

75Ω Bi-Phase

10 to 1000 MHz

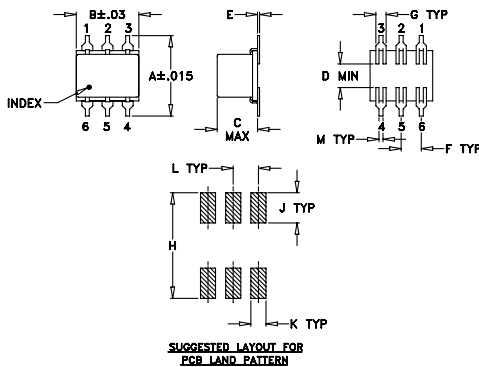
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Control Current	30mA

Pin Connections

INPUT	4
OUTPUT	1
CONTROL	5
GROUND	2,3,6

Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G
.400	.31	.20	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27

H	J	K	L	M	wt
.420	.120	.060	.100	.020	grams
10.67	3.05	1.52	2.54	0.51	0.55

Features

- wideband, 10 to 1000 MHz
- excellent phase and amplitude unbalance

Applications

- bi-phase modulator



CASE STYLE: QQQ130

PRICE: \$9.95 ea. QTY (1-9)

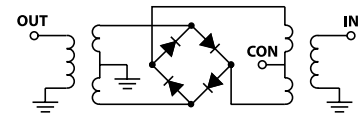
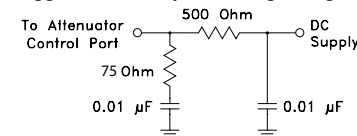
Attenuator/Switch Electrical Specifications

FREQUENCY (MHz)		INSERTION LOSS (dB) ±20 mA				MAX. INPUT PWR (dBm) ±20 mA		IN-OUT ISOLATION (dB) 0 mA				BI-PHASE X (±20 mA) Typ.			
IN	CON	Mid-Band m		Total Range		1dB compr.	no damage	L	M	U		Δ AMP (dB)	Phase(deg) deviation from 180°	Total Range	Total Range
f _L -f _U		Typ.	Max.	Typ.	Max.			Typ. Min.	Typ. Min.	Typ. Min.		m		m	m
10-1000	DC-0.05	4.1	6.0	4.5	7.5	20	25	58	40	42	28	39	20	0.15	0.3

L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U] m = mid band [2f_L to f_U/2]

Performance specifications apply for input power up to 10 dB below stated 1dB compression.

suggested control port biasing configuration



Typical Performance Data

Freq. (MHz)	I. Loss		±Control	20mA	Isolation (dB)		Input R. Loss (dB)	Control				Attenuation (dB)			PhaseΔ ref at 15mA Ctrl			Input VSWR		
	(dB)		Δ Amp	ΔPhase	(in-out)	(in-con)		Current	10	500	1000	10	500	1000	10	500	1000			
	at 20mA		(dB)	(deg.)				(mA)	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz	MHz			
	x	σ	x	x	x	x	x													
10.0	3.85	0.03	0.02	179.9	68	41	10.1	0.0000	72.9	42.4	27.4	77.0	123.7	-103.5	2.1	3.1	3.1			
11.1	3.82	0.03	0.02	179.9	68	40	10.2	0.0003	55.2	42.7	27.4	11.3	120.0	-102.9	2.1	3.1	3.1			
18.9	3.74	0.03	0.02	179.9	63	36	10.6	0.0005	53.2	42.9	27.5	7.8	118.9	-102.6	2.1	3.1	3.1			
20.0	3.74	0.03	0.02	180.0	63	35	10.7	0.0012	51.4	43.0	27.5	3.9	117.5	-102.4	2.1	3.1	3.1			
31.6	3.76	0.02	0.02	180.0	60	31	10.7	0.0020	48.6	43.5	27.5	-0.2	112.3	-101.5	2.1	3.1	3.1			
88.8	3.89	0.03	0.02	179.9	51	23	10.3	0.0057	43.1	45.3	27.5	1.3	90.0	-98.1	2.1	3.1	3.0			
100.0	3.92	0.03	0.02	179.9	50	22	10.2	0.0100	39.5	44.9	27.5	3.7	57.7	-94.3	2.0	3.1	3.0			
249.1	4.03	0.04	0.03	179.8	42	16	8.9	0.0159	36.4	42.4	27.5	5.1	30.2	-89.7	2.0	3.1	3.0			
297.8	4.07	0.05	0.03	179.8	41	15	8.5	0.0285	31.8	36.4	27.2	6.5	7.1	-79.2	2.0	3.0	2.9			
417.3	4.11	0.07	0.05	179.6	38	15	7.9	0.0446	28.2	32.0	26.8	7.2	-1.1	-68.6	1.9	2.9	2.8			
498.9	4.00	0.08	0.06	179.2	37	16	7.9	0.0715	24.6	27.7	25.4	7.4	-5.8	-54.2	1.8	2.8	2.7			
596.4	3.94	0.09	0.08	178.5	37	18	8.5	0.1020	21.8	24.5	23.6	7.5	-7.7	-43.6	1.7	2.7	2.6			
699.0	3.81	0.10	0.11	177.8	36	20	10.0	0.1879	17.4	19.7	20.0	7.0	-9.0	-27.2	1.5	2.5	2.4			
756.8	3.86	0.12	0.11	177.5	36	19	11.1	0.3050	14.2	16.2	16.9	6.3	-8.9	-17.7	1.4	2.3	2.2			
787.4	3.89	0.14	0.15	177.4	35	18	12.0	0.4255	12.2	14.0	14.9	5.7	-8.5	-12.5	1.2	2.1	2.0			
887.0	4.40	0.24	0.24	176.4	35	13	13.7	0.7057	9.7	11.2	12.3	4.5	-7.4	-6.6	1.1	2.0	1.8			
941.4	4.82	0.31	0.39	175.6	35	11	15.6	0.9950	8.3	9.6	10.9	3.7	-6.6	-3.4	1.2	1.9	1.6			
979.5	5.15	0.36	0.39	175.1	35	9	15.2	1.7446	6.5	7.4	9.2	2.5	-4.9	0.2	1.4	1.8	1.5			
999.1	5.30	0.38	0.40	175.0	35	9	14.5	5.6985	4.4	4.8	7.6	0.6	-1.6	1.8	1.8	1.8	1.2			
1019.2	5.47	0.41	0.45	175.1	35	8	13.8	15.0090	3.7	3.9	7.3	0.0	0.0	0.1	2.1	1.9	1.1			

