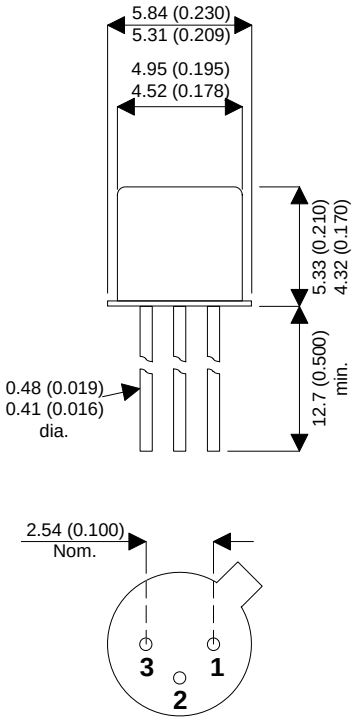
BFX48

MECHANICAL DATA
Dimensions in mm (inches)



TO18 PACKAGE

Pin 1 = Emitter Pin 2 = Base Pin 3 = Collector

PNP SILICON EPITAXIAL TRANSISTOR

APPLICATIONS

- 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 (T_{case} = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (I_E = 0)	-30V
V_{CEO}	Collector – Emitter Voltage(I_B = 0)	-30V
V_{EBO}	Emitter – Base Voltage (I_C = 0)	-5V
I_C	Collector Current	-100mA
P_{tot}	Total Power Dissipation $T_{amb} \leq 25°C$	0.36W
	$T_{case} \leq 25°C$	1W
T_j, T_{stg}	Storage Temperature, Operating Junction Temperature	-65 to 200°C

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Document. 2340
Issue 1

BFX48

ELECTRICAL CHARACTERISTICS (T_j = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut–off Current	V_{BE} = 0				-15	nA
		V_{CE} = -20V	Tamb = 125°C			-15	µA
$V_{(BR)CBO}$	Collector – Base Breakdown Voltage	I_E = 0	I_C = 10µA	-30			V
$V_{(BR)CEO*}$	Collector– Emitter Breakdown Voltage	I_C = –10mA	I_B = 0	-30			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = –10µA	I_C = 0	-5			V
$V_{CE(sat)*}$	Collector – Emitter Saturation Voltage	I_C = –1mA	I_B = -0.1mA			-0.13	V
		I_C = –10mA	I_B = -1mA		-0.1	-0.14	
		I_C = –50mA	I_B = -5mA			-0.3	
$V_{BE(sat)*}$	Base – Emitter Saturation Voltage	I_C = –1mA	I_B = -0.1mA			-0.75	V
		I_C = –10mA	I_B = -1mA		-0.77	-0.9	
		I_C = –50mA	I_B = -5mA			-1.1	
h_{FE*}	DC Current Gain	I_C = –10µA	V_{CE} = -1V	40	80		—
		I_C = –100µA	V_{CE} = -1V	70	130		
		I_C = –10mA	V_{CE} = -1V	90	160		
		I_C = –50mA	V_{CE} = -1V	20	40		
		I_C = –10mA Tamb = -55°C	V_{CE} = -1V	30			
f_T	Transistion Frequency	I_C = –10mA f = 100MHz	V_{CE} = -20V	400	550		MHz
C_{EBO}	Emitter – Base Capacitance	I_C = 0 f = 1MHz	V_{EB} = -0.5V		4	5.5	pF
C_{CBO}	Collector-Base Capacitance	I_E = 0 f = 1MHz	V_{CB} = -10V		2.2	3.5	
NF	Noise Figure	I_C = -1mA f = 100MHz	V_{CE} = -5V Rg = 100Ω		3.5	6	dB
t_{on}	Turn-on time	I_C = -50mA	I_{B1} = -5mA		20	50	ns
toff	Turn-off time	I_C = -50mA I_{B1} = I_{B2} =-5mA			95	160	ns
rbb'$C_{b'c}$	Feedback Time Constant	I_C = -10mA f = 80MHz	V_{CE} = -20V			40	ps

*Pulsed: pulse duration = 300µs, duty cycle = 1%

THERMAL CHARACTERISTICS

$R_{\theta th(j\text{-}case)}$	Thermal Resistance Junction - Case		175		°C/W
$R_{\theta th(j\text{-}amb)}$	Thermal Resistance Junction - Ambient		486		°C/W