

BFR 97

SMALL SIGNAL TRANSISTOR

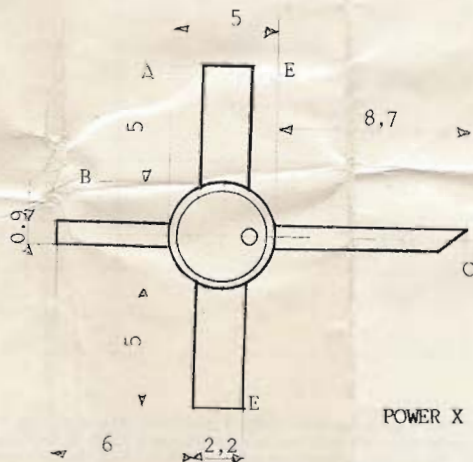
ADVANCE DATA

Pt/Ti/Au metallization is used for the ultimate reliability and uniformity. The "POWER-X" package with a compact plastic-Berillia-metal structure assure small dimensions and excellent D.C. power dissipation.

V_{CBO}	Collector-base voltage ($I_E = 0$)	20 V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	15 V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	3 V
I_C	DC collector current	140 mA
P_{tot}	Total device power $T_c = 60^\circ$	1,3 W
T_j	Junction temperature	150°C
T_{stg}	Storage temperature	-55 to 150°C

V_o Output voltage 0,7 V_{eff} for - 60dB IMD 3 tone DIN 45004 at $V_{ce} = 10V$ $I_c = 75mA$

Dimension in mm.



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BFR 97

ELECTRICAL CHARACTERISTICS

Parameter	Test conditions	Min	Typ	Max	Unit
I_{CBO} Collector cutoff current ($I_E=0$)	$V_{CB} = 10V$			100	nA
$V_{(BR)CBO}$ Collector-base breakdown voltage ($I_E=0$)	$I_C = 100 \mu A$	20			V
$V_{(BR)CEO}$ Collector-emitter breakdown voltage ($I_B=0$)	$I_C = 1mA$	15			V
$V_{(BR)EBO}$ Emitter-base breakdown voltage ($I_C=0$)	$I_E = 100 \mu A$	3			V
h_{FE} DC current gain	$I_C = 75mA$ $V_{CE} = 10V$	30	60		
f_T transition frequency	$I_C = 75mA$ $V_{CE} = 10V$		4,6		GHz
C_{re} Reverse capacitance	$V_{CE} = 10V$		0,9		pF
NF Noise figure	$I_C = 40mA$ $V_{CE} = 10V$ $R_g = opt$ $f = 0,5GHz$		3,3		
$ S_{21e} $ Forward transmission gain	$I_C = 75mA$ $V_{CE} = 10V$ $f = 1GHz$		9,5		dB
G_{max} Power maximum available gain	$I_C = 75mA$ $V_{CE} = 10V$ $f = 1GHz$		13		dB

$$*G_{max} = \frac{|S_{21}|^2}{4|S_{12}|^2} (K \pm \sqrt{K^2 - 1})$$

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