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BFS22A

V.H.F. POWER TRANSISTOR

N-P-N epitaxial planar transistor Intended for use in class-A, B and C operated mobile, industrial and military transmitters with a supply voltage of 13,5 V. The transistor is resistance stabilized. Every transistor is tested under severe load mismatch conditions with a supply over-voltage to 16,5 V.

It has a TO-39 metal envelope with the collector connected to the case.

QUICK REFERENCE DATA

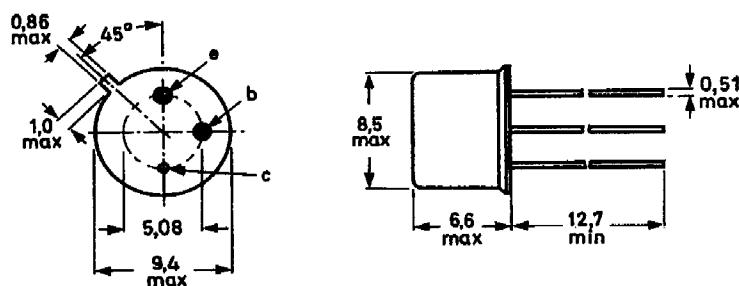
R.F. performance up to $T_{mb} \approx 25^\circ\text{C}$ in an unneutralized common-emitter class-B circuit

mode of operation	V_{CE} V	f MHz	P_L W	G_p dB	η %	\overline{z}_i Ω	\overline{Y}_L mS
c.w.	13,5	175	4	> 8 typ. 8	> 60 typ. 60	3,9 + j2,2 —	37 - j22 —
c.w.	12,5	175	4				

MECHANICAL DATA

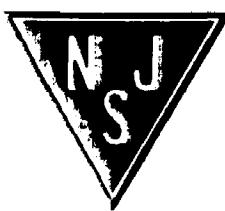
Dimensions in mm

Fig.1 TO-39/1; collector connected to case.



Maximum lead diameter is guaranteed only for 12,7 mm.

Accessories: 56245 (distance disc).



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CHARACTERISTICS $T_j = 25^\circ\text{C}$ unless otherwise specified**Collector cut-off current** $I_B = 0; V_{CE} = 14\text{ V}$ $I_{CEO} < 5 \text{ mA}$ **Breakdown voltages****Collector-base voltage**open emitter, $I_C = 1 \text{ mA}$ $V_{(BR)CBO} > 36 \text{ V}$ **Collector-emitter voltage**open base, $I_C = 10 \text{ mA}$ $V_{(BR)CEO} > 18 \text{ V}$ **Emitter-base voltage**open collector, $I_E = 1 \text{ mA}$ $V_{(BR)EBO} > 4 \text{ V}$ **Transient energy** $L = 25 \text{ mH}; f = 50 \text{ Hz}$

open base	E	>	0.5	μs
$-V_{BE} = 1.5 \text{ V}; R_{BE} = 33 \Omega$	E	>	0.5	μs

D.C. current gain $I_C = 500 \text{ mA}; V_{CE} = 5 \text{ V}$ $h_{FE} > 5$ **Transition frequency** $I_C = 350 \text{ mA}; V_{CE} = 10 \text{ V}$ $f_T \text{ typ. } 700 \text{ MHz}$ **Collector capacitance at $f = 1 \text{ MHz}$** $I_E = I_e = 0; V_{CB} = 15 \text{ V}$

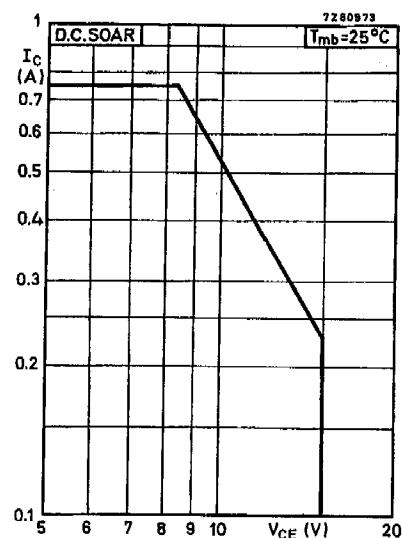
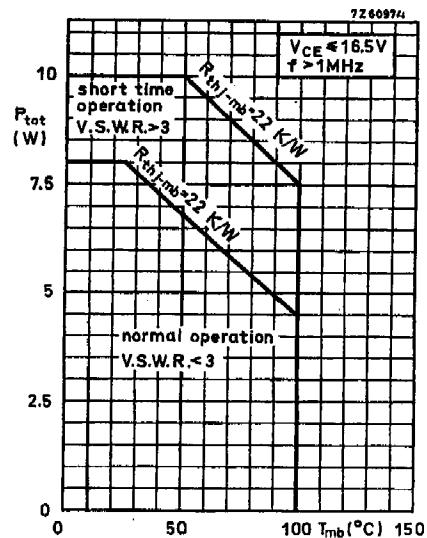
C_c	typ.	15	pF
	<	20	pF

Feedback capacitance at $f = 1 \text{ MHz}$ $I_C = 50 \text{ mA}; V_{CE} = 15 \text{ V}$ $-C_{re} \text{ typ. } 11 \text{ pF}$

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RATINGS Limiting values in accordance with the Absolute Maximum System (IEC 134)

Collector-base voltage (open emitter) peak value	V _{CBOM}	max.	36	V
Collector-emitter voltage (open base)	V _{CEO}	max.	18	V
Emitter-base voltage (open collector)	V _{EBO}	max.	4	V
Collector current (average)	I _{C(AV)}	max.	0.75	A
Collector current (peak value) $f > 1 \text{ MHz}$	I _{CM}	max.	2.25	A
Total power dissipation up to $T_{mb} = 25^\circ\text{C}$ $f > 1 \text{ MHz}$	P _{tot}	max.	8	W



Storage temperature

T_{stg} = -65 to +200 $^\circ\text{C}$

Operating junction temperature

T_j max. 200 $^\circ\text{C}$

THERMAL RESISTANCE

From junction to mounting base

R_{th j-mb} = 22 K/W

From mounting base to heatsink
with a boron nitride washer
for electrical insulation

R_{th mb-h} = 2.5 K/W