

# CW Power Transistor, 85W 30 - 400 MHz

PH0104-85

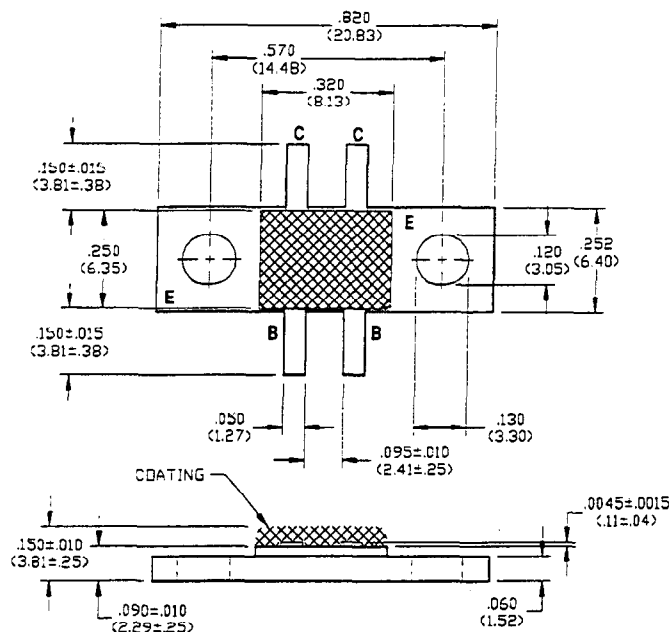
V2.00

## Features

- NPN Silicon Power Transistor
- Common Emitter Configuration
- Class AB Broadband Operation
- 85 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)	$I_C$	10	A
Power Dissipation	$P_D$	194	W
Junction Temperature	$T_J$	200	°C
Storage Temperature	$T_{STG}$	-40 to +125	°C
Thermal Resistance	$\theta_{JC}$	0.9	°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	$I_C=10$ mA, $V_{BE}=0.0$ V
Base-Emitter Breakdown Voltage	$BV_{EBO}$	4.0	-	V	$I_E=10$ mA, $I_C=0.0$ A
Collector-Emitter Leakage Current	$I_{CES}$	-	4	mA	$V_{CE}=30$ V
DC Forward Current Gain	$h_{FE}$	20	80	-	$V_{CE}=5.0$ V, $I_C=2.0$ A
Input Power	$P_{IN}$	-	16	W	$V_{CC}=27$ V, $I_{CO}=50$ mA, $P_{OUT}=85$ W, $F=400$ MHz
Power Gain	$G_P$	7.3	-	dB	$V_{CC}=27$ V, $I_{CO}=50$ mA, $P_{OUT}=85$ W, $F=400$ MHz
Collector Efficiency	$\eta_C$	45	-	%	$V_{CC}=27$ V, $I_{CO}=50$ mA, $P_{OUT}=85$ W, $F=400$ MHz
Input Return Loss	RL	9	-	dB	$V_{CC}=27$ V, $I_{CO}=50$ mA, $P_{OUT}=85$ W, $F=400$ MHz
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=27$ V, $I_{CO}=50$ mA, $P_{OUT}=85$ W, $F=400$ MHz