

BLX97

U.H.F. LINEAR POWER TRANSISTOR

N-P-N multi-emitter silicon planar epitaxial transistor primarily for use in linear u.h.f. amplifiers for television transposers and transmitters.

Features:

- guaranteed low intermodulation figures;
- gold metallization ensures excellent reliability.

The transistor has a 1/4" capstan envelope with a moulded cap. All leads are isolated from the stud.

QUICK REFERENCE DATA

R.F. performance in linear amplifier

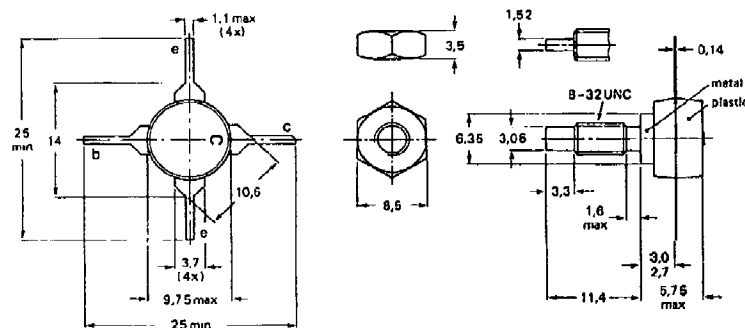
mode of operation	f_{vision} MHz	V_{CE} V	I_{C} mA	T_{h} °C	d_{im} dB	$P_{\text{O sync}}$ W	G_{p} dB
class-A	860	25	500	25	-60	> 1,0	> 5,5
class-A	860	25	500	25	-60	typ. 1,1	typ. 6,5

* Three-tone test method (vision carrier -8 dB, sound carrier -7 dB, sideband signal -16 dB), zero dB corresponds to peak sync level.

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-48/3.

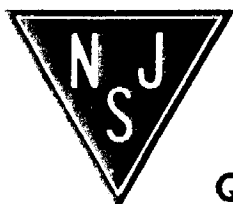


Torque on nut: min. 0,75 Nm
(7,5 kg cm)
max. 0,85 Nm
(8,5 kg cm)

Diameter of clearance hole in heatsink: max. 4,2 mm.
Mounting hole to have no burrs at either end.
De-burring must leave surface flat; do not chamfer or countersink either end of hole.

When locking is required an adhesive is preferred instead of a lock washer.

PRODUCT SAFETY This device incorporates beryllium oxide, the dust of which is toxic. The device is entirely safe provided that the BeO disc is not damaged.

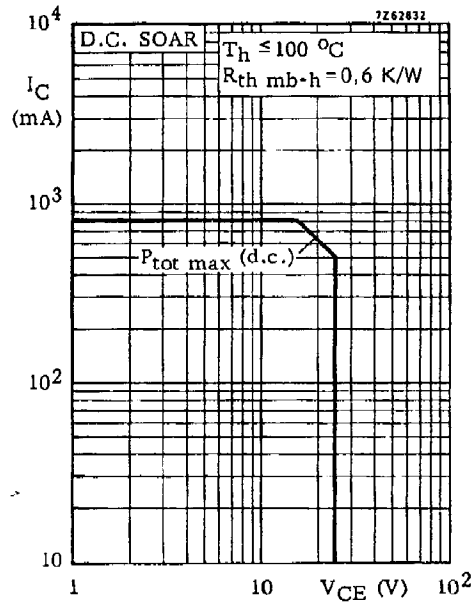


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RATINGS Limiting values in accordance with the Absolute Maximum System (IEC134)

Collector-base voltage (open emitter; peak value)	V_{CBOM}	max.	40	V
Collector-emitter voltage ($R_{BE} = 10\Omega$; peak value)	V_{CERM}	max.	40	V
Collector-emitter voltage (open base)	V_{CEO}	max.	27	V
Emitter-base voltage (open collector)	V_{EBO}	max.	3,5	V
Collector current (d.c.)	I_C	max.	0,8	A
Collector current (peak value) $f > 1$ MHz	I_{CM}	max.	2	A
Total power dissipation up to $T_h = 100^\circ\text{C}$	P_{tot}	max.	12,5	W



Storage temperature	T_{stg}	-65 to +200	$^\circ\text{C}$
Junction temperature	T_j	max. 200	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to mounting base	$R_{th\ j-mb}$	=	7,5	K/W
From mounting base to heatsink	$R_{th\ mb-h}$	=	0,6	K/W

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CHARACTERISTICS

$T_j = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

Collector cut-off current

$I_E = 0; V_{CB} = 20\text{ V}$ $I_{CBO} < 200\text{ }\mu\text{A}$

Breakdown voltages

Collector-base voltage
open emitter; $I_C = 2\text{ mA}$

$V_{(BR)CBO} > 40\text{ V}$

Collector-emitter voltage
 $R_{BE} = 10\text{ }\Omega; I_C = 10\text{ mA}$
open base; $I_C = 10\text{ mA}$

$V_{(BR)CER} > 40\text{ V}$
 $V_{(BR)CEO} > 27\text{ V}$

Emitter-base voltage
open collector; $I_E = 2\text{ mA}$

$V_{(BR)EBO} > 3,5\text{ V}$

Saturation voltage

$I_C = 400\text{ mA}; I_B = 40\text{ mA}$ $V_{CEsat} < 0,75\text{ V}$

D. C. current gain

$I_C = 400\text{ mA}; V_{CE} = 20\text{ V}$ $h_{FE} > 30$

$I_C = 800\text{ mA}; V_{CE} = 20\text{ V}$ $h_{FE} > 20$

Transition frequency

$I_C = 400\text{ mA}; V_{CE} = 20\text{ V}$ $f_T > 1,2\text{ GHz}$

$I_C = 700\text{ mA}; V_{CE} = 20\text{ V}$ $f_T > 1,0\text{ GHz}$

Collector capacitance at $f = 1\text{ MHz}$

$I_E = I_e = 0; V_{CB} = 20\text{ V}$ $C_c < 20\text{ pF}$

Feedback capacitance at $f = 1\text{ MHz}$

$I_C = 20\text{ mA}; V_{CE} = 20\text{ V}; T_{mb} = 25\text{ }^{\circ}\text{C}$ $C_{re} \text{ typ. } 7\text{ pF}$

Collector-stud capacitance

$C_{cs} \text{ typ. } 2\text{ pF}$