

THICK FILM HYBRID INTEGRATED CIRCUIT

MC-5801

6427525 N E C ELECTRONICS INC

72C 08402

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VHF BAND AMPLIFIER

DESCRIPTION AND APPLICATIONS

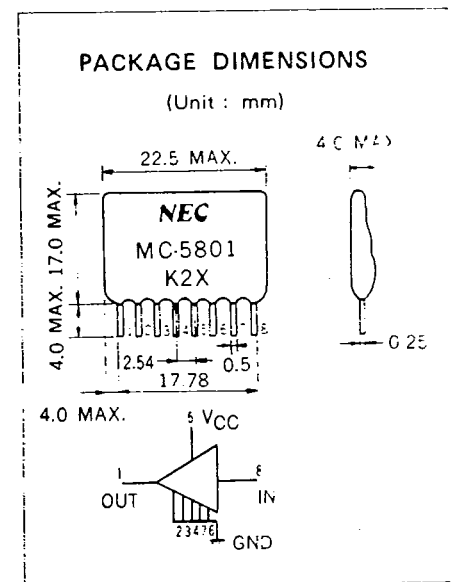
The MC-5801 is a thick film hybrid integrated circuit designed for broad-band general purpose amplifier applications in the 40 to 250 MHz band. The device is a "Pre amplifier" which features low noise, flat gain with a typical output of 90 to 110 dB μ V/75 Ω . Since the MC-5801 is designed to serve as a VHF Band amplifier, the device is matched to 75 Ω . Reliability and performance uniformity are assured by gold metalized transistors and NEC's stringent quality-control procedures. The MC-5801 is a complete circuit which requires no additional adjustments or components.

FEATURES

- Operates as a flat amplifier from 40 to 250 MHz without adjustments or external components.
- Input and output matching to 75 Ω .
- Low noise figure (1.5 dB TYP.)
- Low intermodulation distortion (IM₂ = -53 dB, IM₃ = -65 dB TYP.)

ABSOLUTE MAXIMUM RATINGS (T_a = 25 °C)

Supply Voltage	V _{CC}	15	V
Operating Current	I _{CC}	40	mA
Input Voltage	V _I	0.5	V
Total Power Dissipation	P _T	600	mW
Operating Temperature	T _{opt}	-30 to +65	°C
Storage Temperature	T _{stg}	-30 to +85	°C



ELECTRICAL CHARACTERISTICS (T_a = 25 °C, V_{CC} = 12 V, Z_S = Z_L = 75 Ω)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Operating Current	I _{CC}	25	30	35	mA	
Gain	G _V	27	28	30	dB	f = 40 to 250 MHz
Gain Flatness	$\pm\Delta G_V$		0.5	1.0	dB	f = 40 to 250 MHz
Input Output Return Loss	R.L	6.0			dB	f = 40 to 250 MHz
Noise Figure	NF		1.5	2.5	dB	f = 40 to 250 MHz
2nd Intermodulation Distortion	IM ₂		-53	-50	dB	f ₁ = 90 MHz, f ₂ = 100 MHz f = f ₁ + f ₂ , V _O = 95 dB μ V/75 Ω
3rd Intermodulation Distortion	IM ₃		-65	-60	dB	f ₁ = 200 MHz, f ₂ = 210 MHz f = 2f ₁ - f ₂ , V _O = 95 dB μ V/75 Ω