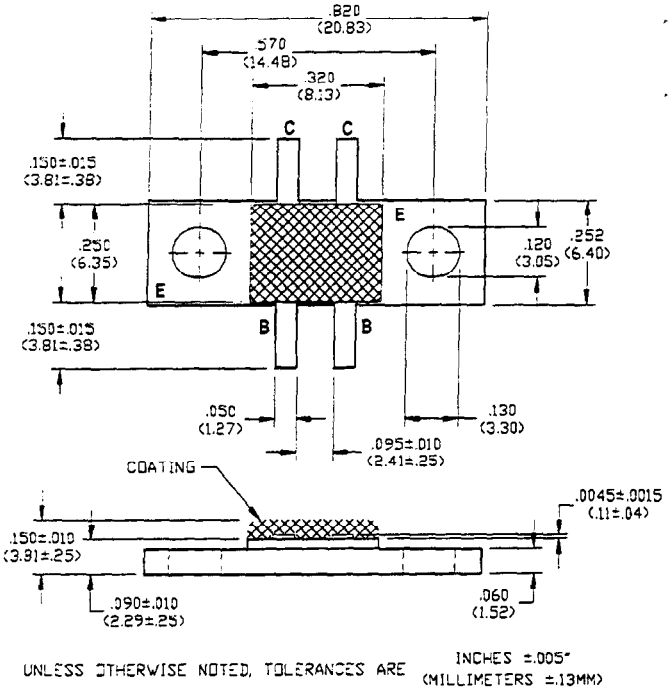
CW Power Transistor, 16W
30 - 400 MHz

PH0104-16

V2.00

Features

- NPN Silicon Power Transistor
- Common Emitter Configuration
- Class AB Broadband Operation
- 16 Watt PEP Output
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Proven in Thousands of ARC-182 Airborne Radios



Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Emitter Voltage	V_{CES}	65	V
Emitter-Base Voltage	V_{EBO}	4.0	V
Collector Current (Peak)	I_C	2	A
Power Dissipation	P_D	83	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-40 to +125	°C
Thermal Resistance	θ_{JC}	2.1	°C/W

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	65	-	V	I_C=5 mA, V_{BE}=0.0 V
Base-Emitter Breakdown Voltage	BV_{EBO}	4.0		V	I_B=2.5 mA, I_C=0.0 A
Collector-Emitter Leakage Current	I_{CES}	-	1	mA	V_{CE}=30 V
DC Forward Current Gain	h_{FE}	20	80	-	V_{CE}=5.0 V, I_C=500 mA
Input Power	P_{IN}	-	2.0	W	V_{CC}=27 V, I_{CQ}=10 mA, P_{OUT}=16 W, F=400 MHz
Power Gain	G_P	9.0	-	dB	V_{CC}=27 V, I_{CQ}=10 mA, P_{OUT}=16 W, F=400 MHz
Collector Efficiency	η_C	40	-	%	V_{CC}=27 V, I_{CQ}=10 mA, P_{OUT}=16 W, F=400 MHz
Input Return Loss	RL	9	-	dB	V_{CC}=27 V, I_{CQ}=10 mA, P_{OUT}=16 W, F=400 MHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	V_{CC}=27 V, I_{CQ}=10 mA, P_{OUT}=16 W, F=400 MHz