

SOT-23 Formed SMD Package

BF821
BF823

SILICON EPITAXIAL TRANSISTORS

P-N-P transistors

Marking

BF821 = 1W

BF823 = 1Y

PACKAGE OUTLINE DETAILS

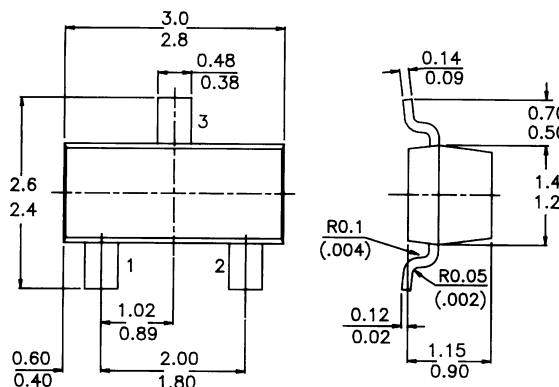
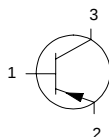
ALL DIMENSIONS IN mm

Pin configuration

1 = BASE

2 = EMITTER

3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)

	BF821	BF823
$-V_{CB0}$ 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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RATINGS (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting values

	BF821	BF823
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	KW
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CHARACTERISTICS

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

Collector cut-off current

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

Collector-emitter voltage

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

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

Saturation voltage

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

D.C. current gain

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

Transition frequency at $f = 35 \text{ MHz}$

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

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

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

	BF821	BF823
$-I_{CB0} <$	10	10 nA
$-I_{CER} <$	50	50 nA
$-I_{CER} <$	10	10 mA
$-V_{CEsat} <$	0,8	V
$h_{FE} >$	50	
$f_T >$	60	MHz
$C_{re} <$	1,6	pF

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