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BLX91A

U.H.F. POWER TRANSISTOR

N-P-N silicon planar epitaxial transistor intended for transmitting applications in class-A, B or C with a supply voltage up to 28 V. The transistor is resistance stabilized and is guaranteed to withstand severe load mismatch conditions. Gold metallization ensures extremely high reliability.

It has a capstan envelope with a moulded cap. All leads are isolated from the stud.

QUICK REFERENCE DATA

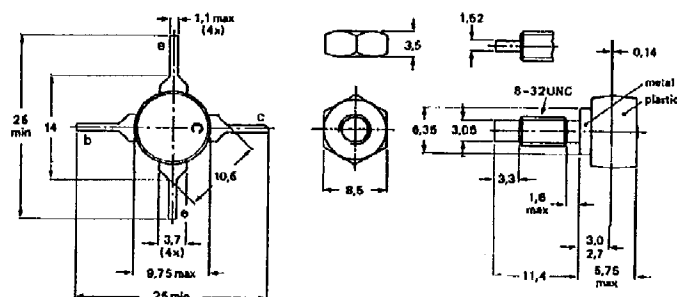
R.F. performance up to $T_H = 25^\circ\text{C}$ in an unneutralized common-emitter class B circuit

mode of operation	V_{CE} V	f MHz	P_S mW	P_L W	I_C mA	G_p dB	η %	Z_i Ω	$\bar{Y}_L$ mS
c.w.	24	470	typ. 50	0,85	typ. 87	typ. 12,3	typ. 53	—	—
c.w.	28	470	< 80	1,0	< 71	> 11,0	> 50	—	—
c.w.	28	470	typ. 80	1,45	typ. 86	typ. 12,6	typ. 60	$2,5 + j0,2$	$3,4 - j16$
c.w.	28	1000	typ. 400	1,4	typ. 100	typ. 5,4	typ. 50	—	—

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-48/3.



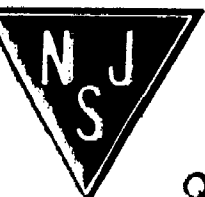
Torque on nut: min. 0,75 Nm
(7,5 kg cm)
max. 0,85 Nm
(8,5 kg cm)

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.

NJ Semi-Conductors reserves the right to change test conditions, parameters limits and package dimensions without notice information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

Quality Semi-Conductors



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

Collector-base voltage (open emitter) peak value	V_{CBOM}	max.	65	V
Collector-emitter voltage ($V_{BE} = 0$) peak value	V_{CESM}	max.	65	V
Collector-emitter voltage (open base)	V_{CEO}	max.	33	V
Emitter-base voltage (open collector)	V_{EBO}	max.	4,0	V

Currents

Collector current (d.c.)	I_C	max.	400	mA
Collector current (peak value); $f \geq 10$ MHz	I_{CM}	max.	800	mA

Power dissipation

Total power dissipation up to $T_h = 70^\circ\text{C}$ $f \geq 10$ MHz	P_{tot}	max.	4,0	W
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Temperatures

Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Operating junction temperature	T_j	max. 200	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to mounting base	$R_{th\ j-mb}$	=	32,5	K/W
From mounting base to heatsink	$R_{th\ mb-h}$	=	0,6	K/W

CHARACTERISTICS $T_j = 25^\circ\text{C}$ unless otherwise specified**Breakdown voltages**

Collector-base voltage open emitter, $I_C = 10$ mA	$V_{(BR)CBO}$	>	65	V
Collector-emitter voltage $V_{BE} = 0$, $I_C = 10$ mA	$V_{(BR)CES}$	>	65	V
Collector-emitter voltage open base, $I_C = 25$ mA	$V_{(BR)CEO}$	>	33	V
Emitter-base voltage open collector, $I_E = 1,0$ mA	$V_{(BR)EBO}$	>	4,0	V

D. C. current gain

$I_C = 100$ mA; $V_{CE} = 5,0$ V	h_{FE}	> typ.	10 35
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Transition frequency

$I_C = 50$ mA; $V_{CE} = 5,0$ V	f_T	typ.	1,2	GHz
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Collector capacitance at $f = 1$ MHz

$I_E = I_C = 0$; $V_{CB} = 10$ V	C_c	typ.	3,5	pF
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Emitter capacitance at $f = 1$ MHz

$I_C = I_E = 0$; $V_{EB} = 0$	C_e	typ.	11	pF
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Feedback capacitance at $f = 1$ MHz

$I_C = 5$ mA; $V_{CE} = 10$ V	C_{re}	typ.	2,5	pF
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Collector-stud capacitance

	C_{cs}	typ.	2,0	pF
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