

Wireless Bipolar Power Transistor 60W, 1450-1550 GHz

M/A-COM Products Released - Rev. 07.07

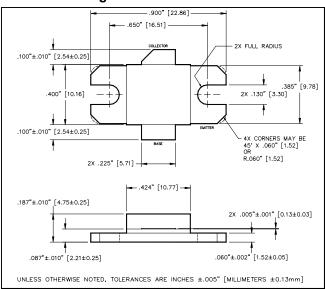
Features

- Designed for linear amplifier applications
- Class AB: -30 dBc typ. 3rd IMID at 60 W PEP
- Class A: + 53 dBm typ. 3rd order intercept point
- Common emitter configuration
- Internal input impedance marching
- · Diffused emitter ballasting

ABSOLUTE MAXIMUM RATING AT 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	V _{CBO}	65	V
Collector-Emitter Voltage	V _{CES}	65	V
Emitter-Base Voltage	V _{EBO}	3.0	V
Collector Current	Ic	10	Α
Power Dissipation	P _D	116	W
Junction Temperature	Τ _J	200	°C
Storage Temperature	T _{STG}	-55 to + 150	°C
Thermal Resistance	θ_{JC}	1.5	°C/W

Outline Drawing

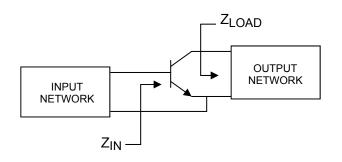


ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV _{CES}	60	-	V	I _C = 40mA
Collector-Emitter Leakage Current	I _{CES}	-	10	mA	V _{CE} = 26V
Collector-Emitter Breakdown Voltage	BV _{CEO}	24	-	V	I _C = 40mA
Emitter-Base Breakdown Voltage	BV_{EBO}	3.0	-	V	I _B = 40mA
DC Forward Current Gain	h _{FE}	15	120	-	V _{CE} = 5V, I _C = 1 A
Power Gain	G_P	8	-	dB	V_{CC} = 26V, I_{CQ} = 50 mA, P_{out} = 60 W PEP, F =1500MHz, Δ F=100kHz
Collector Efficiency	ŋC	30	-	%	V_{CC} = 26V, I_{CQ} = 50 mA, P_{out} = 60 W PEP, F =1500MHz, Δ F=100kHz
Input Return Loss	RL	10	-	dB	V_{CC} = 26V, I_{CQ} = 50 mA, P_{out} = 60 W PEP, F =1500MHz, Δ F=100kHz
Load Mismatch Tolerance	VSWR	-	5.0:1	-	V_{CC} = 26V, I_{CQ} = 50 mA, P_{out} = 60 W PEP, F =1500MHz, Δ F=100kHz
3rd Order IMD	IMD ₃	-	-28	dBc	V _{CC} = 26V, I _{CQ} = 50 mA, P _{out} = 60 W PEP, F =1500MHz, Δ F=100kHz

TYPICAL OPTIMUM DEVICE IMPEDANCES

F (MHz)	Z _{IN} (Ω)	Z _{LOAD} (Ω)
1450	2.2+j5.0	3.0-j3.8
1500	2.7+j4.5	2.2-j4.0
1550	2.1+j3.7	1.5-j4.1



PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

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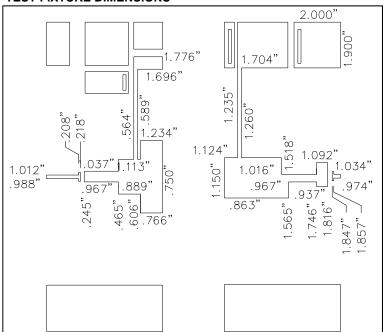
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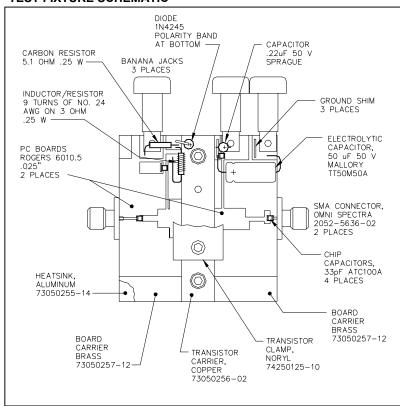
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TEST FIXTURE DIMENSIONS



TEST FIXTURE SCHEMATIC



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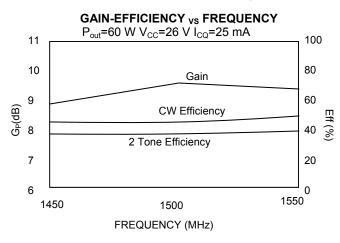
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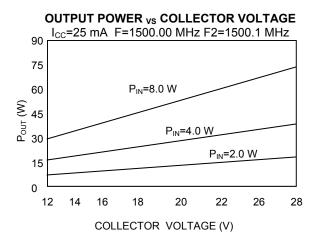


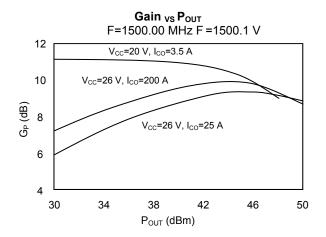
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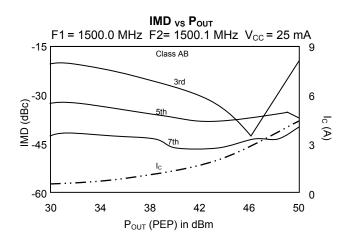
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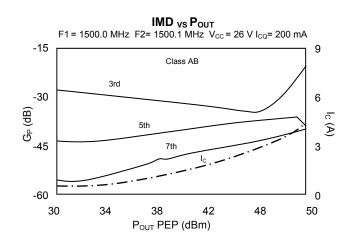
Typical Broadband Performance Curves

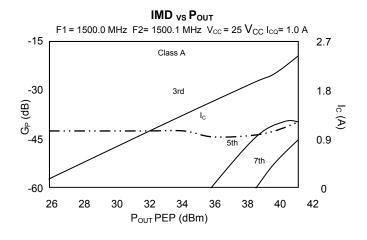












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