



0405-1000M

1000 Watts - 40 Volts, 300 μ s, 10%
UHF Pulsed Radar 400 - 450 MHz

GENERAL DESCRIPTION

The 0405-1000M is an internally matched, COMMON EMITTER transistor capable of providing 1000 Watts of pulsed RF output power in a push-pull configuration at three hundreds microsecond pulse width ten percent duty factor across the frequency band 400-450 MHz. This hermetically sealed transistor is specifically designed for medium pulse radar applications. It utilizes gold metallization and diffused emitter ballasting to provide high reliability and supreme ruggedness.

ABSOLUTE MAXIMUM RATINGS

Maximum Power Dissipation @ 25°C¹ 1400 Watts

Maximum Voltage and Current

BVces Collector to Emitter Voltage 85 Volts

BVebo Emitter to Base Voltage 3.5 Volts

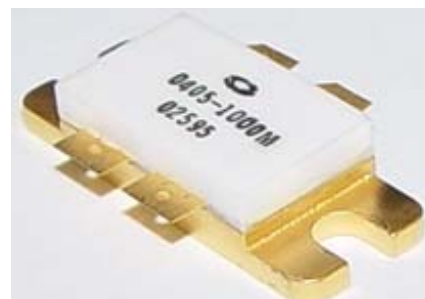
Ic Collector Current 70 Amps

Maximum Temperatures

Storage Temperature - 65 to + 200°C

Operating Junction Temperature + 200°C

CASE OUTLINE 55SL, STYLE 2



ELECTRICAL CHARACTERISTICS @ 25 °C

SYMBOL	CHARACTERISTICS	TEST CONDITIONS	MIN	TYP	MAX	UNITS
P_{out}	Power Out (Note 2) Pulsed	F = 400-450 MHz V _{cc} = 40 Volts,	1000			Watts
P_g	Power Gain	Pulse Width = 300 μ s	9.5	10		dB
η_c	Collector Efficiency	Duty = 10 %	50			%
P_d	Pulse Amplitude Droop	As above			0.5	dB
VSWR¹	Load Mismatch Tolerance	F = 425MHz, P _o =1000W			2:1	

FUNCTIONAL CHARACTERISTICS @ 25 °C

Bvces	Collector to Emitter Breakdown	Ic = 5 mA	80			Volts
Ices	Collector to Emitter Leakage	Vce = 50 Volts			30	mA
Iebo	Emitter to Base Leakage Current	Veb = 3.0 Volts			25	mA
Hfe	DC Current Gain	Vce = 5 V, Ic = 100mA	10			
θ_{jc}¹	Thermal Resistance	Rated Pulse Condition			0.08	°C/W

Issue Nov. 2006

Note 1: Pulse width = 300 us, duty = 10%

Note 2: Power Input = 110 Watts Peak Pulsed

Microsemi reserves the right to change, without notice, the specifications and information contained herein.

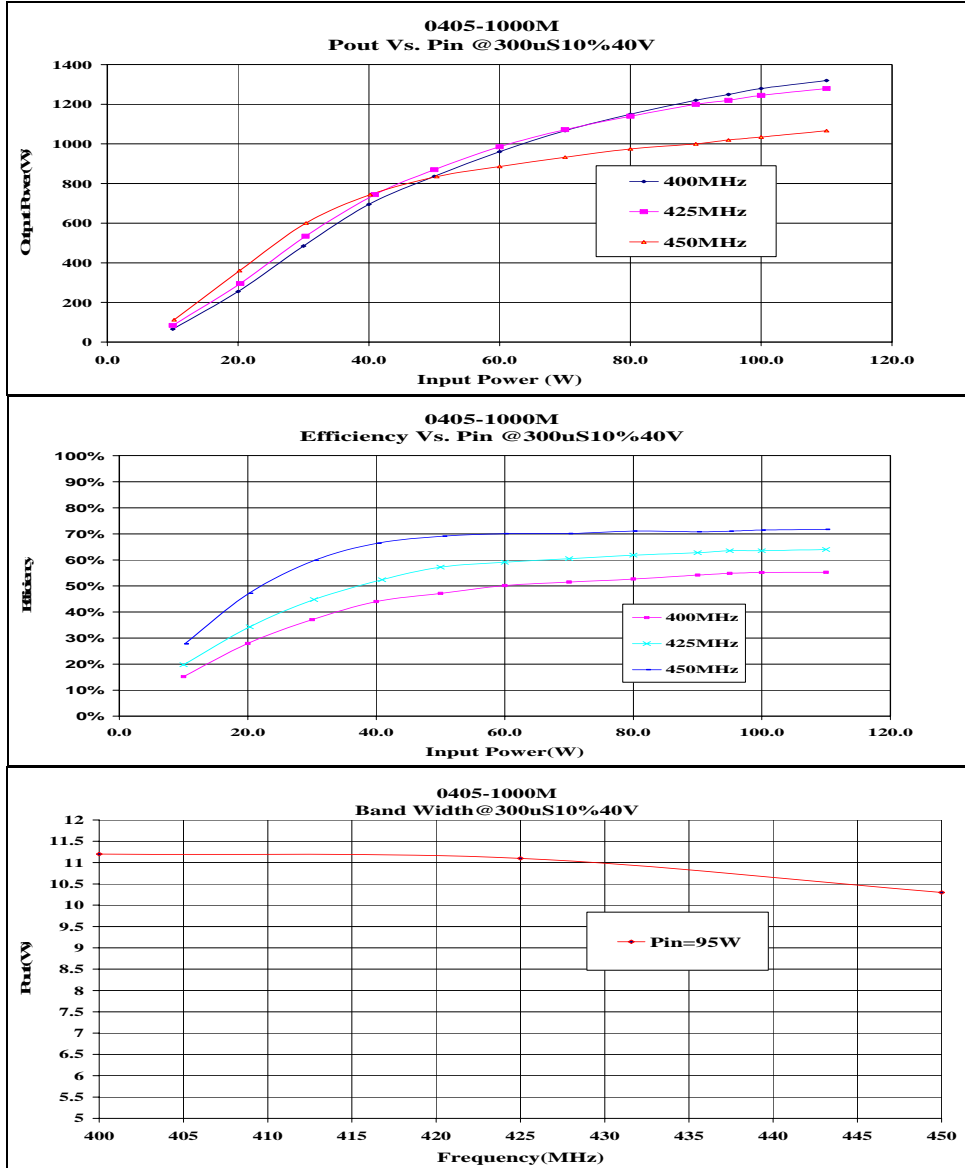
Visit our web site at www.microsemi.com or contact our factory direct.

Microsemi Corp. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 TEL. 408-986-8031 FAX 408-869-2324



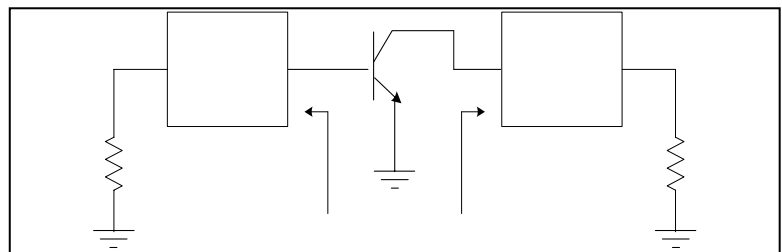
0405-1000M

Performance Curves



Single-Ended Impedance Information

Single-Ended Impedance		
Freq	Zs	Zl
400	1.39-j2.9	0.79-j2.41
425	1.94-j2.93	0.86-j2.55
450	2.21-j3.07	0.91-j2.95



Microsemi reserves the right to change, without notice, the specifications and information contained herein.

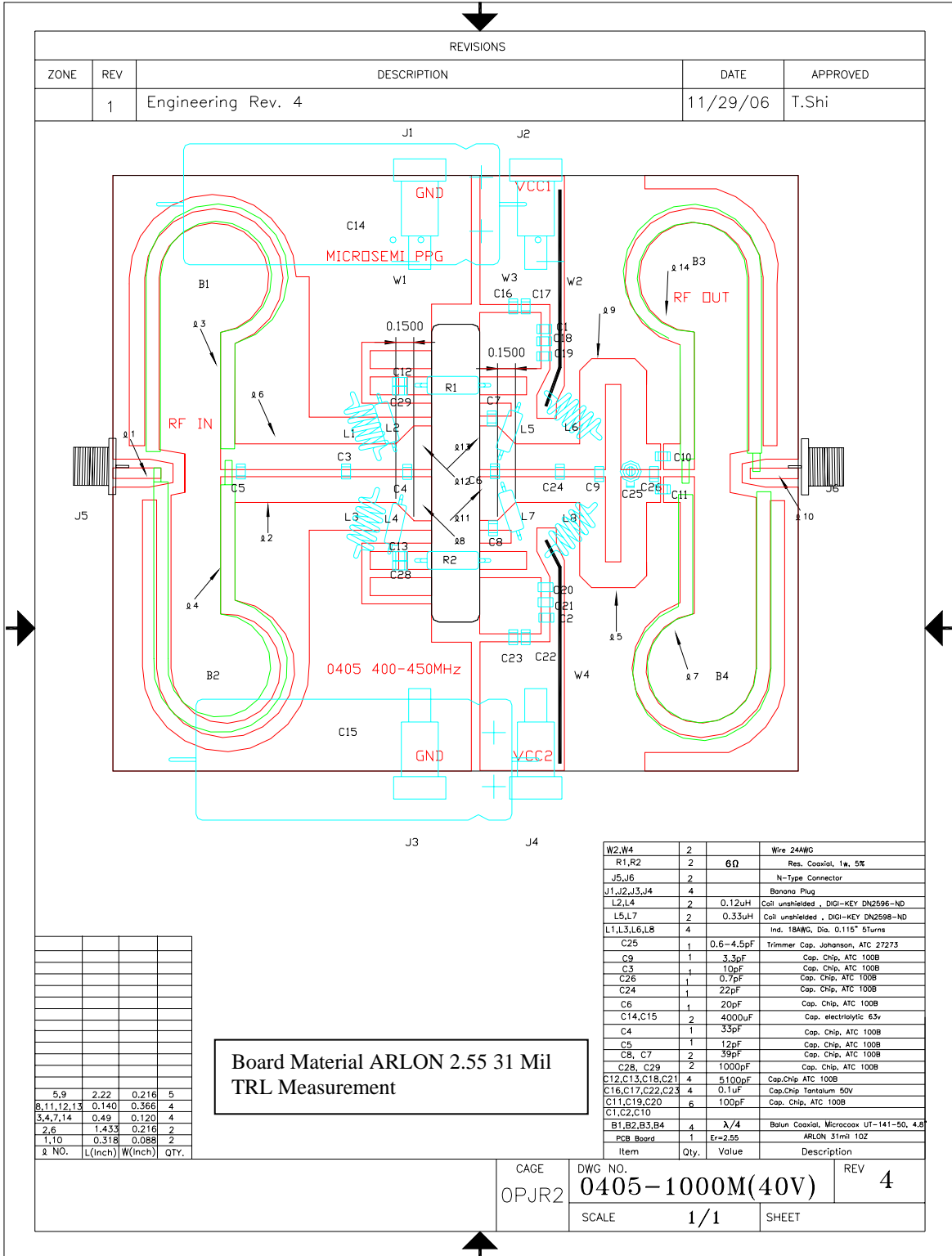
Visit our web site at www.microsemi.com or contact our factory direct.

Microsemi Corp. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 TEL. 408-986-8031 FAX 408-869-2324



0405-1000M

Broadband Test Fixture



Microsemi reserves the right to change, without notice, the specifications and information contained herein.
 Visit our web site at www.microsemi.com or contact our factory direct.
 Microsemi Corp. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 TEL. 408-986-8031 FAX 408-869-2324



0405-1000M

Case Outline

