

BLX95

U.H.F. POWER TRANSISTOR

N-P-N silicon planar epitaxial transistor intended for transmitting applications in class-A, B or C in the u.h.f. frequency range for supply voltages up to 28 V. The transistor is resistance stabilized and is tested under severe load mismatch conditions. Due to a gold metallization excellent reliability properties have been obtained. The transistor is housed in a capstan envelope with a moulded cap. All leads are isolated from the stud.

QUICK REFERENCE DATA

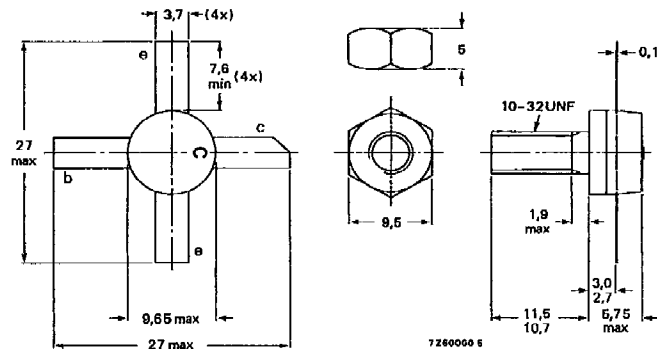
R.F. performance up to  $T_h = 25^\circ\text{C}$  in an unneutralized common-emitter class-B circuit

mode of operation	$V_{CE}$ V	f MHz	$P_S$ W	$P_L$ W	$I_C$ A	$G_D$ dB	$\eta$ %
c.w.	28	470	< 14,2	40	< 2,4	> 4,5	> 60
c.w.	28	175	typ. 3,2	40	typ. 1,9	typ. 11	typ. 75

MECHANICAL DATA

Dimensions in mm

Fig. 1 SOT-56.

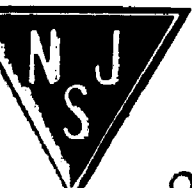


Torque on nut: min. 1,5 Nm  
 (15 kg cm)  
 max. 1,7 Nm  
 (17 kg cm)

Diameter of clearance hole in heatsink: max. 4,9 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.

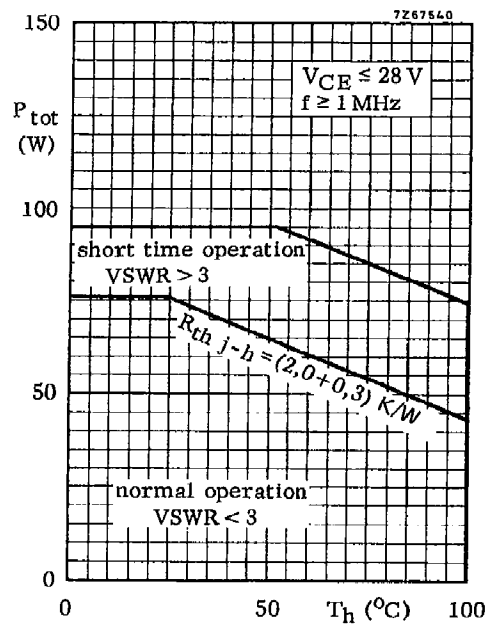
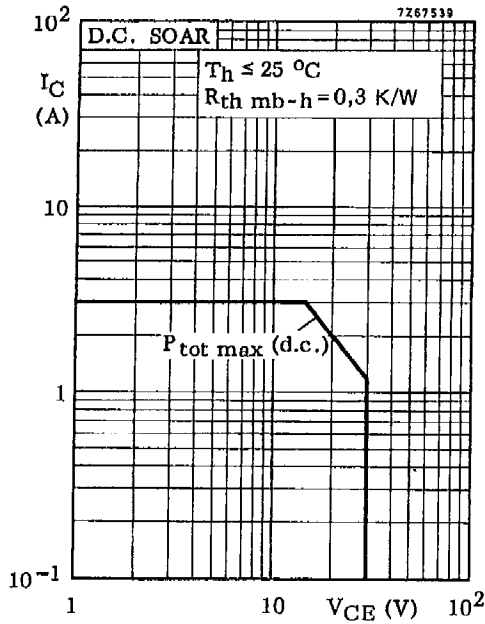
**PRODUCT SAFETY** This device incorporates beryllium oxide, the dust of which is toxic. The device is entirely safe provided that the BeO disc is not damaged.



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**RATINGS** Limiting values in accordance with the Absolute Maximum System

Collector-base voltage (open emitter) peak value	$V_{CBOM}$	max.	65 V
Collector-emitter voltage ( $R_{BF} = 10\Omega$ ) peak value	$V_{CERM}$	max.	65 V
Collector-emitter voltage (open base)	$V_{CEO}$	max.	30 V
Emitter-base voltage (open collector)	$V_{EBO}$	max.	4 V
Collector current (average)	$I_{C(AV)}$	max.	3,0 A
Collector current (peak value) $f > 1$ MHz	$I_{CM}$	max.	10,0 A



Storage temperature  
Junction temperature

$T_{stg}$  -65 to +200 °C  
 $T_j$  max. 200 °C

**THERMAL RESISTANCE**

From junction to mounting base  
From mounting base to heatsink

$R_{th j-mb} = 2,0$  K/W  
 $R_{th mb-h} = 0,3$  K/W

## CHARACTERISTICS

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

### Breakdown voltages

Collector-base voltage

open emitter,  $I_C = 50\text{ mA}$

$V_{(BR)CBO} > 65\text{ V}$

Collector-emitter voltage

$R_{BE} = 10\ \Omega$ ,  $I_C = 50\text{ mA}$

$V_{(BR)CER} > 65\text{ V}$

Collector-emitter voltage

open base,  $I_C = 50\text{ mA}$

$V_{(BR)CEO} > 30\text{ V}$

Emitter-base voltage

open collector,  $I_E = 10\text{ mA}$

$V_{(BR)EBO} > 4\text{ V}$

### Transient energy

$L = 25\text{ mH}$ ;  $f = 50\text{ Hz}$

open base

$-V_{BE} = 1,5\text{ V}$ ;  $R_{BE} = 33\ \Omega$

$E > 4,5\text{ mS}$

$E > 4,5\text{ mS}$

### D.C. current gain

$I_C = 1,0\text{ A}$ ;  $V_{CE} = 5\text{ V}$

$h_{FE} \quad 25\text{ to }100$

### Transition frequency

$I_C = 4\text{ A}$ ;  $V_{CE} = 25\text{ V}$

$f_T \quad \text{typ. } 900\text{ MHz}$

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

$I_E = I_e = 0$ ;  $V_{CB} = 30\text{ V}$

$C_c \quad \text{typ. } 68\text{ pF}$   
 $< 80\text{ pF}$

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

$I_C = 200\text{ mA}$ ;  $V_{CE} = 30\text{ V}$

$C_{re} \quad \text{typ. } 39\text{ pF}$

### Collector-stud capacitance

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