



MICRO ELECTRONICS

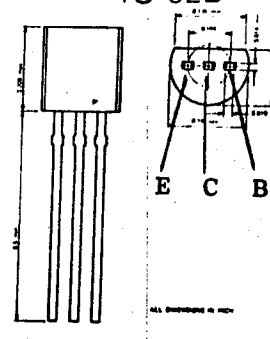
GENERAL DESCRIPTION :

The BF422 is a NPN silicon planar epitaxial transistor. It features high voltage and is intended for high voltage class A output stage of audio frequency amplifiers, video amplifiers in colour television receivers including grid drive and in driver stages of high voltage line deflection circuits.

It is complementary to BF423.

MECHANICAL OUTLINE

TO-92B



THERMAL CHARACTERISTICS :

Thermal Resistance from Junction to Ambient, $\theta(j-amb)$

0.15°C/mW

(mounted on a copper plate of length 3mm max and area 1cm²)

Maximum Collector Junction Temperature, T_j

150°C

Storage Temperature Range, T_{stg}

-65°C to +150°C

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ $T_A \leq 25^\circ\text{C}$, P_{max}

830mW

(mounted on a copper plate of length 3mm max and area 1cm²)

Continuous Collector Current, I_C max

20mA

Peak Collector Current, I_{CM} max

100mA

Collector-Base Voltage, V_{CBO}

250V

Collector-Emitter Voltage, V_{CEO}

250V

Emitter-Base Voltage, V_{EBO}

5V

ELECTRICAL CHARACTERISTICS @ $T_A = 25^\circ\text{C}$ (unless otherwise stated) :

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Breakdown Voltage	BV_{CBO}	250			V	$I_C = 10\mu\text{A}$ $I_E = 0$
Collector-Emitter Breakdown Voltage	LV_{CEO}	250			V	$I_C = 1\text{mA}$ $I_B = 0$
Emitter-Base Breakdown Voltage	BV_{EBO}	5			V	$I_E = 10\mu\text{A}$ $I_C = 0$
Collector Cutoff Current	I_{CBO}			10	nA	$V_{CB} = 200\text{V}$ $I_E = 0$
Collector Cutoff Current	I_{CER}			10	uA	$V_{CB} = 200\text{V}$ $R_{BE} = 10\text{Kohm}$ $T_j = 150^\circ\text{C}$
Emitter Cutoff Current	I_{EBO}			10	uA	$V_{EB} = 5\text{V}$ $I_C = 0$
D.C. Current Gain	h_{FE}	50				$V_{CE} = 20\text{V}$ $I_C = 25\text{mA}$
Transition Frequency	f_T	60			MHz	$V_{CB} = 10\text{V}$ $I_E = 10\text{mA}$
High Frequency Knee Voltage	$V_{CEK}(HF)^*$		20		V	$I_C = 25\text{mA}$ $T_j = 150^\circ\text{C}$
Feedback Capacitance	C_{ob}		2		pF	$V_{CB} = 30\text{V}$ $I_E = 0$ $f = 1\text{MHz}$
Feedback Time Constant	$C_c \cdot r_{bb'}$		100		ps	$V_{CB} = 20\text{V}$ $I_E = -30\text{mA}$ $f = 10.7\text{MHz}$

The value of Collector-Emitter Voltage at which the small signal gain measured in a practical circuit, has dropped to 80% of the gain at $V_{CE} = 50\text{V}$.

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