

CW Power Transistor, 85W

30 - 400 MHz

PH0104-85

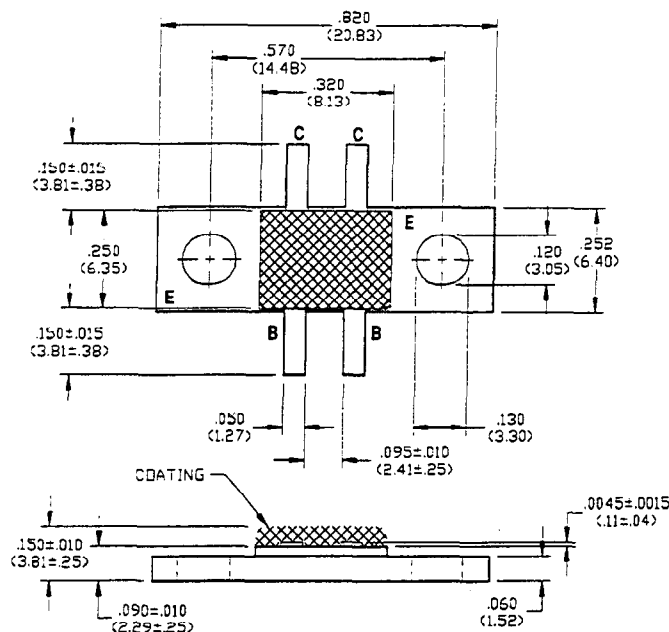
V2.00

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	θ_{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	$I_C=10\text{ mA}$, $V_{BE}=0.0\text{ V}$
Base-Emitter Breakdown Voltage	BV_{EBO}	4.0	-	V	$I_E=10\text{ mA}$, $I_C=0.0\text{ A}$
Collector-Emitter Leakage Current	I_{CES}	-	4	mA	$V_{CE}=30\text{ V}$
DC Forward Current Gain	h_{FE}	20	80	-	$V_{CE}=5.0\text{ V}$, $I_C=2.0\text{ A}$
Input Power	P_{IN}	-	16	W	$V_{CC}=27\text{ V}$, $I_{CO}=50\text{ mA}$, $P_{OUT}=85\text{ W}$, $F=400\text{ MHz}$
Power Gain	G_P	7.3	-	dB	$V_{CC}=27\text{ V}$, $I_{CO}=50\text{ mA}$, $P_{OUT}=85\text{ W}$, $F=400\text{ MHz}$
Collector Efficiency	η_C	45	-	%	$V_{CC}=27\text{ V}$, $I_{CO}=50\text{ mA}$, $P_{OUT}=85\text{ W}$, $F=400\text{ MHz}$
Input Return Loss	RL	9	-	dB	$V_{CC}=27\text{ V}$, $I_{CO}=50\text{ mA}$, $P_{OUT}=85\text{ W}$, $F=400\text{ MHz}$
Load Mismatch Tolerance	VSWR-T	-	3:1	-	$V_{CC}=27\text{ V}$, $I_{CO}=50\text{ mA}$, $P_{OUT}=85\text{ W}$, $F=400\text{ MHz}$