

**SOT-23 Formed SMD Package**

**BF820**  
**BF822**

**SILICON EPITAXIAL TRANSISTORS**

*N-P-N transistors*

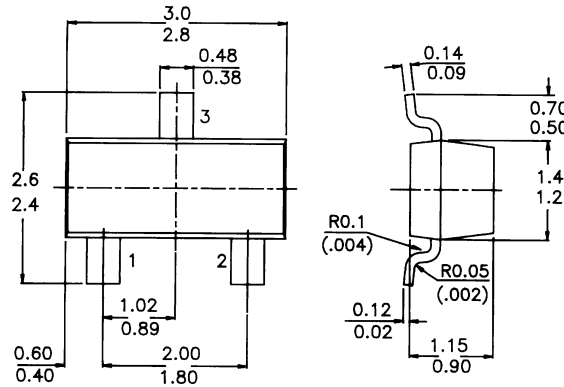
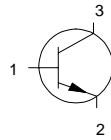
**Marking**

BF820 = 1V  
 BF822 = 1X

**PACKAGE OUTLINE DETAILS**  
 ALL DIMENSIONS IN mm

**Pin configuration**

1 = BASE  
 2 = EMITTER  
 3 = COLLECTOR



**ABSOLUTE MAXIMUM RATINGS**

		<b>BF820</b>	<b>BF822</b>
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

		<b>BF820</b>	<b>BF822</b>
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

$R_{th\ j-a}$	500	KW
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**CHARACTERISTICS**

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

Collector cut-off current

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

	<b>BF820</b>	<b>BF822</b>
$I_{CB0} <$	10	10 nA

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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