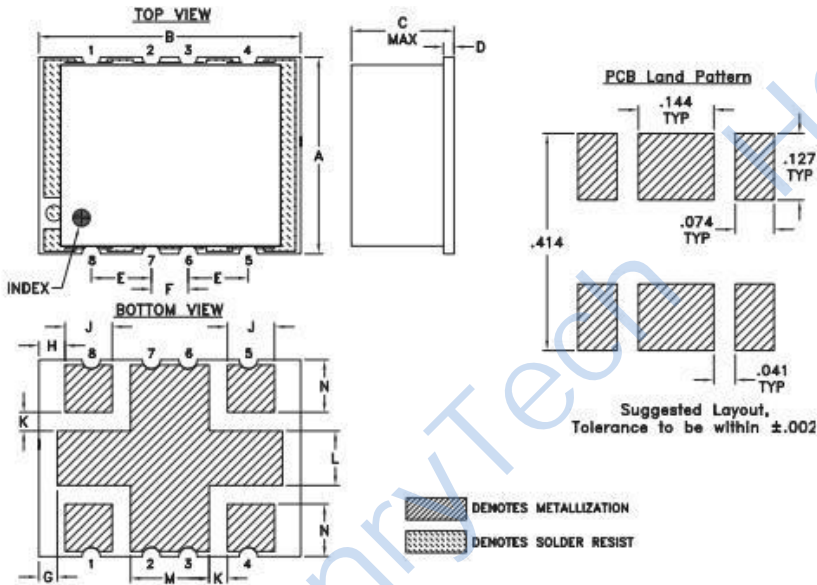
Typical Performance Data (TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +25°C)

Freq. (MHz)	Total Loss (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWRS			
	S-1	S-2	S-3		1-2	2-3	3-4		S	1	2	3
5	5.15	5.15	5.14	0.01	31.98	31.52	32.33	0.04	1.29	1.17	1.18	1.17
10	5.23	5.23	5.22	0.01	34.60	34.45	35.32	0.03	1.16	1.10	1.10	1.10
40	5.20	2.19	5.19	0.01	34.20	35.08	35.25	0.03	1.11	1.07	1.07	1.07
60	5.19	5.18	5.18	0.01	32.72	33.92	33.79	0.04	1.12	1.07	1.07	1.07
100	5.20	5.20	5.19	0.01	29.79	31.28	31.02	0.04	1.15	1.08	1.08	1.08
200	5.30	5.29	5.29	0.00	25.02	26.73	26.32	0.14	1.24	1.10	1.10	1.12
400	5.60	5.58	5.59	0.02	20.24	22.09	21.64	0.29	1.45	1.16	1.16	1.19
500	5.78	5.74	5.76	0.03	19.00	20.92	20.48	0.35	1.53	1.19	1.18	1.21
600	5.94	5.90	5.91	0.05	18.19	20.20	19.79	0.48	1.60	1.20	1.20	1.23
800	6.20	6.12	6.14	0.08	17.55	19.89	19.53	0.98	1.68	1.21	1.21	1.24
1000	6.37	6.25	6.26	0.13	17.98	21.09	20.73	1.61	1.66	1.19	1.19	1.20
1100	6.45	6.30	6.31	0.14	18.47	22.36	21.87	2.14	1.62	1.17	1.17	1.17
1200	6.57	6.39	6.40	0.18	18.78	23.67	22.63	2.76	1.58	1.15	1.14	1.15
1400	7.34	7.09	7.08	0.26	16.62	20.33	18.49	4.89	1.66	1.10	1.09	1.20
1450	7.71	7.52	7.46	0.26	15.69	18.76	17.06	5.31	1.72	1.29	1.09	1.25

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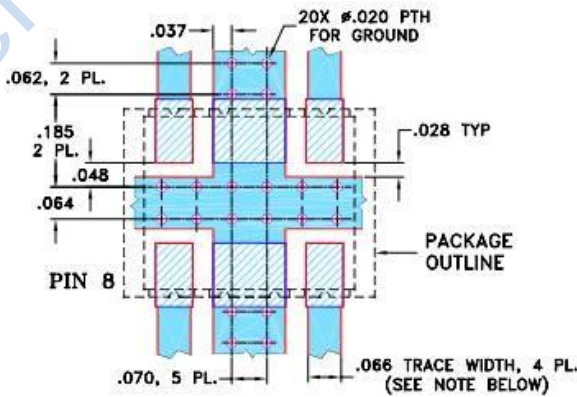
Outline Drawing



Outline Dimensions: Unit (mm)			
A	9.65	J	2.29
B	12.70	K	1.02
C	4.80	L	2.67
D	0.51	M	3.56
E	2.92	N	2.41
F	1.78		
G	0.89		
H	1.27		
WT	0.80g		

Suggested Layout,
Tolerance to be within ± 0.2

Demo Board MCL P/N: TB-364 Suggested PCB Layout (PL-231)



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $.030" \pm .002"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- 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

