

UHF linear power transistor

BLW32

DESCRIPTION

N-P-N silicon planar epitaxial transistor primarily intended for use in linear **u.h.f. amplifiers** for television transmitters and transposers. The **excellent d.c. dissipation properties** for class-A operation are obtained by means of diffused emitter ballasting resistors and a multi-base structure, providing an optimum temperature profile on the crystal

area. The combination of optimum thermal design and the application of **gold sandwich metallization** realizes excellent reliability properties.

The transistor has a 1/4" capstan envelope with ceramic cap.

QUICK REFERENCE DATA

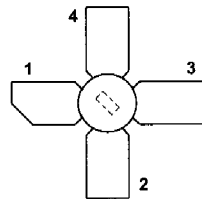
R.F. performance

MODE OF OPERATION	f_{vision} MHz	V_{CE} V	I_{c} mA	T_{h} °C	$d_{\text{im}}^{(1)}$ dB	$P_{\text{o sync}}^{(1)}$ W	G_{p} dB
class-A; linear amplifier	860	25	150	70	-60	> 0,5	> 11
	860	25	150	25	-60	typ. 0,63	typ. 12,2

Note

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

PIN CONFIGURATION

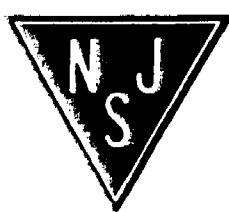


Top view

Fig.1 Simplified outline. SOT122A.

PINNING - SOT122A.

PIN	DESCRIPTION
1	collector
2	emitter
3	base
4	emitter



UHF linear power transistor

BLW32

RATINGS

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

Collector-emitter voltage (peak value); $V_{BE} = 0$ open base	V_{CESM}	max.	50 V
Emitter-base voltage (open collector)	V_{CEO}	max.	30 V
Collector current d.c. or average (peak value); $f > 1$ MHz	V_{EBO}	max.	4 V
Total power dissipation up to $T_{mb} = 25$ °C	I_C	max.	650 mA
Storage temperature	I_{CM}	max.	1000 mA
Operating junction temperature	P_{tot}	max.	10,8 W
	T_{stg}		-65 to +150 °C
	T_j	max.	200 °C

UHF linear power transistor

BLW32

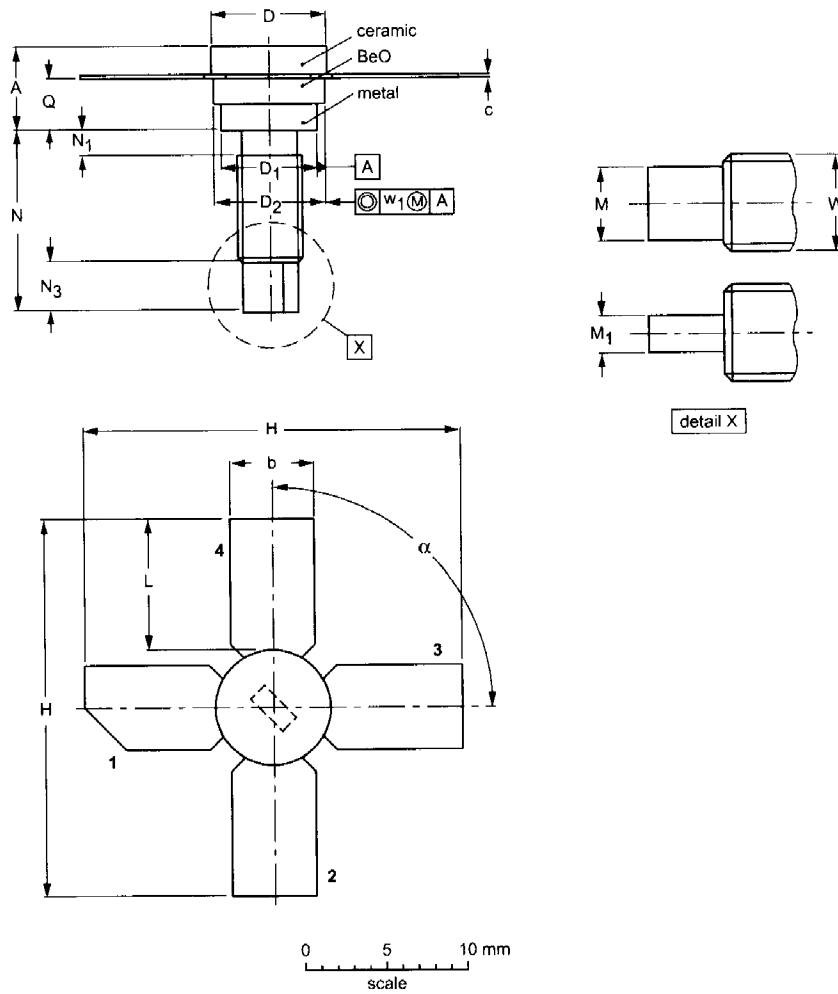
CHARACTERISTICS

$T_j = 25$ °C unless otherwise specified

Collector-emitter breakdown voltage $V_{BE} = 0$; $I_C = 2$ mA	$V_{(BR)CES}$	>	50 V
open base; $I_C = 15$ mA	$V_{(BR)CEO}$	>	30 V
Emitter-base breakdown voltage open collector; $I_E = 1$ mA	$V_{(BR)EBO}$	>	4 V
Collector cut-off current $V_{BE} = 0$; $V_{CE} = 30$ V	I_{CES}	<	0,5 mA
$V_{BE} = 0$; $V_{CE} = 30$ V; $T_j = 175$ °C	I_{CES}	<	1,2 mA
D.C. current gain ⁽¹⁾ $I_C = 150$ mA; $V_{CE} = 25$ V	h_{FE}	>	20 typ. 40
$I_C = 150$ mA; $V_{CE} = 25$ V; $T_j = 175$ °C	h_{FE}	<	120
Collector-emitter saturation voltage ⁽¹⁾ $I_C = 300$ mA; $I_B = 30$ mA	V_{CEsat}	typ.	500 mV
Transition frequency at $f = 500$ MHz ⁽²⁾ $-I_E = 150$ mA; $V_{CB} = 25$ V	f_T	typ.	3,5 GHz
$-I_E = 300$ mA; $V_{CB} = 25$ V	f_T	typ.	3,4 GHz
Collector capacitance at $f = 1$ MHz $I_E = I_e = 0$; $V_{CB} = 25$ V	C_c	typ.	3,7 pF
Feedback capacitance at $f = 1$ MHz $I_C = 10$ mA; $V_{CE} = 25$ V	C_{re}	typ.	1,9 pF
Collector-stud capacitance	C_{cs}	typ.	1,2 pF

Notes

1. Measured under pulse conditions: $t_p \leq 300$ μ s; $\delta \leq 0,02$.
2. Measured under pulse conditions: $t_p \leq 50$ μ s; $\delta \leq 0,01$.



DIMENSIONS (millimetre dimensions are derived from the original inch dimensions)

UNIT	A	b	c	D	D ₁	D ₂	H	L	M ₁	M	N	N ₁ max.	N ₃	Q	W	w ₁	α
mm	5.97 4.74	5.85 5.58	0.18 0.14	7.50 7.23	6.48 6.22	7.24 6.93	27.56 25.78	9.91 9.14	3.18 2.66	1.66 1.39	11.82 11.04	1.02	3.86 2.92	3.38 2.74	8-32 UNC	0.381	90°

OUTLINE VERSION	REFERENCES		
	IEC	JEDEC	EIAJ
SOT122A			