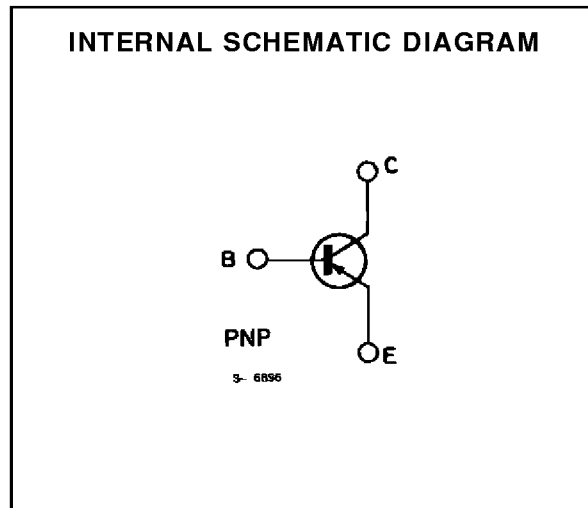
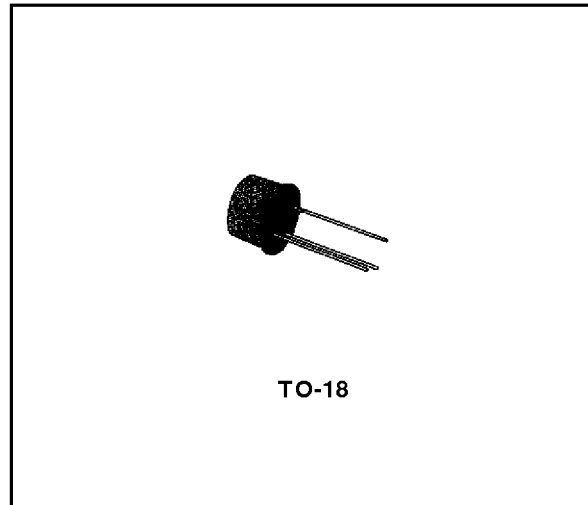


**HIGH-FREQUENCY AMPLIFIER**

**DESCRIPTION**

The BFX48 is a silicon planar epitaxial PNP transistor in Jedec TO-18 metal case. It is suitable for a wide range of applications including low noise, low current high gain RF and wide band pulse amplifiers.



**ABSOLUTE MAXIMUM RATINGS**

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-base Voltage ( $I_E = 0$ )	- 30	V
$V_{CEO}$	Collector-emitter Voltage ( $I_B = 0$ )	- 30	V
$V_{EBO}$	Emitter-base Voltage ( $I_C = 0$ )	- 5	V
$I_C$	Collector Current	- 100	mA
$P_{tot}$	Total Power Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	0.36	W
		1	W
$T_{stg}, T_j$	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

# BFX48

## THERMAL DATA

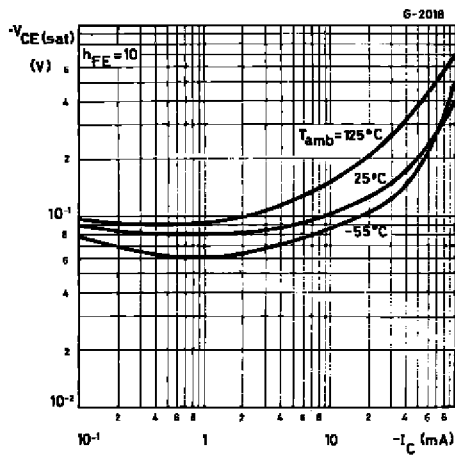
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	175	$^{\circ}C/W$
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	486	$^{\circ}C/W$

## ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\ ^{\circ}C$ unless otherwise specified)

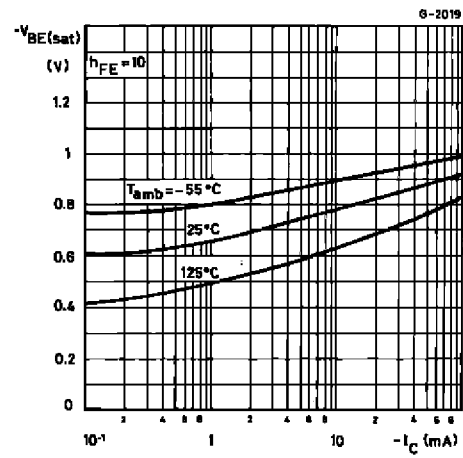
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CES}$	Collector Cutoff Current ( $V_{BE} = 0$ )	$V_{CE} = -20\ V$ $V_{CE} = -20\ V$ $T_{amb} = 125\ ^{\circ}C$			-15 -15	nA $\mu A$
$V_{(BR)CBO}$	Collector-base Breakdown Voltage ( $I_E = 0$ )	$I_C = -10\ \mu A$	-30			V
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = -10\ mA$	-30			V
$V_{(BR)EBO}$	Emitter-base Breakdown Voltage ( $I_C = 0$ )	$I_E = -10\ \mu A$	-5			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -1\ mA$ $I_B = -0.1\ mA$ $I_C = -10\ mA$ $I_B = -1\ mA$ $I_C = -50\ mA$ $I_B = -5\ mA$		-0.1	-0.13 -0.14 -0.3	V V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = -1\ mA$ $I_B = -0.1\ mA$ $I_C = -10\ mA$ $I_B = -1\ mA$ $I_C = -50\ mA$ $I_B = -5\ mA$		-0.77	-0.75 -0.9 -1.1	V V V
$h_{FE}^*$	DC Current Gain	$I_C = -10\ \mu A$ $V_{CE} = -1\ V$ $I_C = -100\ \mu A$ $V_{CE} = -1\ V$ $I_C = -10\ mA$ $V_{CE} = -1\ V$ $I_C = -50\ mA$ $V_{CE} = -1\ V$ $I_C = -10\ mA$ $V_{CE} = -1\ V$ $T_{amb} = -55\ ^{\circ}C$	40 70 90 20 30	80 130 160 40		
$f_T$	Transition Frequency	$I_C = -10\ mA$ $V_{CE} = -20\ V$ $f = 100\ MHz$	400	550		MHz
$C_{EBO}$	Emitter-base Capacitance	$I_C = 0$ $V_{EB} = -0.5\ V$ $f = 1\ MHz$		4	5.5	pF
$C_{CBO}$	Collector-base Capacitance	$I_E = 0$ $V_{CB} = -10\ V$ $f = 1\ MHz$		2.2	3.5	pF
NF	Noise Figure	$I_C = -1\ mA$ $V_{CE} = -5\ V$ $f = 100\ MHz$ $R_g = 100\ \Omega$		3.5	6	dB
$t_{on}$	Turn-on Time	$I_C = -50\ mA$ $I_{B1} = -5\ mA$		20	50	ns
$t_{off}$	Turn-off Time	$I_C = -50\ mA$ $I_{B1} = -I_{B2} = -5\ mA$		95	160	ns
$r_{bb}'C_{b'c}$	Feedback Time Constant	$I_C = -10\ mA$ $V_{CE} = -20\ V$ $f = 80\ MHz$			40	ps

\* Pulsed : pulse duration = 300  $\mu s$ , duty cycle = 1 %.

Collector-emitter Saturation Voltage.

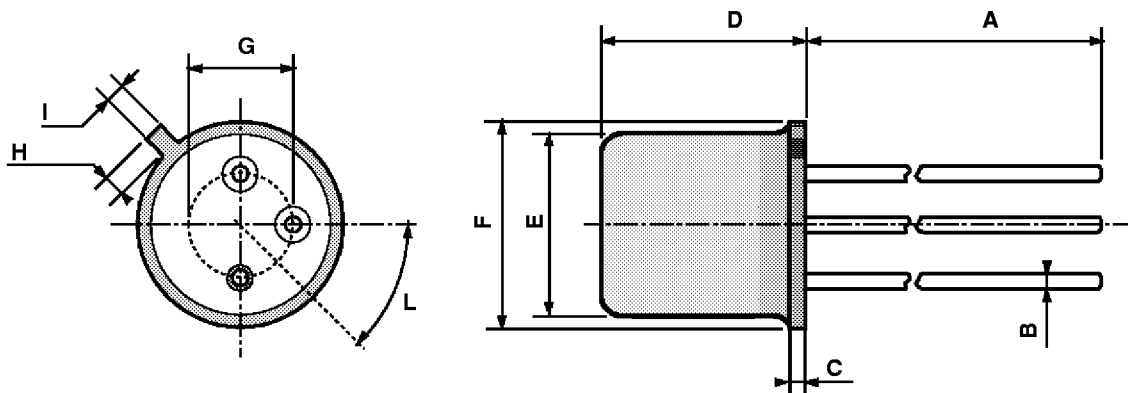


Base-emitter Saturation Voltage.



TO-18 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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