HG Semiconductors

HG RF POWER TRANSISTOR

MRF1090MB

ROHS Compliance,Silicon NPN POWER TRANSISTOR

DESCRIPTION

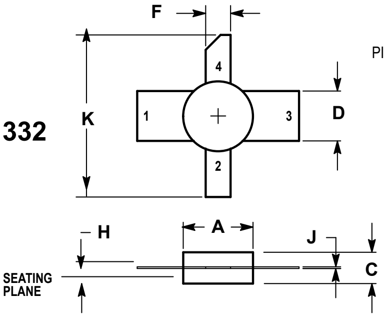
Designed for Class B and C common base amplifier applications in short pulse TACAN, IFF, and DME transmitters.

FEATURES

- Specified 50V, 1090MHz Characteristics
- P_O = 90W PEP@50V, 1090MHz
- G_P = 8.4 dB (Min) @50V, 1090MHz
- VSWR = 10:1
- Omnigold™ Metalization System

DIMENSIONS

CASE 332



PIN 1. BASE
2. EMITTER
3. BASE
4. COLLECTOR

DIM	INCHES MIN	INCHES MAX	MILLIMETERS MIN	MILLIMETERS MAX
A	0.270	0.290	6.86	7.36
C	0.115	0.135	2.93	3.42
D	0.195	0.205	4.96	5.20
F	0.095	0.105	2.42	2.66
H	0.050	0.070	1.27	1.77
J	0.003	0.007	0.08	0.17
K	0.600	—	15.24	—

MAXIMUM RATINGS

CHARACTERISTICS	SYMBOL	RATINGS	UNITS
Collector-Base Voltage	V_{CBO}	70	V
Collector-Emitter Voltage	V_{CES}	70	V
Collector Current	I_C	6.0	A
Emitter-Base Voltage	V_{EBO}	4.0	V
Collector Power Dissipation	P_{DISS}	290	W
Storage Temperature Range	T_{STG}	-65 to 150	°C

ELECTRICAL CHARACTERISTICS

CHARACTERISTICS	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNITS
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=25mA,I_E=0	70	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CES}$	I_C=25mA,V_{BE}=0	70	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=5mA,I_C=0	4.0	-	-	V
Collector Cutoff Current	I_{CBO}	V_{CB} = 50V, I_E = 0	-	-	5	mA
DC Current Gain	h_{FE}	V_{CE}=5V,I_C=2.5A	10	70	-	
Power Gain	G_P	V_{CC}=50V,P_{OUT}=90W, f=1090MHz	8.4	10.8	-	dB
Collector Efficiency	η_C		35	40	-	%
Collector Output Capacitance	C_{Ob}	V_{CB}=50V,I_E=0 f=1MHz	-	12	16	pF

Sep. 1998