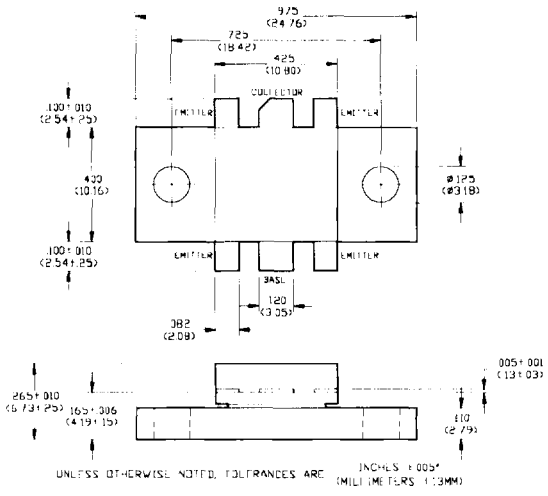
Wireless Bipolar Power Transistor, 60W 850 - 900 MHz

PH0810-60A

V2.00

Features

- Designed for Linear Amplifier Applications
- Class AB: -30 dBc Typ 3rd IMD at 60 Watts PEP
- Common Emitter Configuration
- Internal Input and Output Impedance Matching
- Diffused Emitter Ballasting



Absolute Maximum Ratings at 25°C

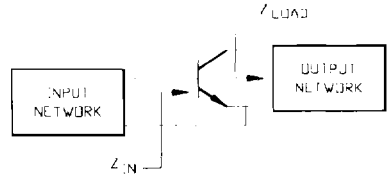
Parameter	Symbol	Rating	Units
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current	I_C	10	A
Total Power Dissipation	P_{TOT}	100	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance	θ_{JC}	1.7	°C/W

Electrical Characteristics at 25°C

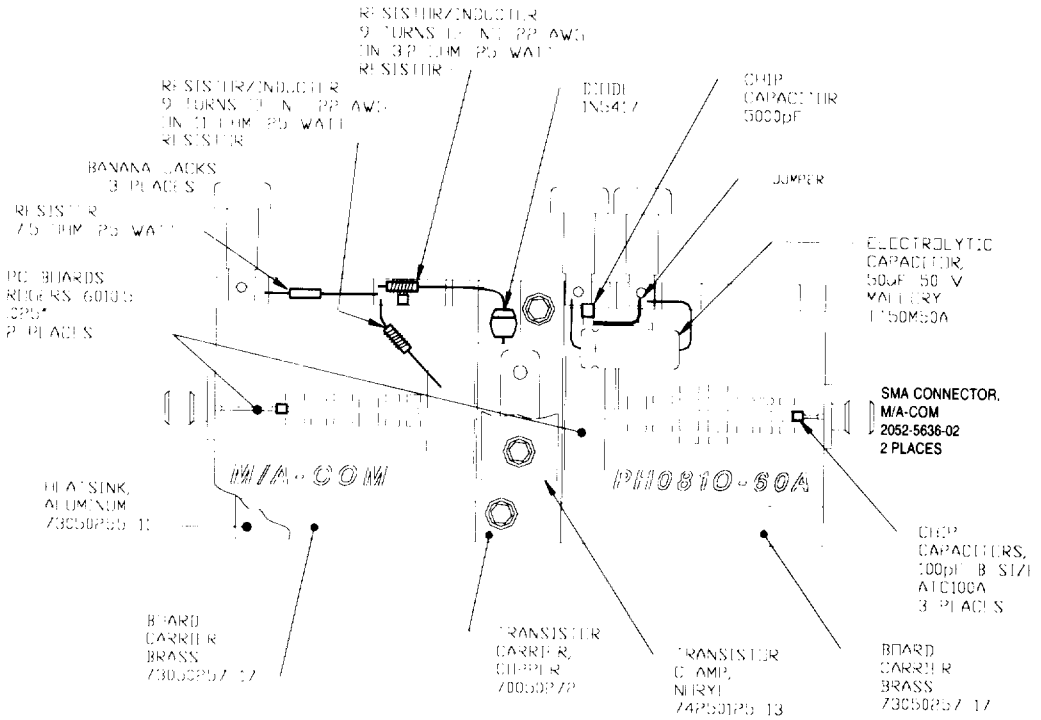
Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	60	-	V	I_C=50 mA
Collector-Emitter Leakage Current	I_{CES}	-	2.0	mA	V_{CE}=26.0 V
Collector-Emitter Breakdown Voltage	BV_{CEO}	24	-	V	I_C=80 mA
Emitter-Base Breakdown Voltage	BV_{EBO}	3.0	-	V	I_B=50 mA
DC Forward Current Gain	h_{FE}	15	120	-	V_{CE}=5.0 V, IC=1.0 A
Power Gain	G_P	10	-	dB	V_{CC}=26 V, I_{CQ}=150 mA, P_{OUT}=60 W PEP, F=900 MHz, ΔF=100 kHz
Collector Efficiency	η_C	35	-	%	V_{CC}=26 V, I_{CQ}=150 mA, P_{OUT}=60 W PEP, F=900 MHz, ΔF=100 kHz
Input Return Loss	RL	10	-	dB	V_{CC}=26 V, I_{CQ}=150 mA, P_{OUT}=60 W PEP, F=900 MHz, ΔF=100 kHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V_{CC}=26 V, I_{CQ}=150 mA, P_{OUT}=60 W PEP, F=900 MHz, ΔF=100 kHz
3rd Order IMD	IMD_3	-	-28	dBc	V_{CC}=26 V, I_{CQ}=150 mA, P_{OUT}=60 W PEP, F=900 MHz, ΔF=100 kHz

Typical Optimum Device Impedances

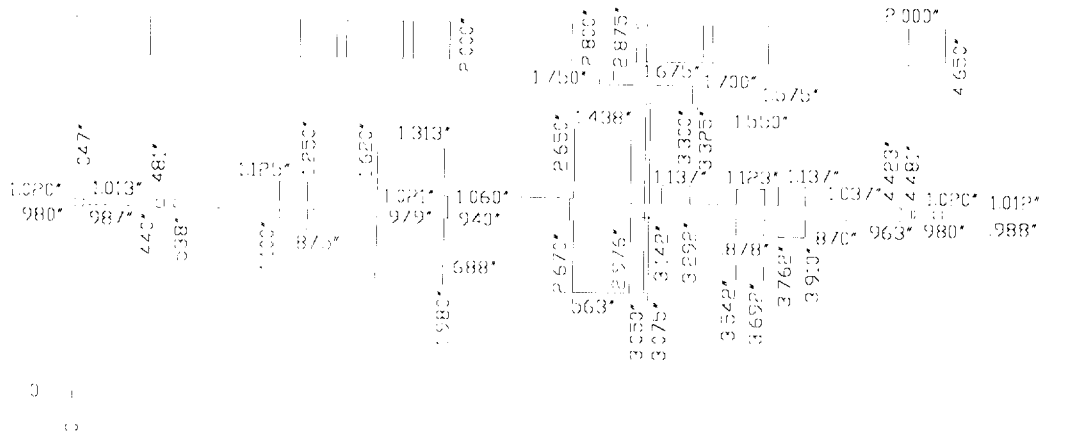
F(MHz)	$Z_{IN}(\Omega)$	$Z_{LOAD}(\Omega)$
850	3.0 + j3.0	2.5 + j4.0
875	4.0 + j2.8	2.3 + j5.4
900	4.5 + j2.7	2.2 + j6.5



RF Test Fixture



Test Fixture PC Board Dimensions



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