



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°C¹ 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
VSWR¹	Load Mismatch Tolerance	F = 425MHz, P _o =500W			2:1	

FUNCTIONAL CHARACTERISTICS @ 25 °C

Bvces	Collector to Emitter Breakdown	I _c = 150 mA	65			Volts
Ices	Collector to Emitter Leakage	V _{ce} = 36 Volts			35	mA
Iebo	Emitter to Base Leakage Current	V _{eb} = 1.0 Volts			25	mA
H_{fe}	DC Current Gain	V _{ce} = 5 V, I _c = 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)

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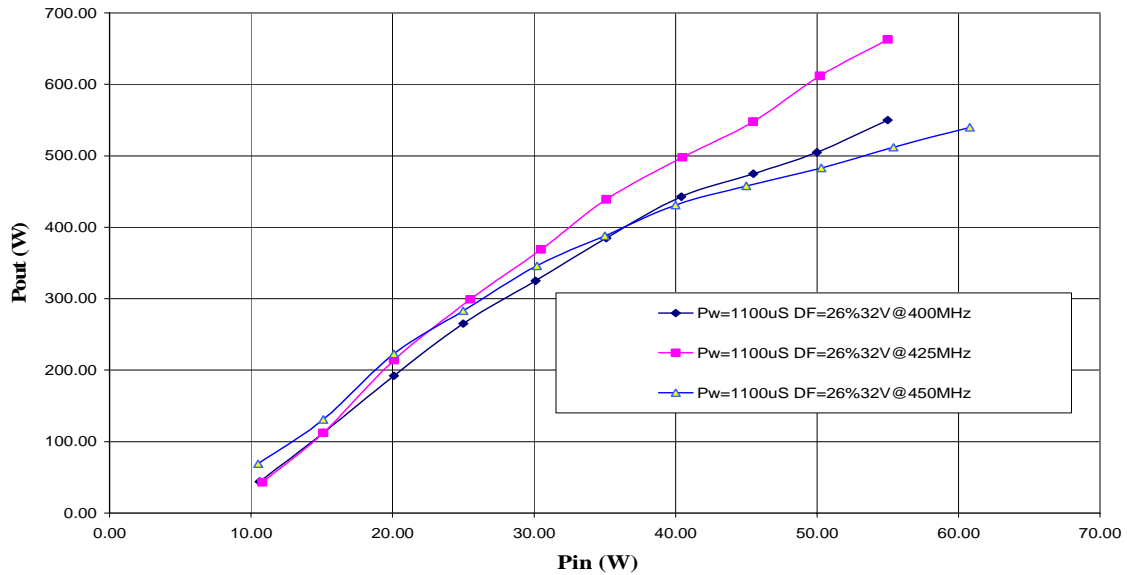
Microsemi Corp. 3000 Oakmead Village Drive, Santa Clara, CA 95051-0808 TEL. 408-986-8031 FAX 408-869-2324



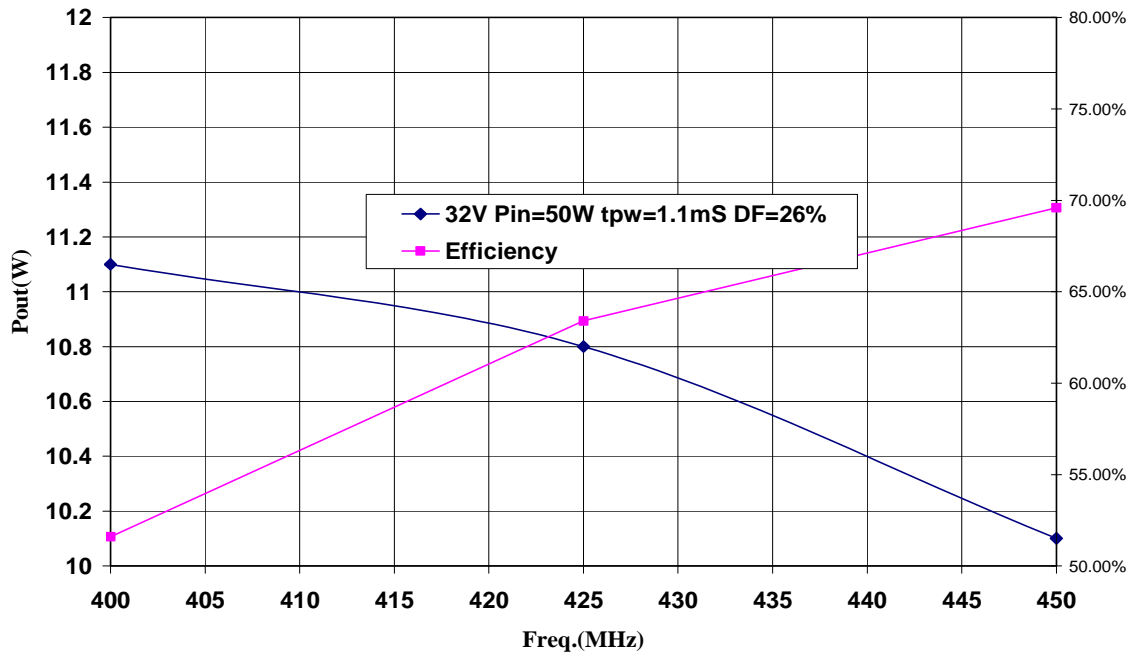
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Performance Curves

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



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

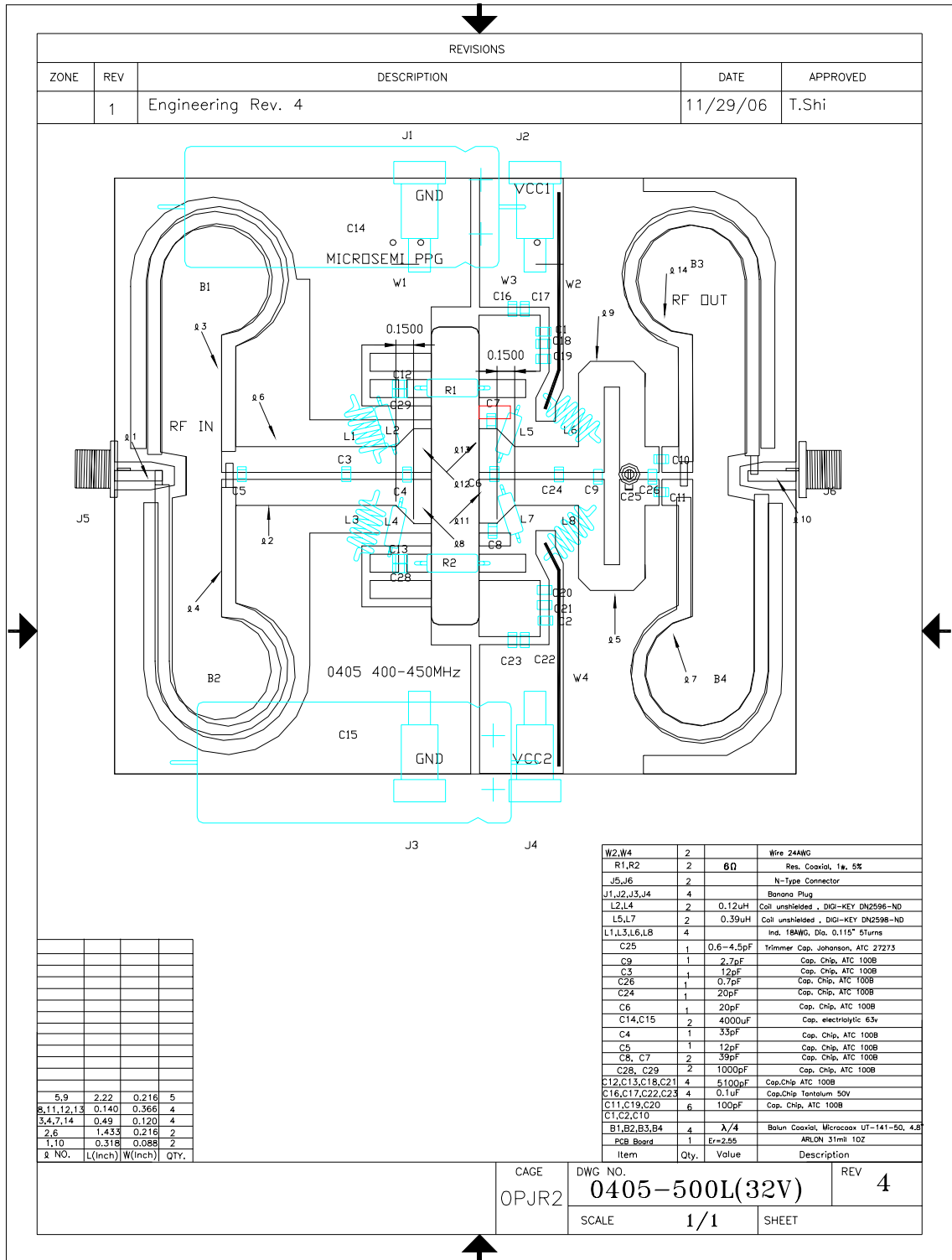


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Broadband Test Fixture

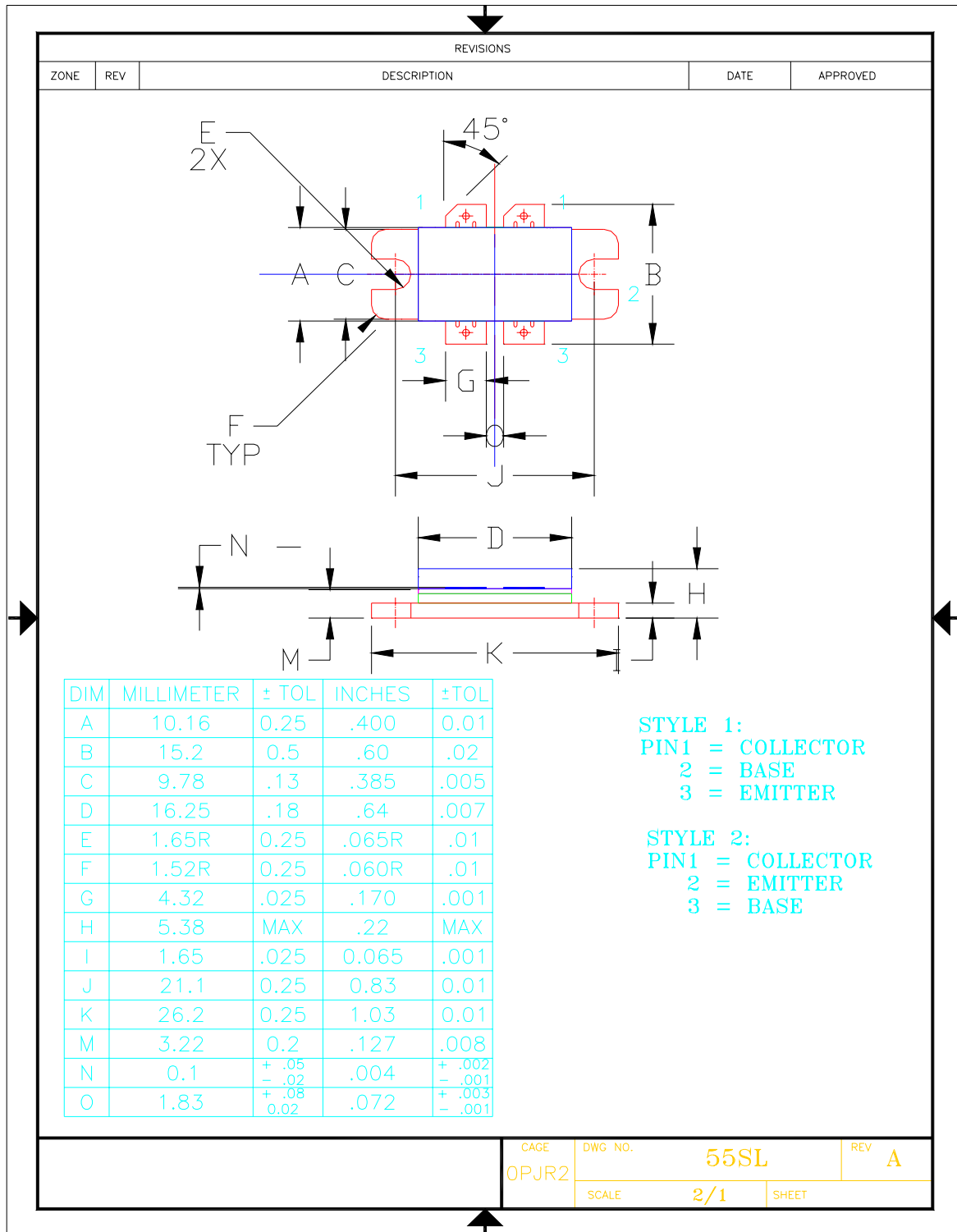


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Case Outline



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