

UHF power transistor

BLT82

FEATURES

- High efficiency
- High gain
- Internal pre-matched input.

APPLICATIONS

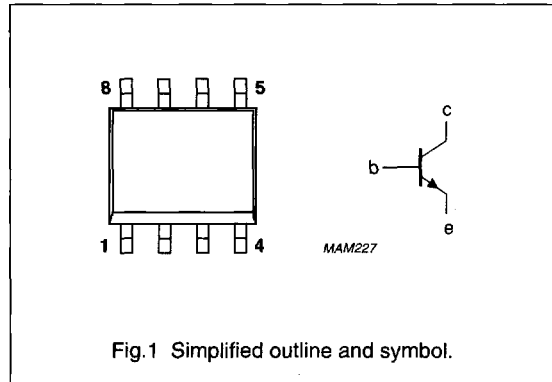
- Hand-held radio equipment in common emitter class-AB operation for 900 MHz Time Division Multiple Axis (TDMA) communication systems.

PINNING - SOT96-1

PIN	SYMBOL	DESCRIPTION
1, 8	b	base
2, 4, 5, 7	e	emitter
3, 6	c	collector

DESCRIPTION

NPN silicon planar epitaxial transistor encapsulated in a plastic SOT96-1 (SO8) SMD package.



QUICK REFERENCE DATA

RF performance at $T_s \leq 60^\circ\text{C}$ in a common emitter test circuit (see Fig.5).

MODE OF OPERATION	f (MHz)	V_{CE} (V)	P_L (W)	G_p (dB)	η_c (%)
Pulsed, class-AB	900	6	3.5	≥ 8 typ. 10	≥ 50 typ. 65
			2.8	≥ 9	≥ 57

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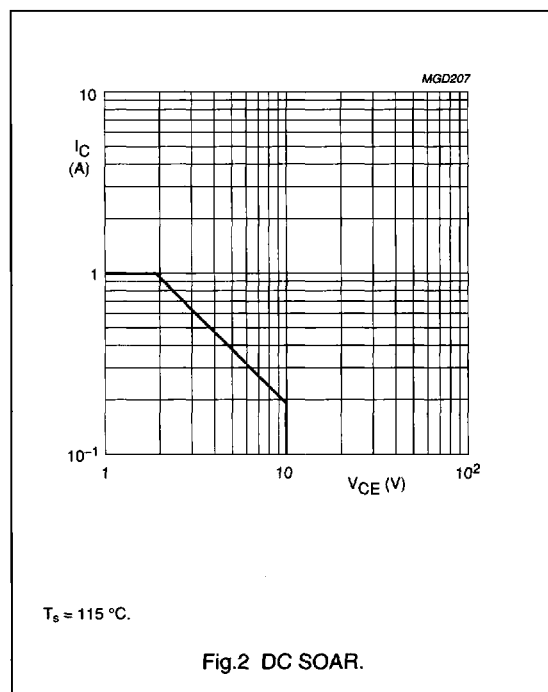
LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CB0}	collector-base voltage	open emitter	–	20	V
V_{CEO}	collector-emitter voltage	open base	–	10	V
V_{EBO}	emitter-base voltage	open collector	–	3.5	V
I_C	collector current (DC)		–	1	A
P_{tot}	total power dissipation	$T_s = 115\text{ °C}$; note 1	–	1.9	W
T_{stg}	storage temperature		–65	+150	°C
T_j	operating junction temperature		–	175	°C

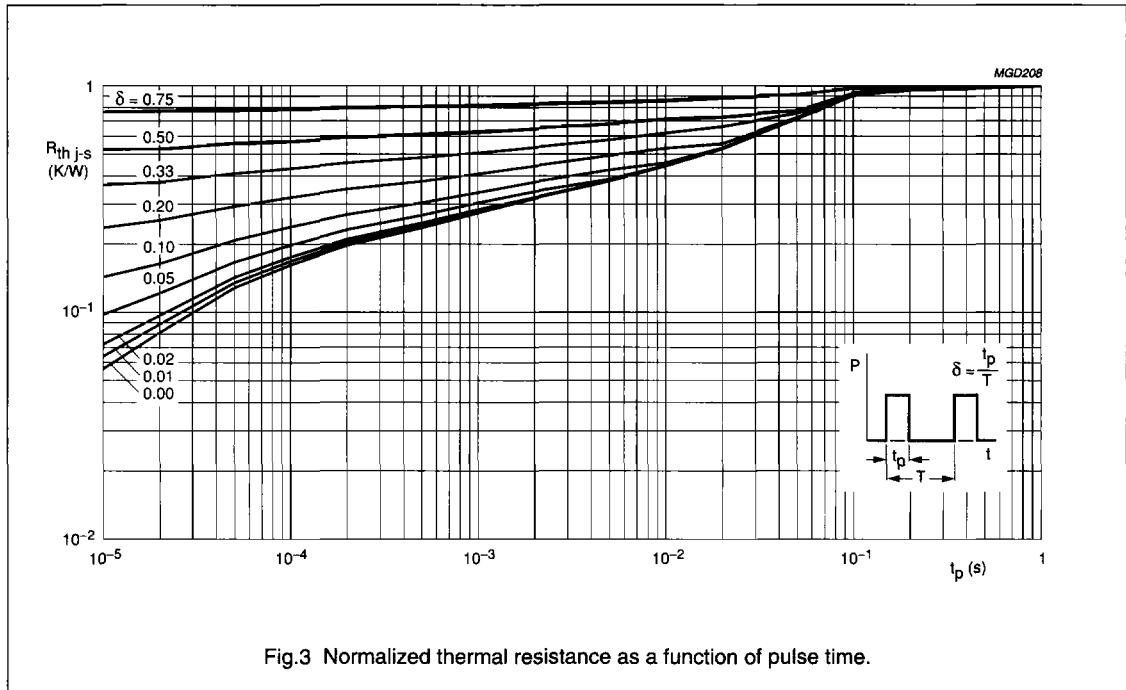
Note

- T_s is the temperature at the soldering point of the collector pin.



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THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point	$P_{tot} = 1.9\ W; T_s = 115\ ^\circ C; \text{note 1}$	32	K/W

Note

1. T_s is the temperature at the soldering point of the collector pin.

CHARACTERISTICS

$T_j = 25\ ^\circ C$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{(BR)CBO}$	collector-base breakdown voltage	open emitter; $I_C = 5\ mA$	20	–	–	V
$V_{(BR)CEO}$	collector-emitter breakdown voltage	open base; $I_C = 10\ mA$	10	–	–	V
$V_{(BR)EBO}$	emitter-base breakdown voltage	open collector; $I_E = 1\ mA$	3.5	–	–	V
I_{CES}	collector leakage current	$V_{CE} = 6\ V; V_{BE} = 0$	–	–	0.1	mA
h_{FE}	DC current gain	$V_{CE} = 5\ V; I_C = 100\ mA$	30	–	150	
C_c	collector capacitance	$V_{CB} = 6\ V; I_E = I_B = 0; f = 1\ MHz$	–	17	–	pF
C_{re}	feedback capacitance	$V_{CE} = 6\ V; I_C = 0; f = 1\ MHz$	–	10	–	pF