

SOT-23 Formed SMD Package

BF820
BF822

SILICON EPITAXIAL TRANSISTORS

N-P-N transistors

Marking

BF820 = 1V

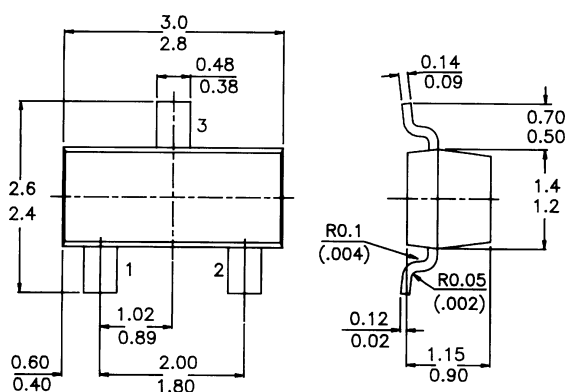
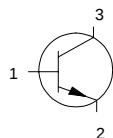
BF822 = 1X

PACKAGE OUTLINE DETAILS

ALL DIMENSIONS IN mm

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)

	BF820	BF822
V_{CB0} max.	300	250 V

Collector-emitter voltage (open base)

V_{CE0} max.	—	250 V
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Collector-emitter voltage ($R_{BE} = 2,7 \text{ kW}$)

V_{CER} max.	300	— V
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Collector current (peak value)

I_{CM} max.	100	mA
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Total power dissipation up to $T_{amb} = 25 \text{ }^{\circ}\text{C}$

P_{tot} max.	250	mW
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Junction temperature

T_j max.	150	$^{\circ}\text{C}$
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D.C. current gain

$I_C = 25 \text{ mA}$; $V_{CE} = 20 \text{ V}$

h_{FE}	>	50
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Feedback capacitance at $f = 1 \text{ MHz}$

$I_C = 0$; $V_{CE} = 30 \text{ V}$

C_{re}	<	1,6 pF
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Transition frequency at $f = 35 \text{ MHz}$

$I_C = 10 \text{ mA}$; $V_{CE} = 10 \text{ V}$

f_T	>	60 MHz
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BF820
BF822

RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

		BF820	BF822
Collector–base voltage (open emitter)	V_{CB0} max.	300	250 V
Collector–emitter voltage (open base)	V_{CE0} max.	—	250 V
Collector–emitter voltage ($R_{BE} = 2,7 \text{ kW}$)	V_{CER} max.	300	— V
Emitter–base voltage (open collector)	V_{EB0} max.	5	V
Collector current (d.c.)	I_C max.	50	mA
Collector current (peak value)	I_{CM} max.	100	mA
Total power dissipation up to $T_{amb} = 25^\circ\text{C}$	P_{tot} max.	250	mW
Storage temperature	T_{stg}	–55 to +150	$^\circ\text{C}$
Junction temperature	T_j max.	150	$^\circ\text{C}$

THERMAL RESISTANCE

From junction to ambient

$R_{th \text{ j-a}}$	500	K/W
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CHARACTERISTICS

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

Collector cut-off current

$I_E = 0$; $V_{CB} = 200 \text{ V}$

I_{CB0}	<	10	10 nA
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Collector–emitter voltage

$R_{BE} = 2,7 \text{ kW}$; $V_{CE} = 250 \text{ V}$

I_{CER}	<	50	50 nA
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$R_{BE} = 2,7 \text{ kW}$; $V_{CE} = 200 \text{ V}$; $T_j = 150^\circ\text{C}$

I_{CER}	<	10	10 mA
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Saturation voltage

$I_C = 30 \text{ mA}$; $I_B = 5 \text{ mA}$

V_{CEsat}	<	0,6	V
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D.C. current gain

$I_C = 25 \text{ mA}$; $V_{CE} = 20 \text{ V}$

h_{FE}	>	50	
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Transition frequency at $f = 35 \text{ MHz}$

$I_C = 10 \text{ mA}$; $V_{CE} = 10 \text{ V}$

f_T	>	60	MHz
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Feedback capacitance at $f = 1 \text{ MHz}$

$I_C = 0$; $V_{CE} = 30 \text{ V}$

C_{re}	<	1,6	pF
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Disclaimer

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