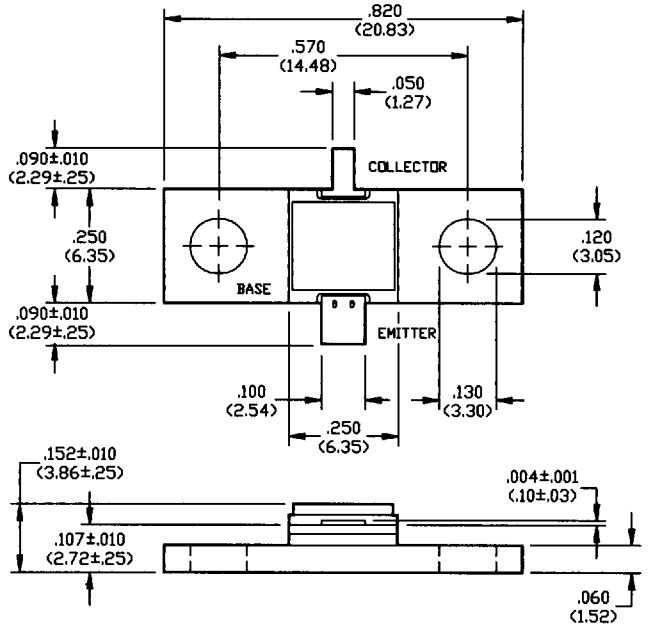
5 Watts, 2.70-3.50 GHz

Features

- NPN Silicon Microwave Power Transistor
- Designed for Linear Amplifier Applications
- Class AB Operation
- Common Emitter Configuration
- Internal Input and Output Impedance Matching
- Diffused Emitter Ballasting Resistors
- Gold Metallization System
- Hermetic Metal/Ceramic Package

Outline Drawing



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

Absolute Maximum Ratings at 25°C

Parameter	Symbol	Rating	Units
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CES}	60	V
Emitter-Base Voltage	I_{EBO}	3.0	A
Collector Current	I_C	2.0	A
Power Dissipation	P_D	20	W
Junction Temperature	T_J	200	°C
Storage Temperature	T_{STG}	-65 to +200	°C
Thermal Resistance	θ_{JC}	8	°C/W

Electrical Characteristics at 25°C

Parameter	Symbol	Min	Max	Units	Test Conditions
Collector-Emitter Breakdown Voltage	BV_{CES}	60	-	V	I_C=5 mA
Collector-Emitter Leakage Current	I_{CES}	-	1.0	mA	V_{CE}=25.0 V
Collector-Emitter Breakdown Voltage	BV_{CEO}	20	-	V	I_C=5 mA
Collector-Emitter Breakdown Voltage	BV_{CER}	30	-	V	I_C=5 mA, R_{BE}=220 Ω
Emitter-Base Breakdown Voltage	BV_{EBO}	3.0	-	V	I_B=5.0 mA
DC Forward Current Gain	h_{FE}	15	120	-	V_{CE}=5.0 V, I_C=0.1 A
Power Gain	G_P	7.0	-	dB	V_{CC}=25 V, I_{CQ}=100 mA, P_{OUT}=5 W, F=2.7, 3.1, 3.5 GHz
Input Return Loss	RL	6	-	dB	V_{CC}=25 V, I_{CQ}=100 mA, P_{OUT}=5 W, F=2.7, 3.1, 3.5 GHz

Typical Optimum Device Impedances

F(GHz)	$Z_{IN}(\Omega)$	$Z_{LOAD}(\Omega)$
2.70	5 + j11	5 + j5
3.10	10 + j15	10 + j12
3.50	18 + j5	4 + j12