

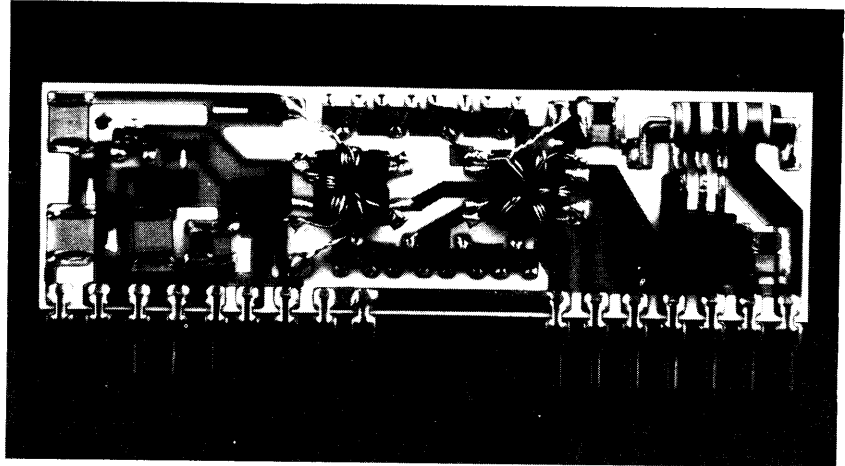


DOUBLE BALANCED MIXERS

HIGH - LEVEL CLASS II MIXERS

M 31	0,25 - 250 MHz
M 32	10 - 500 MHz

- LO POWER : +15 dBm
- HIGH IP : +30 dBm
- BROADBAND
- LOW NOISE : F = 10 dB typ.



DESCRIPTION

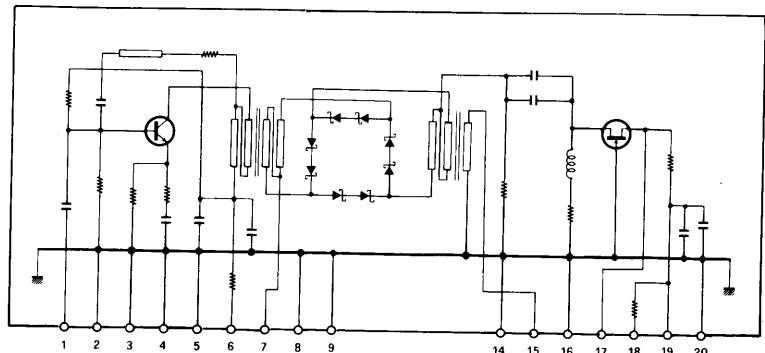
Models M31 and M32 are double balanced mixers with integral high level local oscillator and intermediate frequency broadband amplifiers.

They are of miniature hybrid construction, providing high performance in small packages, compatible with microstrip and critical PC board layouts.

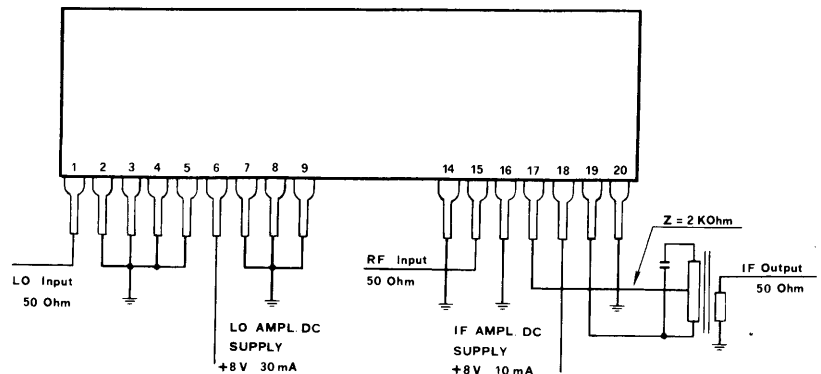
Due to the good broadband impedance match between the mixer and the LO and IF amplifiers very good linearity is obtained.

Models M31 and M32 mixers are intended for use in high performance HF, VHF and UHF receivers.

SCHEMATIC DIAGRAM



POWER GAIN, IMD AND NOISE TEST CIRCUIT IF = 10,7 MHz (M31); 21,4 MHz (M32)

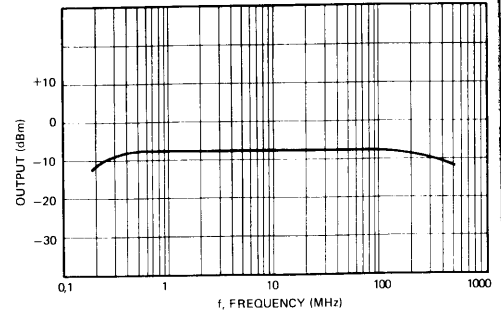


SPECIFICATIONS
 $V_{SUPPLY} = 8 V_{CC}$, $T_A = +25^\circ C$, $Z_{IN} (RF - LO) = 50 \Omega$

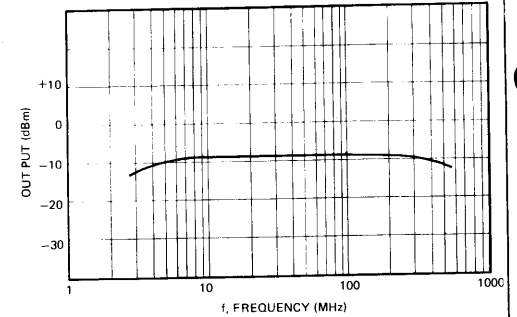
TYPICAL PERFORMANCES CURVES

	M 31	M 32
FREQUENCY RANGE: RF port LO input IF output	0,25 - 250 MHz 5 - 250 MHz 0,40 - 70 MHz	10 - 500 MHz 10 - 500 MHz 0,4 - 110 MHz
POWER GAIN (see test circuit)	2 dB typ.	1 dB typ.
LO INPUT POWER: f = 5 - 250 MHz f = 250 - 500 MHz	0 dBm	0 dBm 0 to +2 dBm max.
LO OUTPUT (RF PORT): f = 10 MHz f = 100 MHz f = 250 MHz f = 500 MHz	-50 dBm -45 dBm -30 dBm	-45 dBm -40 dBm -30 dBm -20 dBm
THIRD ORDER INPUT INTERCEPT POINT	+30 dBm	+30 dBm
NOISE FIGURE	9 dB typ.	10 dB typ.
IF OUTPUT IMPEDANCE	2 K Ohm	2 K Ohm
DC SUPPLY VOLTAGE	8 VDC $\pm 5\%$	8 VDC $\pm 5\%$
DC CURRENT: LO amplifier, pin 6 IF amplifier, pin 18	30 mA 10 mA	30 mA 10 mA
OPERATING TEMPERATURE RANGE	-10 to +55°C	-10 to +55°C

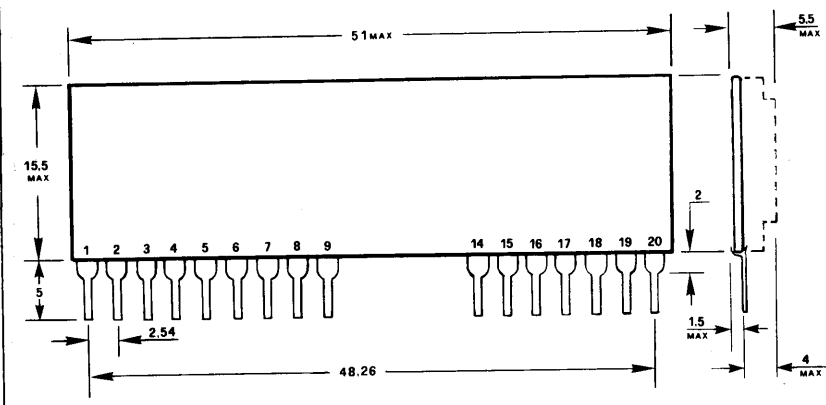
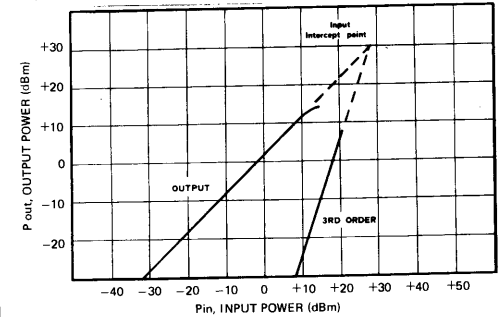
M 31 - POWER GAIN IF = 10,7 MHz
 RF INPUT = -10 dBm LO = 0 dBm



M 32 - POWER GAIN IF = 21,4 MHz
 RF INPUT = -10 dBm LO = 0 dBm

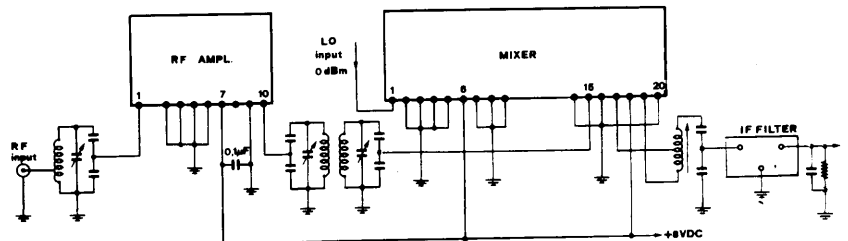


M 31 - M 32 INTERMODULATION



TYPICAL APPLICATION

HF, VHF or UHF high performance receiver front end
 IP = +10 dBm, NF = 4dB typ.



RF AMPLIF.: A24 (HF + VHF); A25 (VHF + UHF)
 MIXER : M31 (HF); M32 (VHF + UHF)

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