

# NPN SILICON RF POWER TRANSISTOR

**DESCRIPTION:**

The **HF220-50** is a 50 V epitaxial silicon NPN transistor, designed for SSB communications.

**FEATURES:**

- $P_G = 13$  dB Typical at 220 W/30 MHz
- $IMD_3 = -30$  dBc Max. at 220 W<sub>(PEP)</sub>
- **Omnigold™** Metalization System
- 50 V operation

**MAXIMUM RATINGS**

$I_C$	12 A
$V_{CBO}$	110 V
$V_{CEO}$	55 V
$V_{EBO}$	4.0 V
$P_{DISS}$	320 W @ $T_C = 25^\circ C$
$T_J$	$-65^\circ C$ to $+200^\circ C$
$T_{STG}$	$-65^\circ C$ to $+150^\circ C$
$\theta_{JC}$	$0.7^\circ C/W$

**PACKAGE STYLE .500 4L FLG**

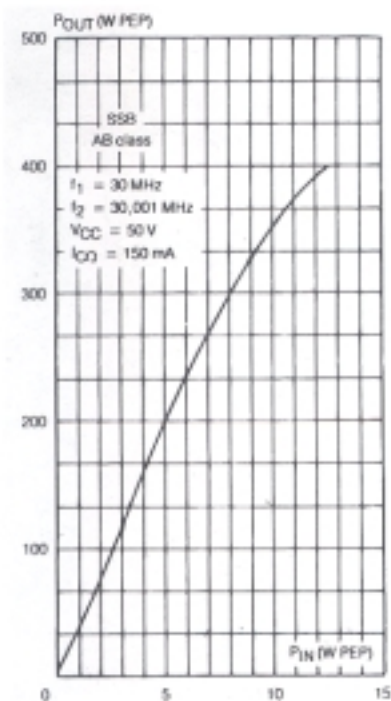
DIM	MINIMUM inches / mm	MAXIMUM inches / mm
A	.220 / 5.59	.230 / 5.84
B		.125 / 3.18
C	.245 / 6.22	.255 / 6.48
D	.720 / 18.28	.730 / 18.54
E		.125 / 3.18
F	.970 / 24.64	.980 / 24.89
G	.495 / 12.57	.505 / 12.83
H	.003 / 0.08	.007 / 0.18
I	.090 / 2.29	.110 / 2.79
J	.150 / 3.81	.175 / 4.45
K		.280 / 7.11
L	.980 / 24.89	1.050 / 26.67

**ORDER CODE: ASI10614**

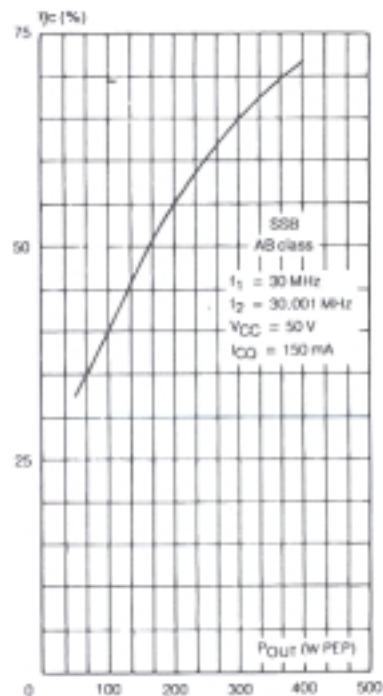
**CHARACTERISTICS**  $T_C = 25^\circ C$ 

SYMBOL	TEST CONDITIONS	MINIMUM	TYPICAL	MAXIMUM	UNITS
$BV_{CBO}$	$I_C = 200$ mA	110			V
$BV_{CEO}$	$I_C = 200$ mA	55			V
$BV_{EBO}$	$I_E = 20$ mA	4.0			V
$I_{CEO}$	$V_{CE} = 30$ V			5	mA
$I_{CES}$	$V_{CE} = 55$ V			10	mA
$h_{FE}$	$V_{CE} = 6$ V $I_C = 10$ A	15		80	---
$C_{ob}$	$V_{CB} = 50$ V $f = 1.0$ MHz			390	pF
$G_P$		13			dB
$IMD_3$	$V_{CE} = 50$ V $I_{CQ} = 150$ mA $P_{OUT} = 220$ W <sub>(PEP)</sub>			-30	dBc
$\eta_C$	$f_1 = 30.000$ MHz $f_2 = 30.001$ MHz	40			%

**POWER OUTPUT PEP vs POWER INPUT**



**COLLECTOR EFFICIENCY vs POWER OUTPUT PEP**



**INTERMODULATION DISTORTION vs POWER OUTPUT PEP**

