

**MOTOROLA  
SEMICONDUCTOR  
TECHNICAL DATA**

**The RF Line  
Wideband Linear Amplifiers**

... designed for amplifier applications in 50 to 100 ohm systems requiring wide bandwidth, low noise and low distortion. This hybrid provides excellent gain stability with temperature and linear amplification as a result of the push-pull circuit design.

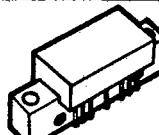
• Specified Characteristics at  $V_{CC} = 24$  V,  $T_C = 25^\circ\text{C}$

Frequency Range — 40 to 450 MHz  
 Output Power — 800 mW Min @ 1 dB Compression,  $f = 200$  MHz  
 Power Gain — 38.5 dB Typ @  $f = 50$  MHz  
 Noise Figure — 6 dB Typ @  $f = 450$  MHz  
 ITO — 40 dBm Typ @  $f = 450$  MHz

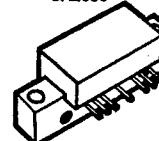
• All Gold Metallization for Improved Reliability

**CA2890  
CA2890B  
CA2890H**

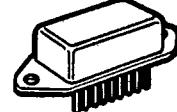
38.5 dB  
40-450 MHz  
800 mWATT  
WIDEBAND  
LINEAR AMPLIFIERS



CA (POS. SUPPLY)  
CASE 714F-01, STYLE 1  
CA2890



CA (POS. BENT PIN OPTION)  
CASE 714J-01, STYLE 1  
CA2890B



SIP  
CASE 828-01, STYLE 1  
CA2890H

5

**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
DC Supply Voltage	$V_{CC}$	28	Vdc
RF Power Input	$P_{in}$	-5	dBm
Operating Case Temperature Range	$T_C$	-20 to +90	°C
Storage Temperature Range	$T_{stg}$	-40 to +100	°C

**ELECTRICAL CHARACTERISTICS** ( $T_C = 25^\circ\text{C}$ ,  $V_{CC} = 24$  V, 50 ohm system unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	40	—	450	MHz
Gain Flatness (f = 40-450 MHz) (f = 10-550 MHz)	—	—	—	$\pm 0.5$	dB
Power Gain (f = 50 MHz)	PG	38	38.5	39	dB
Noise Figure, Broadband (f = 450 MHz)	NF	—	6	—	dB
Power Output — 1 dB Compression (f = 200 MHz)	$P_{01\text{ dB}}$	800	—	—	mW
Third Order Intercept (See Figure 1, $f_1 = 450$ MHz)	ITO	—	40	—	dBM
Input/Output VSWR (f = 40-450 MHz)	VSWR	—	2:1	—	—
Second Harmonic Distortion (Tone at 10 mW, $f_{2H} = 10-300$ MHz)	$d_{20}$	—	-66	—	dB
Reverse Isolation (f = 40-450 MHz)	—	—	40	—	dB
Supply Current	$I_{CC}$	—	—	325	mA

MOTOROLA RF DEVICE DATA