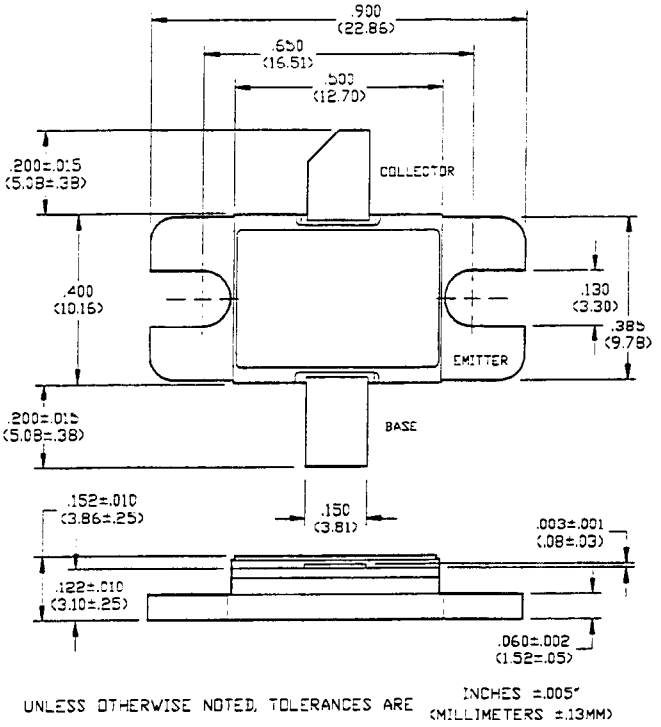
Linear Power Transistor, 40W
850 - 1450 MHz

PH0814-40

V2.00

Features

- NPN Silicon Microwave Power Transistor
- Common Emitter Configuration
- Broadband Class AB Operation
- Interdigitated Geometry
- Diffused Emitter Ballasting Resistors
- Gold Metalization System
- Internal Input and Output Impedance Matching
- Hermetic Metal/Ceramic Package



Absolute Maximum Ratings at 25°C

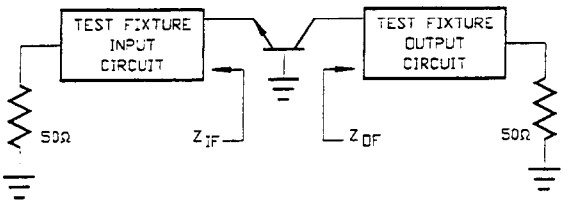
Parameter	Symbol	Rating	Units
Collector-Base Voltage	V_{CBO}	56	V
Collector-Emitter Voltage	V_{CES}	56	V
Emitter-Base Voltage	V_{EBO}	3.0	V
Collector Current (Peak)	I_C	5.6	A
Total Power Dissipation	P_{TOT}	175	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-55 to +200	°C
Thermal Resistance	θ_{JC}	1.0	°C/W

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	56	-	V	I_C=50 mA
Collector-Emitter Leakage Current	I_{CES}	-	5.0	mA	V_{CE}=28 V
Collector-Base Breakdown Voltage	BV_{CBO}	56	-	V	I_C=50 mA
Emitter-Base Breakdown Voltage	BV_{EBO}	3.0	-	V	I_B=10 mA
DC Forward Current Gain	h_{FE}	15	100	-	V_{CE}=5.0 V, I_C=0.5 A
Input Power	P_{IN}	5.5	8.8	W	V_{CC}=28 V, I_{CQ}=12 mA, P_{OUT}=42 W, F=1450 MHz
Collector Current	I_C	-	3.75	A	V_{CC}=28 V, I_{CQ}=12 mA, P_{OUT}=42 W, F=1450 MHz
Input Return Loss	RL	10	-	dB	V_{CC}=28 V, I_{CQ}=12 mA, P_{OUT}=42 W, F=1450 MHz
Saturated Output Power	P_{SAT}	50	-	W	V_{CC}=28 V, I_{CQ}=12 mA, F=1450 MHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V_{CC}=28 V, I_{CQ}=12 mA, P_{OUT}=42 W, F=1450 MHz
Load Mismatch Tolerance	VSWR-T	-	1.5:1	-	V_{CC}=28 V, I_{CQ}=12 mA, P_{OUT}=42 W, F=850 MHz

Typical Optimum Device Impedances

F(MHz)	$Z_{IN}(\Omega)$	$Z_{OF}(\Omega)$
850	2.0 - j3.6	3.0 - j4.9
950	2.4 - j2.5	2.3 - j3.1
1050	3.1 - j1.8	2.0 - j2.0
1150	3.5 - j1.9	1.8 - j1.4
1250	3.3 - j2.4	1.7 - j0.9
1350	2.5 - j2.4	1.4 - j0.5
1450	1.7 - j1.8	1.2 - j0.1



Specifications Subject to Change Without Notice.