

Directional Coupler

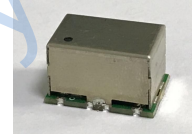
Features

- high power, 40W max. with output load VSWR 2.0 max
- high power, 20W max. with output open or short
- low mainline loss, 0.1 dB typ.
- good VSWR, 1.05 typ.

Applications

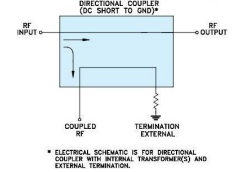
- military mobile

HT-SYDC-20-61VHP+



50Ω 20 dB Coupling 1.5 to 60 MHz 40 Watt

Electrical Schematic



Maximum Ratings

Operating Temperature -40°C to 85°C

Storage Temperature -55°C to 100°C

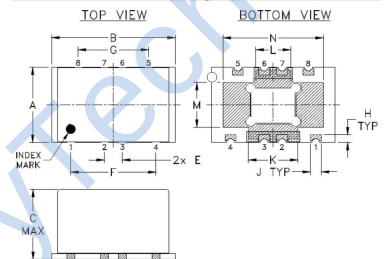
Permanent damage may occur if any of these limits are exceeded.

Pad Connections

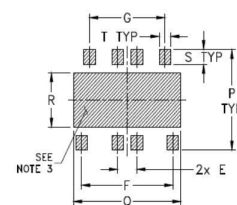
INPUT	1
OUTPUT	8
COUPLED	4
50Ω TERM EXTERNAL*	5
GROUND	2,3,6,7

* External termination must be able to handle 250 mW min.

Outline Drawing



PCB Land Pattern



Suggested L layout, Tolerance to be within ±0.05mm

Dimensions are in metric (mm)

A	B	C	E	F	G
11.0	17.53	10.54	2.54	12.09	10.01
H	J	K	L	M	N
1.14	1.52	7.01	4.93	6.53	14.22
P	Q	R	S	T	
12.07	14.25	6.55	1.75	1.55	

Electrical Specifications at 25°C

Parameter	Condition(MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1.5	-	60	MHz
Mainline Loss I (above theoretical 0.04 dB)	1.5 30 60	-	0.1 0.1 0.1	0.1 0.2 0.3	dB
Coupling	1.5-60 1.5 30 60	20.5 20.5 20.6	21 20.9 21.0 21.0	- 21.4 21.5 21.6	dB
Coupling Flatness(±)	1.5-30 30-60	- -	0.1 0.1	0. 30.	dB
Directivity	1.5 30 60	28 22 16	42.5 30.5 22.7	3 - -	dB
Return Loss (Input)	1.5 30 60	28 25 19	42 41 37	-	dB
Return Loss (Output)	1.5 30 60	28 25 19	43 39 33	-	dB

Typical Performance Data

Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				in	Out	Cpl
1.5	0.07	20.89	42.10	42.83	43.50	41.69
2.00	0.07	20.90	42.35	44.35	44.45	41.71
4.00	0.08	20.91	42.43	45.76	44.90	40.48
5.00	0.08	20.91	42.22	46.17	44.92	39.52
10.00	0.08	20.92	39.08	46.52	43.05	34.60
20.00	0.10	20.94	33.83	45.20	40.30	28.62
30.00	0.11	20.97	30.15	43.81	38.21	25.00
40.00	0.12	21.00	27.09	42.58	36.30	22.41
50.00	0.13	21.04	24.42	41.47	34.44	20.38
60.00	0.14	21.09	22.14	39.72	32.72	18.69

