



SOT-23 Formed SMD Package

BF820
BF822

SILICON EPITAXIAL TRANSISTORS

N-P-N transistors

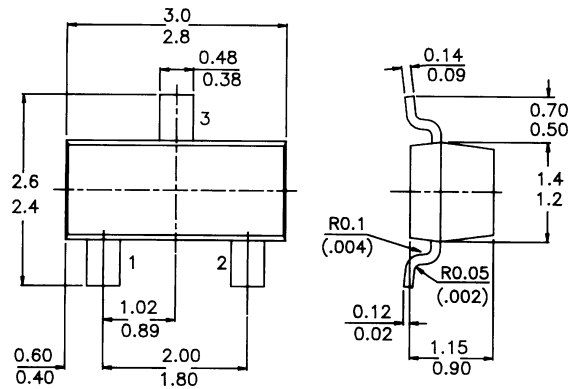
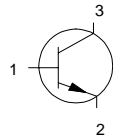
Marking

BF820 = 1V
BF822 = 1X

PACKAGE OUTLINE DETAILS
ALL DIMENSIONS IN mm

Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



ABSOLUTE MAXIMUM RATINGS

		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
Collector current (peak value)	I_{CM} max.	100	mA
Total power dissipation up to $T_{amb} = 25 \text{ }^\circ\text{C}$	P_{tot} max.	250	mW
Junction temperature	T_j max.	150	$^\circ\text{C}$
D.C. current gain	h_{FE}	>	50
$I_C = 25 \text{ mA}; V_{CE} = 20 \text{ V}$			
Feedback capacitance at $f = 1 \text{ MHz}$	C_{re}	<	1,6 pF
$I_C = 0; V_{CE} = 30 \text{ V}$			
Transition frequency at $f = 35 \text{ MHz}$	f_T	>	60 MHz
$I_C = 10 \text{ mA}; V_{CE} = 10 \text{ V}$			

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

	BF820	BF822
$R_{th\ j-a}$	500	KW

CHARACTERISTICS

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

Collector cut-off current

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

	BF820	BF822
$I_{CB0} <$	10	10 nA

Collector-emitter voltage

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

	BF820	BF822
$I_{CER} <$	50	50 nA

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

	BF820	BF822
$I_{CER} <$	10	10 mA

Saturation voltage

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

	BF820	BF822
$V_{CEsat} <$	0,6	V

D.C. current gain

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

	BF820	BF822
$h_{FE} >$	50	

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

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

	BF820	BF822
$f_T >$	60	MHz

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

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

	BF820	BF822
$C_{re} <$	1,6	pF