

BF820, BF822

NPN Silicon Epitaxial Planar Transistors
especially suited for application in class-B
video output stages of TV receivers and monitors.

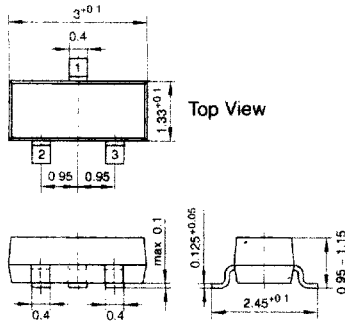
As complementary types, the PNP transistors
BF821 and BF823 are recommended.

Pin configuration

1 = Collector, 2 = Base, 3 = Emitter.

Marking code

BF820 = 1V
BF822 = 1X



SOT-23 Plastic Package

Weight approx. 0.008 g
Dimensions in mm

Absolute Maximum Ratings

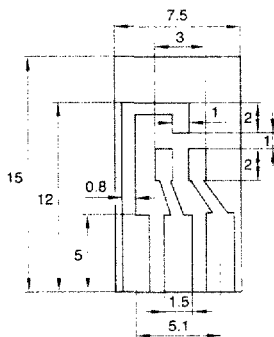
		Symbol	Value	Unit
Collector-Base Voltage	BF820	V_{CBO}	300	V
	BF822	V_{CBO}	250	V
Collector-Emitter Voltage	BF822	V_{CEO}	250	V
Collector-Emitter Voltage	BF820	V_{CER}	300	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	50	mA
Peak Collector Current		I_{CM}	100	mA
Power Dissipation at $T_{SB} = 50\text{ }^\circ\text{C}$		P_{tot}	300 ¹⁾	mW
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_s	-65...+150	$^\circ\text{C}$

¹⁾ Device on fiberglass substrate, see layout

Characteristics at $T_{amb} = 25\text{ }^{\circ}\text{C}$

		Symbol	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$, $I_B = 0$	BF820	$V_{(BR)CBO}$	300	–	–	V
	BF822	$V_{(BR)CBO}$	250	–	–	V
Collector-Emitter Breakdown Voltage at $I_C = 10\text{ mA}$, $I_E = 0$	BF822	$V_{(BR)CEO}$	250	–	–	V
Collector-Emitter Breakdown Voltage at $R_{BE} = 2.7\text{ k}\Omega$, $I_C = 10\text{ mA}$	BF820	$V_{(BR)CER}$	300	–	–	V
Emitter-Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$, $I_B = 0$		$V_{(BR)EBO}$	5	–	–	V
Collector-Base Cutoff Current at $V_{CB} = 200\text{ V}$, $I_E = 0$		I_{CBO}	–	–	10	nA
Collector-Emitter Cutoff Current at $R_{BE} = 2.7\text{ k}\Omega$, $V_{CE} = 250\text{ V}$ at $R_{BE} = 2.7\text{ k}\Omega$, $V_{CE} = 200\text{ V}$, $T_j = 150\text{ }^{\circ}\text{C}$		I_{CER}			50	nA
		I_{CER}			10	μA
Collector Saturation Voltage at $I_C = 30\text{ mA}$, $I_B = 5\text{ mA}$		V_{CEsat}	–	–	0.6	V
DC Current Gain at $V_{CE} = 20\text{ V}$, $I_C = 25\text{ mA}$		h_{FE}	50	–	–	–
Gain-Bandwidth Product at $V_{CE} = 10\text{ V}$, $I_C = 10\text{ mA}$		f_T	60	–	–	MHz
Feedback Capacitance at $V_{CE} = 30\text{ V}$, $I_C = 0$, $f = 1\text{ MHz}$		C_{re}	–	–	1.6	pF
Thermal Resistance Junction to Ambient Air		R_{thA}	–	–	430 ¹⁾	K/W

¹⁾ Device on fiberglass substrate, see layout

**Layout for R_{thA} test**

Thickness: Fiberglass 1.5 mm

Copper leads 0.3 mm