

# CW Power Transistor, 16W

## 30 - 400 MHz

PH0104-16

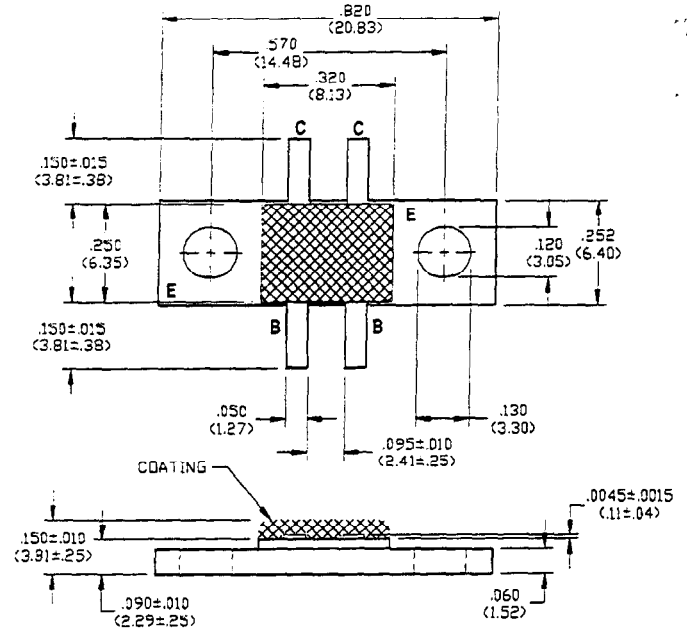
V2.00

### 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	$\theta_{JC}$	2.1	°C/W



UNLESS OTHERWISE NOTED, TOLERANCES ARE INCHES ±.005" (MILLIMETERS ±.13MM)

### Electrical Characteristics at 25°C

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