SILICON PLANAR EPITAXIAL TRANSISTOR

MICRO ELECTRONICS

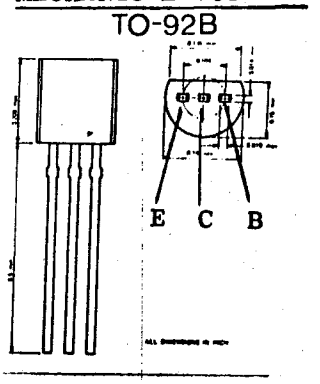
GENERAL DESCRIPTION :

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, θ(j-amb) (mounted on a copper plate of length 3mm max and area 1cm^2)	0.15^{o}C/mW
Maximum Collector Junction Temperature, Tj	150^{o}C
Storage Temperature Range, Tstg	-65^{o}C to +150^{o}C

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ $T_A \leq 25^oC$, P max (mounted on a copper plate of length 3mm max and area 1cm^2)	830mW
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^{o}C (unless otherwise stated) :

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

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

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