

Silicon Diffused Power Transistor

BUX87-1100

GENERAL DESCRIPTION

High voltage, high speed, low capacitance npn power transistor in a SOT78 envelope intended for use in the dynamic focus circuit of televisions and monitors.

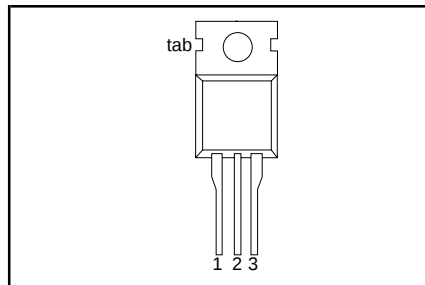
QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_{CESM}	Collector-emitter voltage peak value	$V_{BE} = 0\text{ V}$	-	1100	V
V_{CEO}	Collector-emitter voltage (open base)		-	700	V
I_C	Collector current (DC)		-	0.5	A
I_{CM}	Collector current peak value	$T_{mb} \leq 25\text{ °C}$	-	1	A
P_{tot}	Total power dissipation		-	46	W

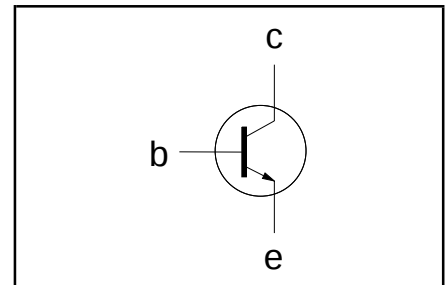
PINNING - TO220AB

PIN	DESCRIPTION
1	emitter
2	collector
3	base
tab	collector

PIN CONFIGURATION



SYMBOL



LIMITING VALUES

Limiting values in accordance with the Absolute Maximum Rating System (IEC 134)

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CESM}	Collector-emitter voltage peak value	$V_{BE} = 0\text{ V}$	-	1100	V
V_{CEO}	Collector-emitter voltage (open base)		-	700	V
I_C	Collector current (DC)		-	0.5	A
I_{CM}	Collector current (peak value) $t_p = 2\text{ ms}$	$T_{mb} \leq 25\text{ °C}$	-	1	A
I_B	Base current (DC)		-	0.2	A
I_{BM}	Base current (peak value)		-	0.3	A
$-I_{BM}$	Reverse base current (peak value) ¹		-	0.3	A
P_{tot}	Total power dissipation		-	46	W
T_{stg}	Storage temperature		-40	150	°C
T_j	Junction temperature		-	150	°C

THERMAL RESISTANCES

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
$R_{th\ j-mb}$	Junction to mounting base		-	2.7	K/W
$R_{th\ j-a}$	Junction to ambient	in free air	60	-	K/W

¹ Turn-off current.

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ELECTRICAL CHARACTERISTICS $T_{mb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
I_{CES}	Emitter cut-off current DC current gain DC current gain Output capacitance	$V_{BE} = 0\text{ V}; V_{CE} = V_{CESMmax}$	-	-	100	μA
I_{CES}		$V_{BE} = 0\text{ V}; V_{CE} = V_{CESMmax}$ $T_j = 125\text{ }^{\circ}\text{C}$	-	-	1.0	mA
I_{EBO}		$V_{EB} = 5\text{ V}; I_C = 0\text{ A}$	-	-	1	mA
h_{FE}		$I_C = 50\text{ mA}; V_{CE} = 5\text{ V}$	26	50	125	
h_{FE}		$I_C = 20\text{ mA}; V_{CE} = 5\text{ V}$	26	50	150	
C_{ob}		$V_{CB} = 100\text{ V}; f = 1\text{ MHz}$	-	4.7	-	pF

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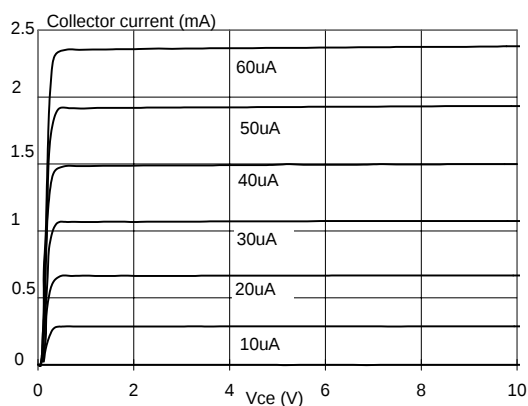


Fig.1. Typical transfer characteristics.
 $I_C = f(V_{CE})$; parameter I_B .

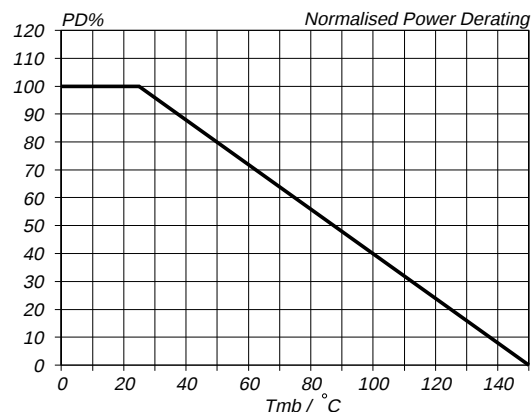


Fig.4. Normalised power dissipation.
 $PD\% = 100 \cdot PD / PD_{25^\circ C} = f(T_{mb})$

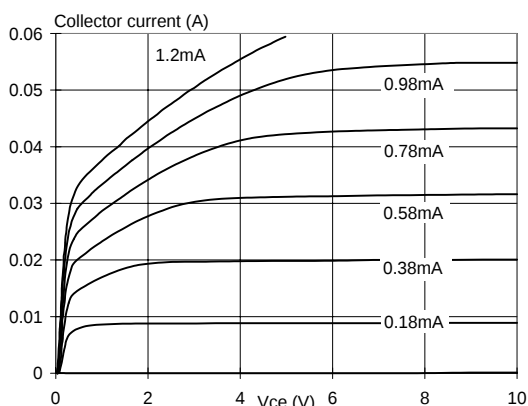


Fig.2. Typical transfer characteristics.
 $I_C = f(V_{CE})$; parameter I_B .

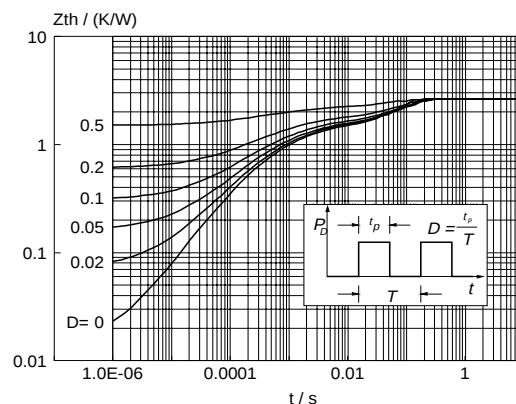


Fig.5. Transient thermal impedance.
 $Z_{th j-mb} = f(t)$; parameter $D = t_p / T$

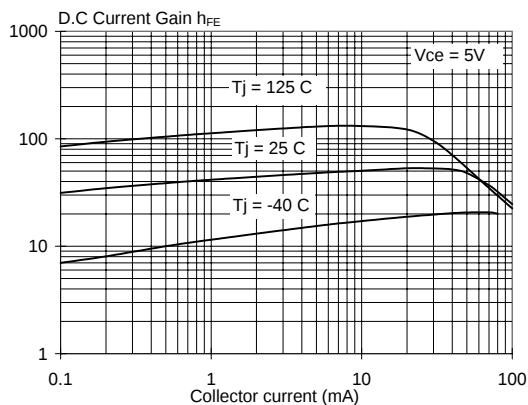


Fig.3. Typical DC current gain.
 $h_{FE} = f(I_C)$; parameter V_{CE} .

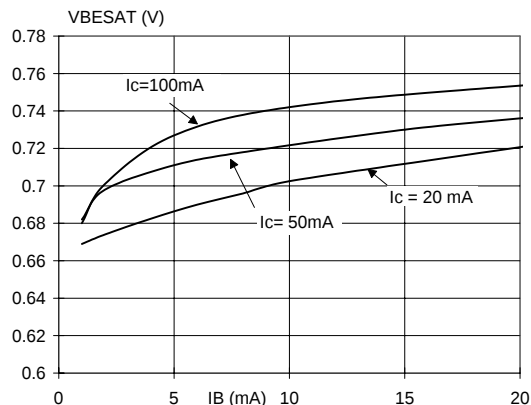
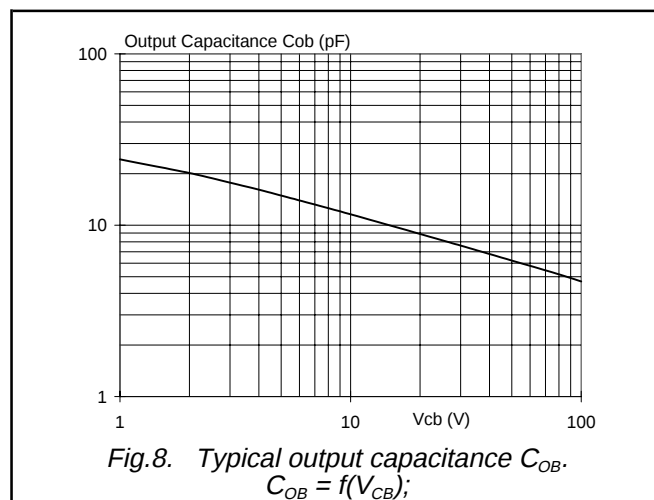
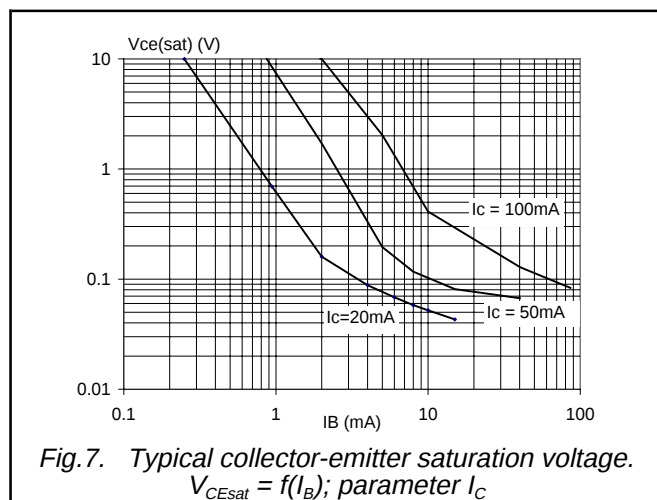


Fig.6. Typical base-emitter saturation voltage.
 $V_{BEsat} = f(I_B)$; parameter I_C

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MECHANICAL DATA

Dimensions in mm

Net Mass: 2 g

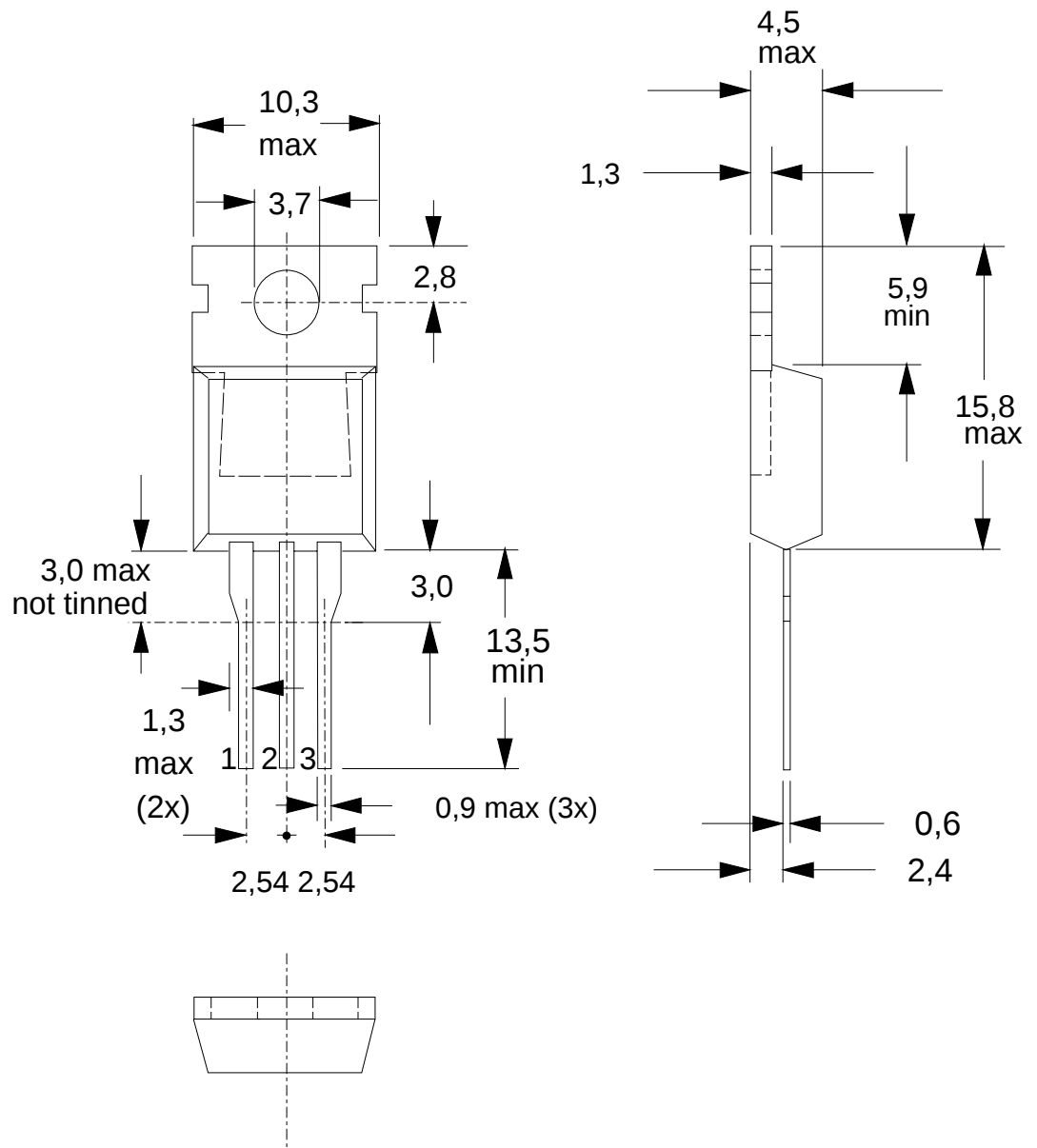


Fig.9. TO220AB; pin 2 connected to mounting base.

Notes

1. Refer to mounting instructions for TO220 envelopes.
2. Epoxy meets UL94 V0 at 1/8".

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DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values are given in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of this specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	
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