



MOTOROLA

MC13074

Product Preview

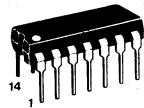
UHF TV MODULATOR

The MC13074 is similar in architecture to the popular MC1374 VHF Modulator. A new IC process called MOSAIC® has increased the frequency capability to 500 MHz. This makes the part useful over the entire VHF band and into the low end of the UHF band. Other new benefits of the MC13074 include: two RF modulators to reduce chroma/sound intermodulation, built-in dc restoration on the video input, and buffered FM oscillator output for increased sound carrier capability.

- Single Supply 4.5 to 7.0 Vdc
- Variable Gain RF Modulator
- Wide Frequency Range
- Low Distortion and Intermodulation
- Minimal External Components

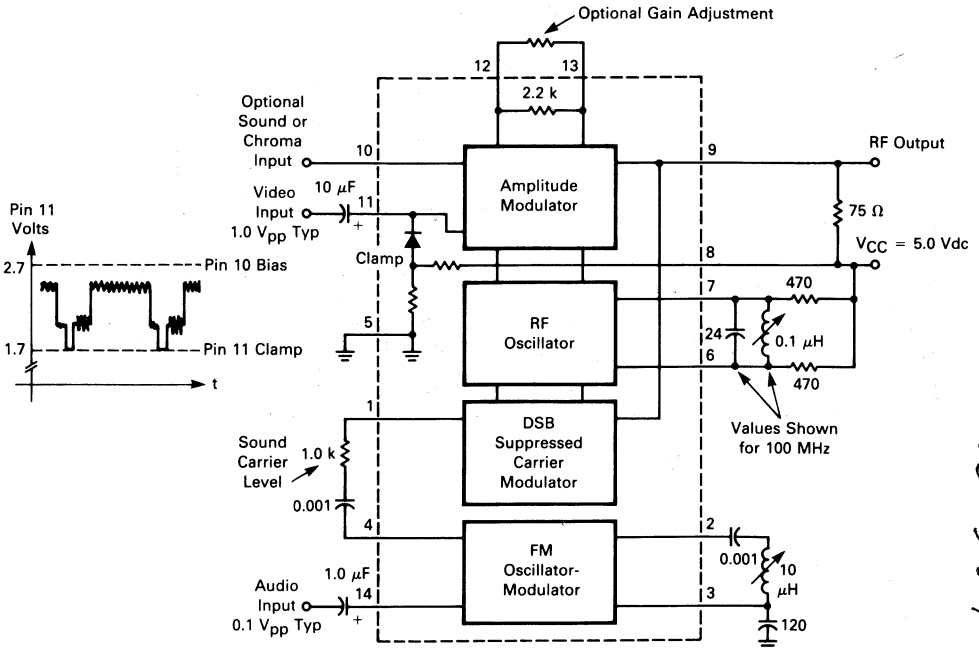
UHF TV MODULATOR

**SILICON MONOLITHIC
INTEGRATED CIRCUIT**



**P SUFFIX
CASE 646**

BLOCK DIAGRAM AND TYPICAL APPLICATION



MC13074

MC13074

MAXIMUM RATINGS

Rating	Value	Units
Supply Voltage	8.0	Vdc
Operating Ambient Temperature	0 to +70	°C
Storage Temperature	-65 to +150	°C
Junction Temperature	150	°C
Power Dissipation Package Derate above 25°C	1.25 10	Watts mW/°C

ELECTRICAL CHARACTERISTICS ($V_{CC} = 5.0$ Vdc, $T_A = 25^\circ\text{C}$, $f_c = 100$ MHz unless noted)

Characteristic	Min	Typ	Max	Units
Operating Supply Voltage	4.5	5.0	7.0	Vdc
Supply Current	—	14	—	mAdc
Video Input Dynamic Range	0.5	1.0	1.2	Vp-p
RF Output, Pin 9, 75 Ω , no external load	—	150	—	mVp-p
Carrier Suppression	—	-40	—	dB
920 Beat (3.58 @ 30%, 4.5 MHz @ 25%)	—	-65	—	dB
Oscillator Range	500	—	—	MHz
FM Modulator Frequency Range	1.4-14	—	—	MHz
Modulation Sensitivity — 4.5 MHz	—	0.25	—	MHz/V
Audio Input Impedance, Pin 14	—	6.0	—	k Ω
Sound Carrier Input Impedance, Pin 1	—	2.0	—	k Ω
Optional Input Impedance, Pin 10	—	2.0	—	k Ω
Internal Capacitance Pin 6 to Pin 7	—	2.0	—	pF

INTERNAL SCHEMATIC

