



0405-500L

500 Watts - 32Volts, 1100µs, 26%
UHF Pulsed Radar 400 - 450 MHz

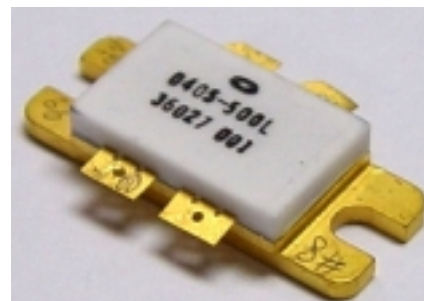
GENERAL DESCRIPTION

The 0405-500L is an internally matched, COMMON EMITTER transistor capable of providing 500 Watts of pulsed RF output power in a push-pull configuration at one thousand and one hundred microsecond pulse width twenty –six 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°C ¹	800 Watts
Maximum Voltage and Current	
BVces Collector to Emitter Voltage	65 Volts
BVebo Emitter to Base Voltage	3.5 Volts
Ic Collector Current	50 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} = 32 Volts,	500			Watts
P _g	Power Gain	Pulse Width = 1100 µs	9.5	10		dB
η _c	Collector Efficiency	Duty = 26 %	50			%
P _d	Pulse Amplitude Droop	As above			0.6	dB
VSWR ¹	Load Mismatch Tolerance	F = 425MHz, P _o =500W			2:1	

FUNCTIONAL CHARACTERISTICS @ 25 °C

Bvces	Collector to Emitter Breakdown	Ic = 150 mA	65			Volts
Ices	Collector to Emitter Leakage	Vce = 36 Volts			35	mA
Iebo	Emitter to Base Leakage Current	Veb = 1.0 Volts			25	mA
Hfe	DC Current Gain	Vce = 5 V, Ic = 1000mA	8			
θ _{jc} ²	Thermal Resistance	Rated Pulse Condition			0.33	°C/W

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Note 1: Pulse width = 1100 us, duty = 26%

Note 2: Power Input = 55 Watts Peak Pulsed(Max)

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.

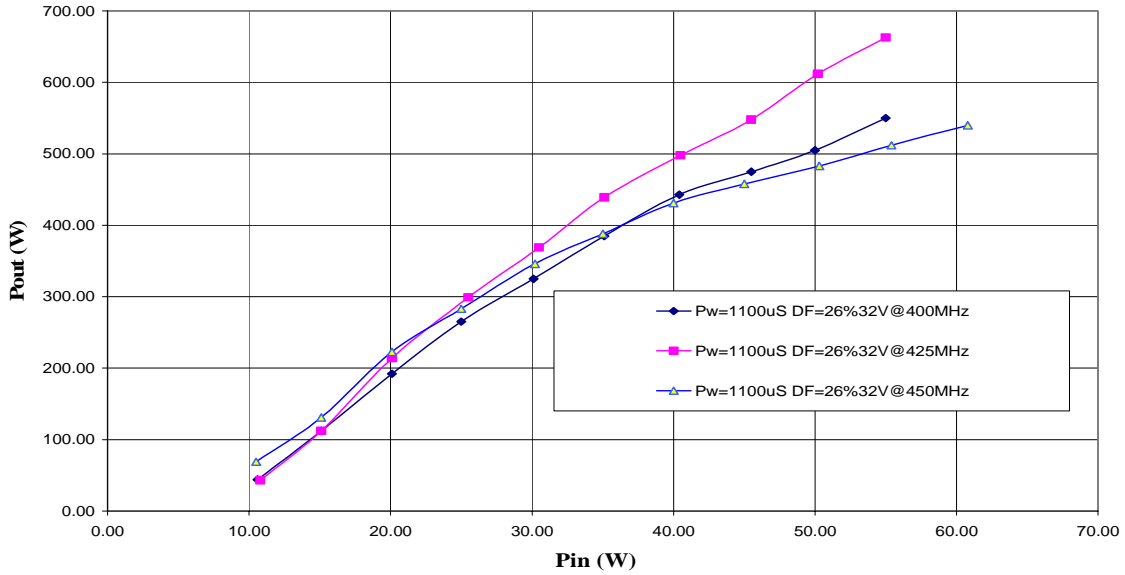
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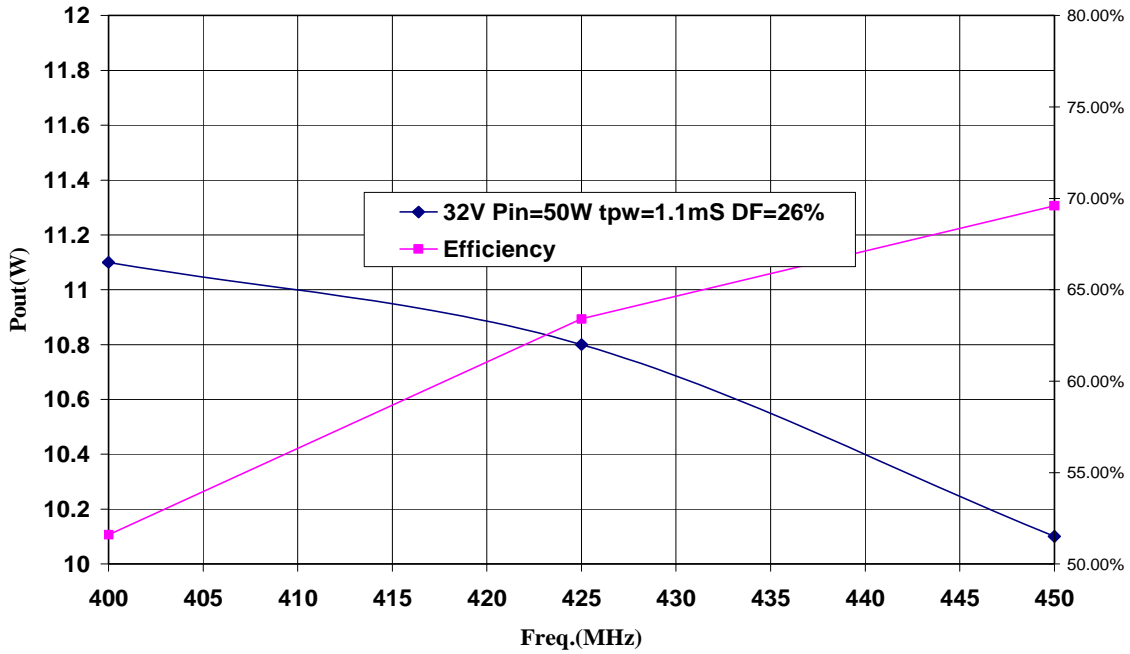
0405-500L

Performance Curves

MS0405-500L Pin vs. Pout
Vcc=32V, Duty Cycle=26%

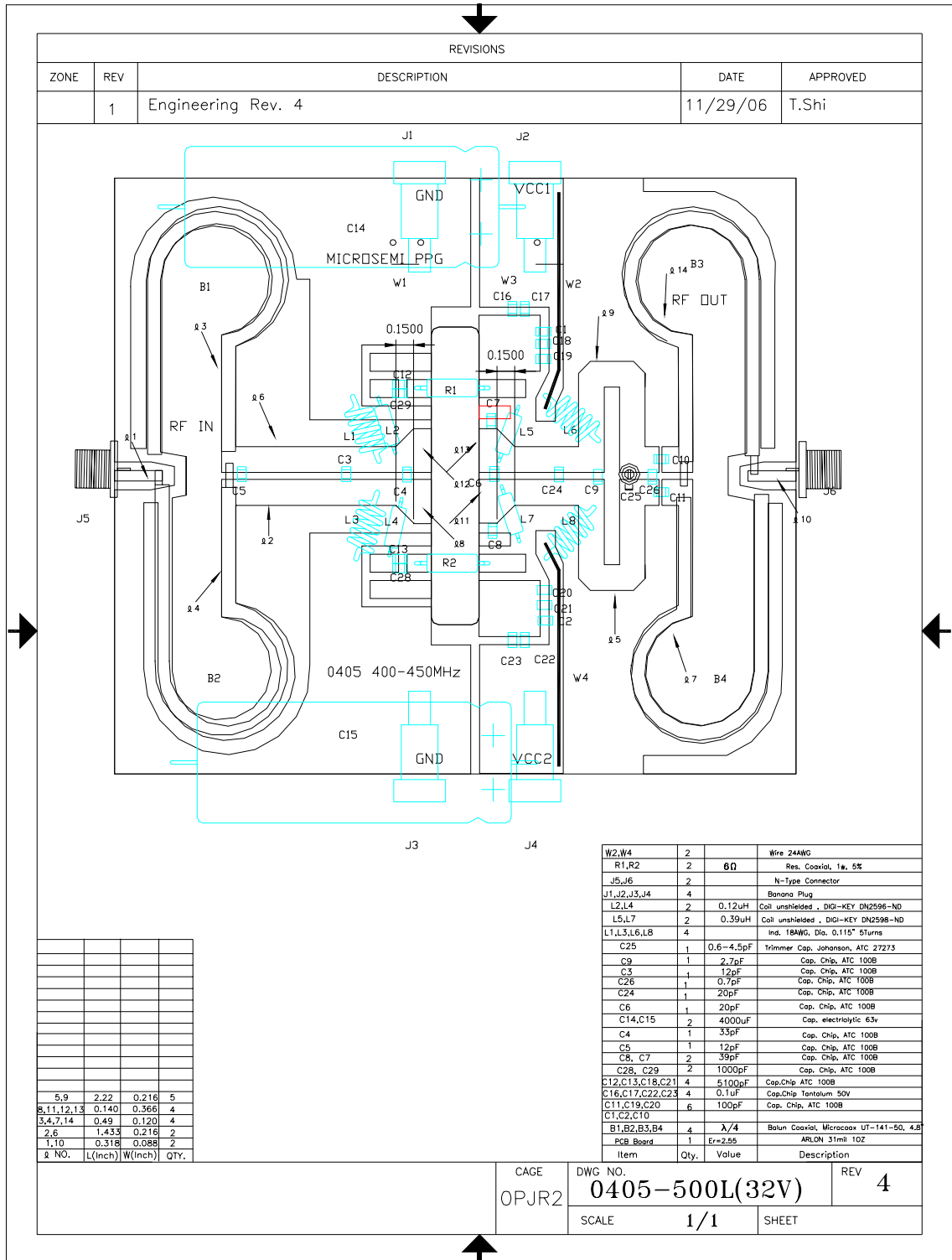


MS0405-500L Bandwidth
Vcc=32V, Duty Cycle=26% Pw=1.1mS



0405-500L

Broadband Test Fixture



0405-500L

Case Outline

