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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

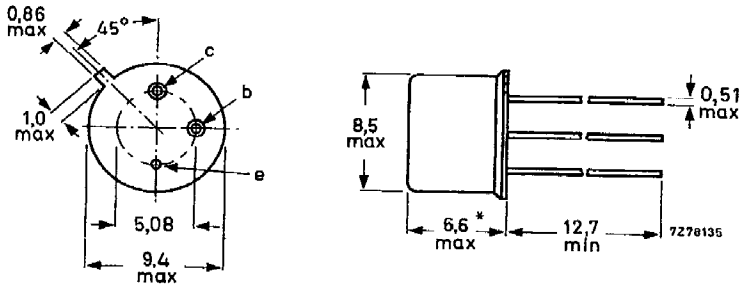
R.F. performance at T_c = 25 °C in a common-emitter class-B circuit.

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.

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	I_C	max.	0,7 A
(peak value); $f \geqslant 1$ MHz	I_{CM}	max.	2,0 A
Total power dissipation at $T_{mb} \leqslant 90$ °C; $f \geqslant 1$ 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}	>	10
		typ.	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	—	—

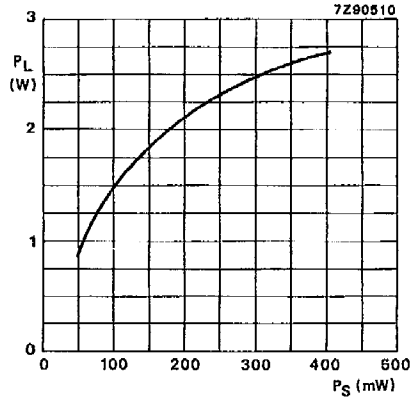


Fig. 2 Load power vs. source power; V_{CE} = 12,5 V; f = 470 MHz; T_{mb} = 25 °C; class-B operation; typical values.

RUGGEDNESS

The device is capable of withstanding a full load mismatch (VSWR = 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.