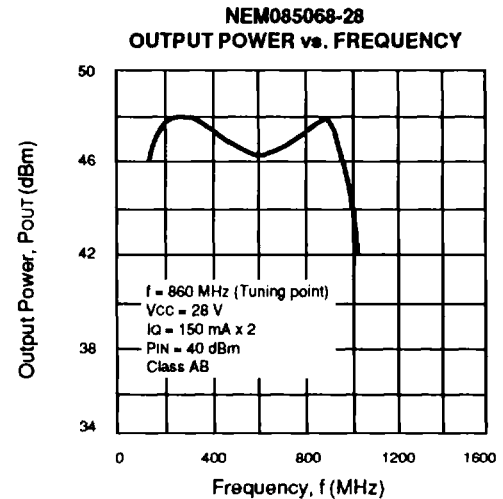


FEATURES

- HIGH POWER AND HIGH GAIN: $f = 860$ MHz, Class AB
- NEM081568-28: $P_{O} > 41$ dBm, $G_P > 8$ dB
- NEM085068-28: $P_{O} > 46.2$ dBm, $G_P > 6.2$ dB
- GOLD METALLIZATION
- PUSH-PULL STRUCTURE
- INTERNALLY MATCHED
- IDEAL FOR TV TRANSMITTER

DESCRIPTION

This NEM0800 series of NPN epitaxial power bipolars is designed specifically for broadcast and other high power applications operating at 860 MHz. This series provides high power output of either 12.6 or 42 watts, high gain, high efficiency, and high resistance to burn-out with load mismatch. This NEM series is ideal for class AB applications.



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

PART NUMBER PACKAGE OUTLINE			NEM081568-28 68			NEM085068-28 68		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX	MIN	TYP	MAX
P_{OUT}	$f = 860$ MHz, $I_Q = 150$ mA x 2 class AB $P_{IN} = 33$ dBm, $V_{CC} = 24$ V $P_{IN} = 40$ dBm, $V_{CC} = 28$ V	dBm dBm	41	42		46.2	47.2	
η_C	$f = 860$ MHz, $I_Q = 150$ mA x 2 (class AB) $P_{IN} = 33$ dBm, $V_{CC} = 24$ V $P_{IN} = 40$ dBm, $V_{CC} = 28$ V	% %	45		40			
I_{CBO}^1	Collector Cutoff Current at $V_{CB} = 30$ V	mA			2			4
I_{EBO}^1	Emitter Cutoff Current at $V_{EB} = 2$ V	mA			2			4
h_{FE}^1	DC Forward Current Gain at $V = 10$ V, $I_C = 1.6$ A $I_C = 2$ A		20	60	120	20	60	120
C_{OB}	Output Capacitance at $V_{CB} = 28$ V, $I_E = 0$, $f = 1$ MHz	pF		24	36		40	60

Note:

1. Each Side

ABSOLUTE MAXIMUM RATINGS¹ (TA = 25°C)

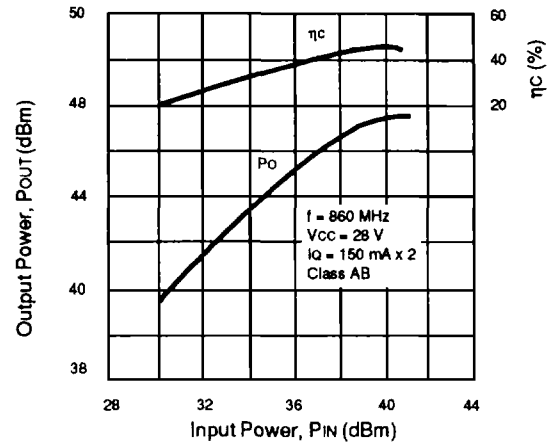
SYMBOLS	PARAMETERS	UNITS	RATINGS
VCC	Collector to Base Voltage	V	50
VCEO	Collector to Emitter Voltage	V	32
VEBO	Emitter to Base Voltage	V	3
IC	Collector Current		
		NEM081658-28	A
	NEM085068-28	A	15
RTH(J-C)	Thermal Resistance (Junction to Case)		
		NEM081658-28	°C/W
	NEM085068-28	°C/W	1.09
PT	Total Power Dissipation (Tc = 25°C)		
		NEM081658-28	W
	NEM085068-28	W	160
TJ	Junction Temperature	°C	200
TSTG	Storage Temperature	°C	-65 to +200

Notes:

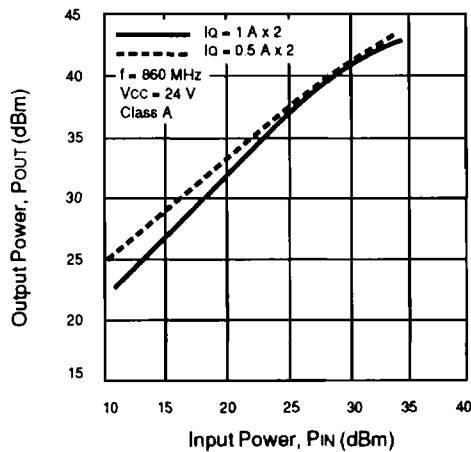
1. Operation in excess of any one of these parameters may result in permanent damage.

TYPICAL PERFORMANCE CURVES (TA = 25°C)

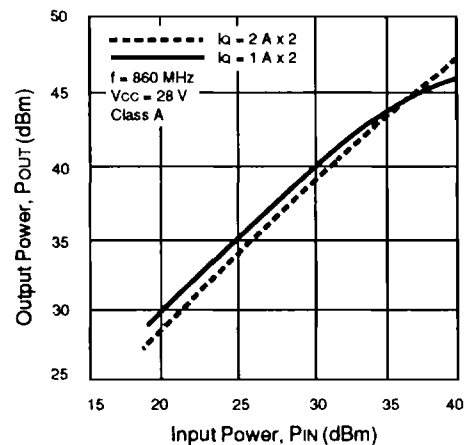
NEM085068-28
OUTPUT POWER AND EFFICIENCY vs. INPUT POWER



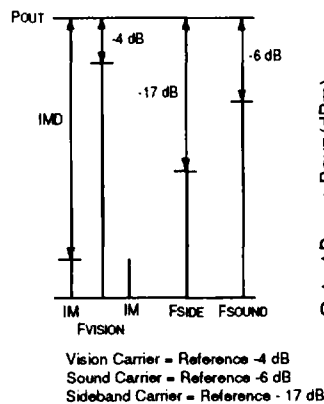
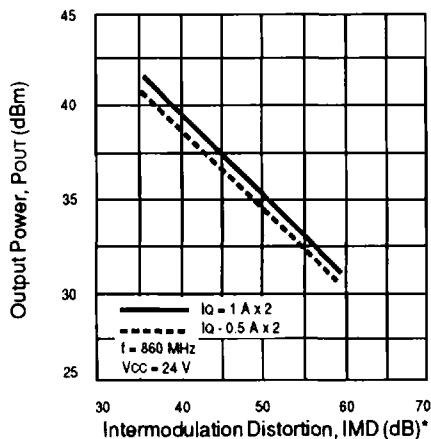
NEM081568-28
OUTPUT POWER vs. INPUT POWER



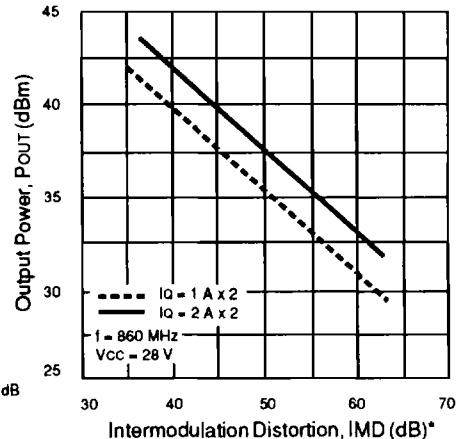
NEM085068-28
OUTPUT POWER vs. INPUT POWER



NEM081568-28
INTERMODULATION DISTORTION
(3-TONE) vs. OUTPUT POWER



NEM085068-28
INTERMODULATION DISTORTION
(3 TONE) vs. OUTPUT POWER

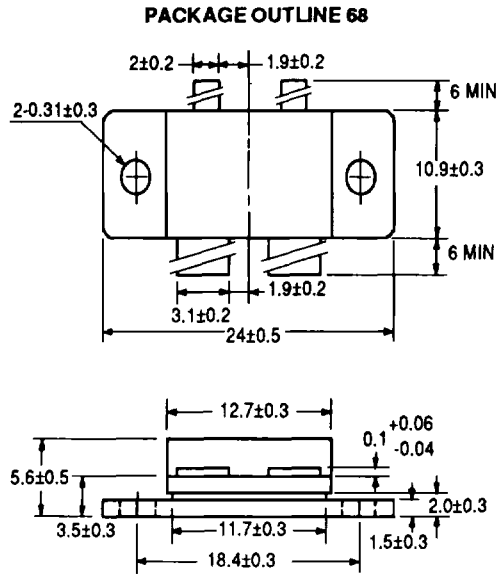


*Worst case for three-tone spectrum shown.

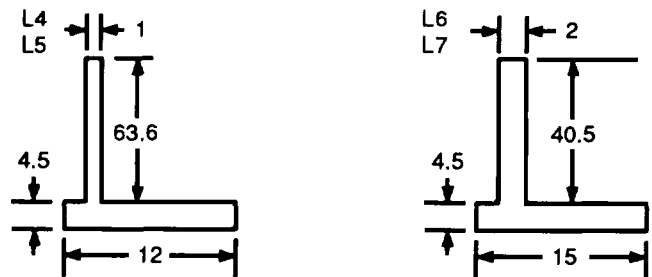
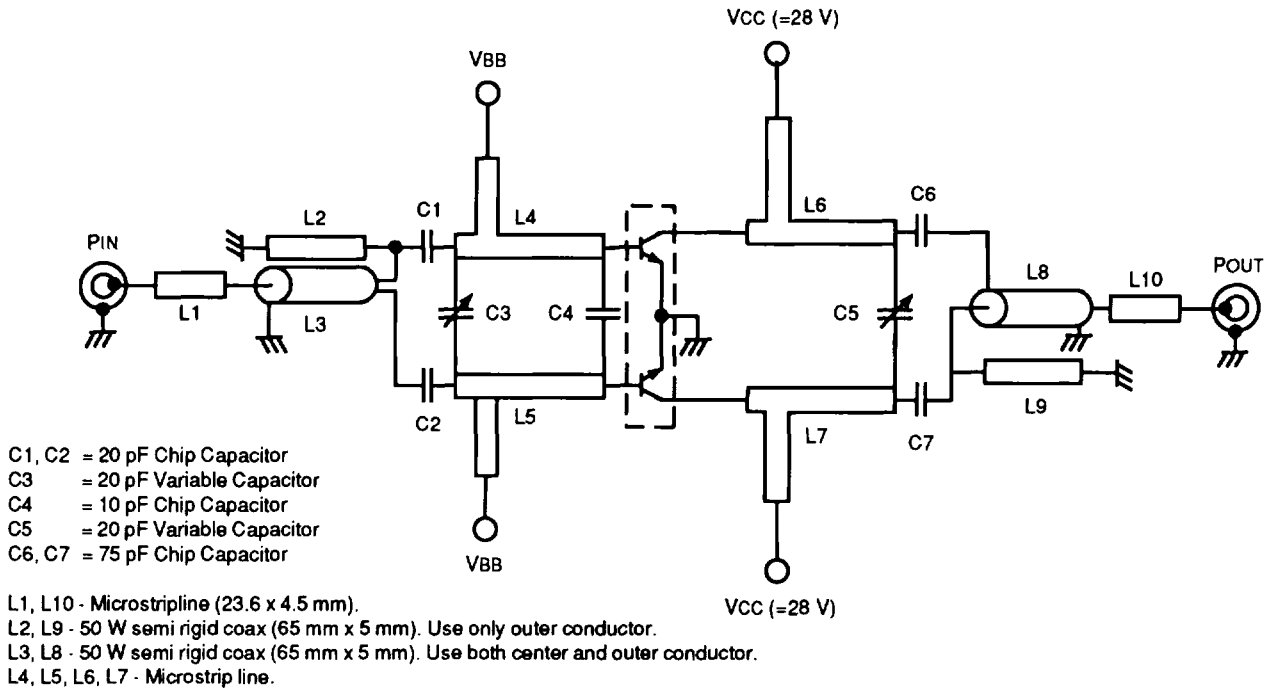


NEM081568-28, NEM085068-28

OUTLINE DIMENSIONS (Units in mm)



NEM085068-28 200-900 MHz BROADBAND AMPLIFIER SCHEMATIC (CLASS AB)



(Units in mm)