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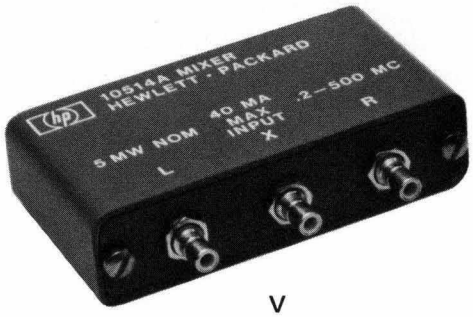
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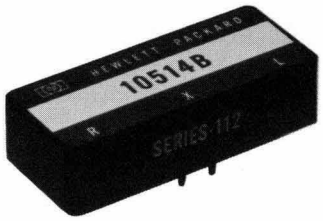
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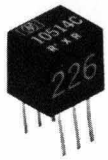
DOUBLE BALANCED MIXERS



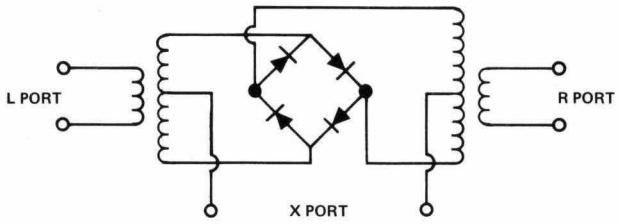
V



W



X



DESCRIPTION. The 10514/34 Double Balanced Mixers combine a matched set of four hot carrier mixer diodes with two transformers, forming a mixer/modulator circuit with all three ports isolated from each oth by balancing rather than filters. This feature, in conjunction with the multi-decade bandwidth, gives rise to an extremely versatile product.

The Double Balanced Mixers are available in two frequency ranges (200 KHz to 500 MHz and 50 KHz to 150 MHz), and three package styles; accessory model, with a choice of connectors; PC board model, for maximum economy; and miniature PC model, for minimum size and weight.

GUARANTEED

	DESCRIPTION	PACKAGE	OPERATING FREQUENCY		POWER HANDLING mA MAX
			RF PORTS	VIDEO PORT MHz	
10514A	500 MHz, With Connectors	V	200 kHz to 500 MHz	DC to 500	40
10514B	500 MHz, PC Board Mounting	W	200 kHz to 500 MHz	DC to 500	40
10514C	500 MHz, Miniature	X	10 MHz to 500 MHz	DC to 500	40
10534A	150 MHz With Connectors	V	50 kHz to 150 MHz	DC to 150	40
10534B	150 MHz, PC Board Mounting	W	50 kHz to 150 MHz	DC to 150	40
10534C	150 MHz, Miniature	X	50 kHz to 150 MHz	DC to 150	40

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DOUBLE BALANCED MIXERS

APPLICATIONS. Almost any application involving frequency conversion can be filled with a double balanced mixer. Up-conversion, down-conversion, broadband mixing, phase detection, AM modulation, and balanced modulation (DSB suppressed carrier) are some examples of common applications. In addition, many control functions, such as pulse modulation, switching, and variable attenuation can be done with the double balanced mixer.

LOW NOISE. Guaranteed SSB noise figures range from 6 dB to 9.5 dB depending upon frequency. In addition, these mixers exhibit very low I/f noise (less than 10 nV per root cycle at 10 Hz) a must for phase detectors and low frequency IF systems.

SWITCHING APPLICATIONS. As a switch or pulse modulator, fast switching (1 ns) can be obtained with low current (10 mA). Also, the balanced isolation between ports means that the switching speed is independent of the RF frequency, and very low frequency signals can still be switched in 1 nanosecond.

HIGH ISOLATION BETWEEN PORTS. Operating as a mixer, the LO power is isolated from the RF and IF ports by a minimum of 35 or 40 dB over a 2 decade bandwidth.

SPECIAL ORDERING INFORMATION. The basic part number defines the frequency range; the letter suffix describes the package style. In addition, the A versions which use BNC Jack connectors as standard equipment can be obtained with other connectors by ordering the following options:

OPTION CODE	CONNECTOR TYPE
001	TNC Jack
002	SMA Jack
003	Sealectro Screw-On
004	Sealectro Snap-On

WANT MORE DETAILS? Ask for the 10514/10534 Double Balanced Mixer Data Sheet.

SPECIFICATIONS

SSB CONVERSION LOSS	SSB NOISE FIGURE	OPERATING TEMPERATURE	hp
7 dB, 0.5 to 50 MHz; 9 dB Full Range	6.5 dB, 0.5 to 60 MHz; 9 dB Full Range	−54° to +75°C	10514A
7 dB, 0.5 to 50 MHz; 9 dB Full Range	6.5 dB, 0.5 to 60 MHz; 9 dB Full Range	−54° to +75°C	10514B
7.2 dB, 15 to 250 MHz; 9 dB Full Range	6.5 dB, 15 to 250 MHz; 9.5 dB Full Range	−54° to +75°C	10514C
6.5 dB, 0.2 to 35 MHz; 8 dB Full Range	6 dB, 0.2 to 50 MHz; 8 dB Full Range	−54° to +75°C	10534A
6.5 dB, 0.2 to 35 MHz; 8 dB Full Range	6 dB, 0.2 to 50 MHz; 8 dB Full Range	−54° to +75°C	10534B
6.5 dB, 0.2 to 35 MHz; 8 dB Full Range	6 dB, 0.2 to 50 MHz; 8 dB Full Range	−54° to +75°C	10534C

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