

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

BLX65E
BLX65ES

V.H.F./U.H.F. POWER TRANSISTORS

N-P-N silicon planar epitaxial transistors in TO-39 envelope designed for use in portable and mobile radio transmitters in the v.h.f. and u.h.f. bands.

QUICK REFERENCE DATA

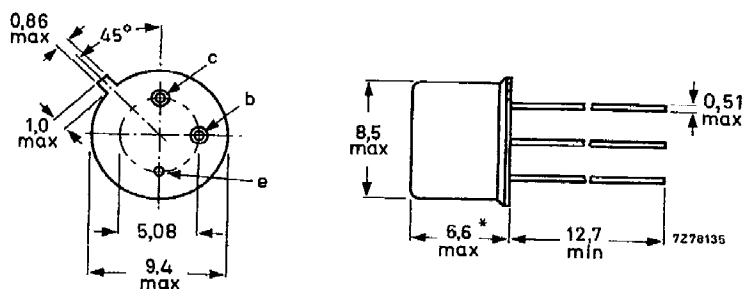
R.F. performance at $T_C = 25^\circ\text{C}$ in a common-emitter class B circuit.

mode of operation	V_{CE} V	f MHz	P_L W	G_p dB	η_C %
C.W.; narrow band	12,5	175	2	typ. 16	typ. 68
	12,5	470	2	≥ 9	≥ 55

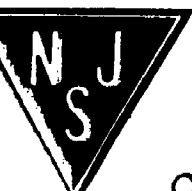
MECHANICAL DATA

Dimensions in mm

Fig. 1 TO-39/3.
Emitter connected
to case.



* Max. 4,9 for BLX65ES.



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 (IEC 134).

Collector-base voltage (open emitter) peak value	V_{CBOM}	max.	36 V
Collector-emitter voltage (open base)	V_{CEO}	max.	16 V
Emitter-base voltage (open collector)	V_{EBO}	max.	4 V
Collector current d.c. or average (peak value); $f \geq 1$ MHz	I_C I_{CM}	max. max.	0,7 A 2,0 A
Total power dissipation at $T_{mb} \leq 90$ °C; $f \geq 1$ MHz	P_{tot}	max.	3,0 W
Storage temperature	T_{stg}		-65 to + 175 °C

CHARACTERISTICS

$T_J = 25$ °C unless otherwise specified

Collector-base breakdown voltage open emitter; $I_C = 10$ mA	$V_{(BR)CBO}$	>	36 V
Collector-emitter breakdown voltage open base; $I_C = 25$ mA	$V_{(BR)CEO}$	>	16 V
Emitter-base breakdown voltage open collector; $+I_E = 1,0$ mA	$V_{(BR)EBO}$	>	4 V
Collector-emitter saturation voltage $I_C = 100$ mA; $I_B = 20$ mA	V_{CEsat}	typ.	0,1 V
D.C. current gain $I_C = 100$ mA; $V_{CE} = 5$ V	h_{FE}	> typ.	10 40
Transition frequency at $f = 500$ MHz $-I_E = 200$ mA; $V_{CB} = 5$ V	f_T	typ.	1,4 GHz
Collector capacitance at $f = 1$ MHz $I_E = i_e = 0$; $V_{CB} = 10$ V	C_C	typ.	6,5 pF

APPLICATION INFORMATION

R.F. performance in c.w. operation (common-emitter circuit; class B); $T_c = 25$ °C

V_{CE} V	f MHz	P_L W	G_p dB	η_C %	Z_i Ω	Z_L Ω
9,6	175	2,0	typ. 13	typ. 68	—	—
12,5	175	2,0	typ. 16	typ. 68	—	—
12,5	470	2,0	≥ 9	> 55	3 + j8	12 - j17
12,5	470	2,0	typ. 10,6	typ. 68	—	—

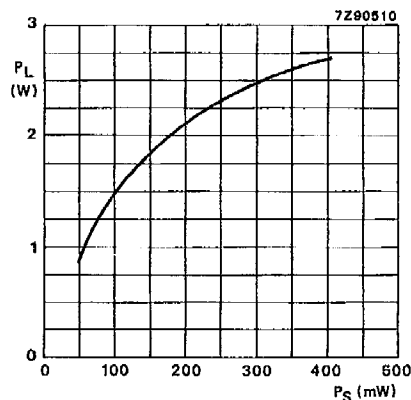


Fig. 2 Load power vs. source power; $V_{CE} = 12,5$ V; $f = 470$ MHz;
 $T_{mb} = 25$ °C; class-B operation; typical values.

RUGGEDNESS

The device is capable of withstanding a full load mismatch ($VSWR \approx 50$; all phases) at rated load power up to a supply voltage of 15,0 V, $P_S + 20\%$, $f = 470$ MHz and $T_{mb} = 25$ °C.