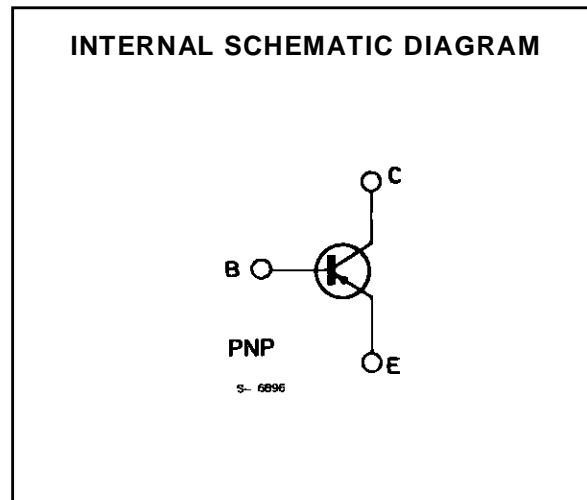
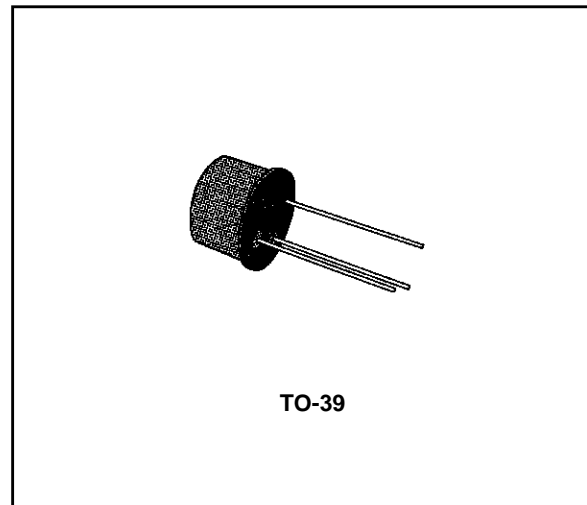


HIGH-CURRENT GENERAL PURPOSE TRANSISTOR

DESCRIPTION

The BFX64 is a silicon planar epitaxial PNP transistor in Jedec TO-39 metal case. It is designed for digital and analog applications at current levels up to 500 mA, line driver, memory applications and in low-noise amplifiers.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	- 40	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	- 40	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	- 5	V
I_C	Collector Current	- 500	mA
P_{tot}	Total Power Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	0.7	W
		3	W
T_{stg}, T_j	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

BFY64

THERMAL DATA

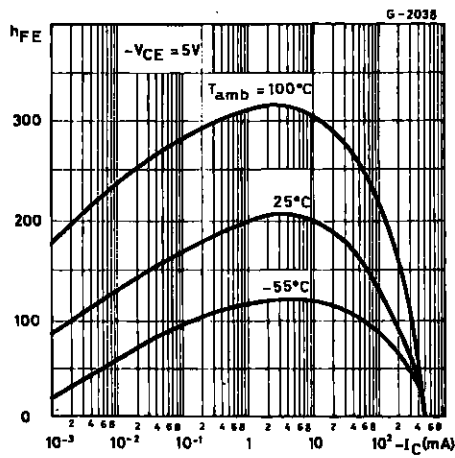
$R_{th\ j-case}$	Thermal Resistance Junction-case	Max	58	°C/W
$R_{th\ j-amb}$	Thermal Resistance Junction-ambient	Max	250	°C/W

ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ °C}$ unless otherwise specified)

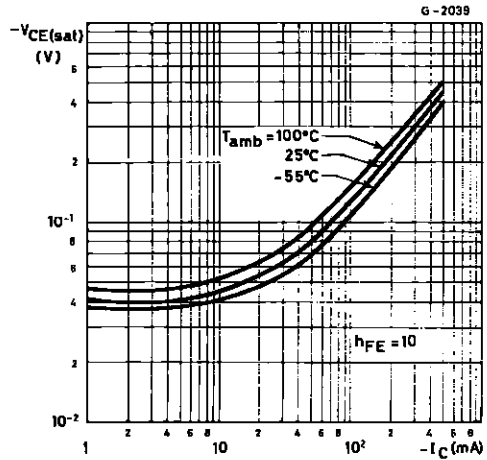
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CES}	Collector Cutoff Current ($V_{BE} = 0$)	$V_{CE} = -25\text{ V}$			-30	nA
$V_{(BR)CBO}$	Collector-base Breakdown Voltage ($I_E = 0$)	$I_C = -10\text{ }\mu\text{A}$	-40			V
$V_{(BR)CEO}^*$	Collector-emitter Breakdown Voltage ($I_B = 0$)	$I_C = -10\text{ mA}$	-40			V
$V_{(BR)EBO}$	Emitter-base Breakdown Voltage ($I_C = 0$)	$I_E = -10\text{ }\mu\text{A}$	-5			V
$V_{CE(sat)}^*$	Collector-emitter Saturation Voltage	$I_C = -50\text{ mA}$ $I_B = -2.5\text{ mA}$ $I_C = -150\text{ mA}$ $I_B = -15\text{ mA}$ $I_C = -500\text{ mA}$ $I_B = -50\text{ mA}$		-0.08 -0.18 -0.6	-0.3 -0.5 -1.8	V V V
$V_{BE(sat)}^*$	Base-emitter Saturation Voltage	$I_C = -50\text{ mA}$ $I_B = -2.5\text{ mA}$ $I_C = -150\text{ mA}$ $I_B = -15\text{ mA}$ $I_C = -500\text{ mA}$ $I_B = -50\text{ mA}$		-0.92 -1	-1.1 -1.4 -2.2	V V V
h_{FE}	DC Current Gain	$I_C = -10\text{ }\mu\text{A}$ $V_{CE} = -10\text{ V}$ $I_C = -1\text{ mA}$ $V_{CE} = -10\text{ V}$ $I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $I_C = -50\text{ mA}$ $V_{CE} = -1\text{ V}$ $I_C = -150\text{ mA}$ $V_{CE} = -10\text{ V}$	80	130 200 200 150 130		
h_{fe}	Small Signal Current Gain	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $f = 1\text{ kHz}$		200		
f_T	Transition Frequency	$I_C = -50\text{ mA}$ $V_{CE} = -20\text{ V}$ $f = 100\text{ MHz}$	200	250		MHz
C_{EBO}	Emitter-base Capacitance	$I_C = 0$ $V_{EB} = -2\text{ V}$ $f = 1\text{ MHz}$		15	30	pF
C_{CBO}	Collector-base Capacitance	$I_E = 0$ $V_{CB} = -10\text{ V}$ $f = 1\text{ MHz}$		6	10	pF
NF	Noise Figure	$I_C = -30\text{ }\mu\text{A}$ $V_{CE} = -5\text{ V}$ $R_g = 10\text{ k}\Omega$ $f = 1\text{ kHz}$		1		dB
h_{ie}	Input Impedance	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $f = 1\text{ kHz}$		1		k Ω
h_{re}	Reverse Voltage Ratio	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $f = 1\text{ kHz}$		2.4×10^{-4}		
h_{oe}	Output Admittance	$I_C = -10\text{ mA}$ $V_{CE} = -10\text{ V}$ $f = 1\text{ kHz}$		110		μS
t_{on}	Turn-on Time	$I_C = -300\text{ mA}$ $V_{CC} = -30\text{ V}$ $I_{B1} = -30\text{ mA}$		35	50	ns
t_{off}	Turn-off Time	$I_C = -300\text{ mA}$ $V_{CC} = -30\text{ V}$ $I_{B1} = -I_{B2} = -30\text{ mA}$		70	120	ns

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

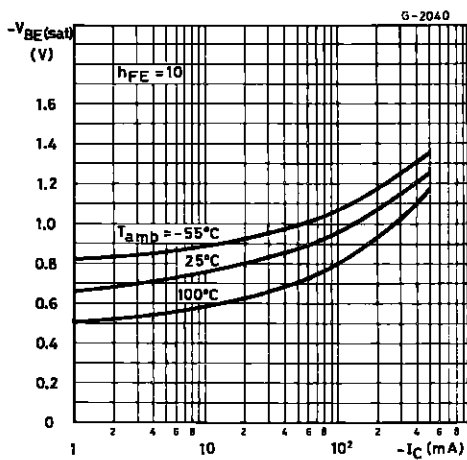
DC Current Gain.



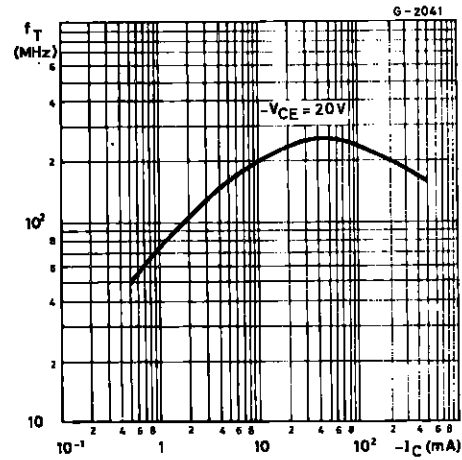
Collector-emitter Saturation Voltage.



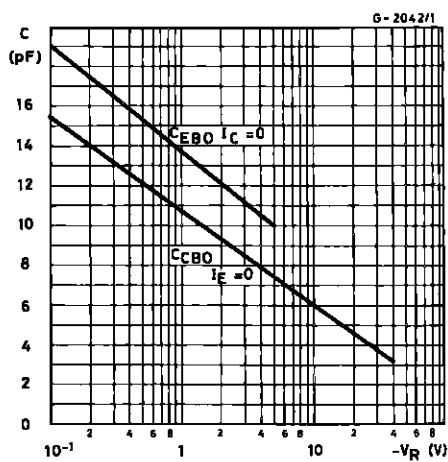
Base-emitter Saturation Voltage.



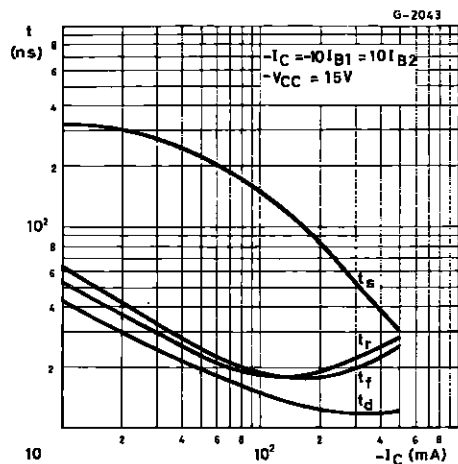
Transition Frequency.



Emitter-base and Collector-base Capacitances.

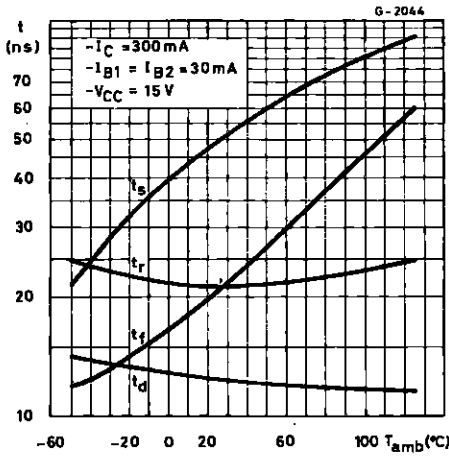


Switching Characteristics.

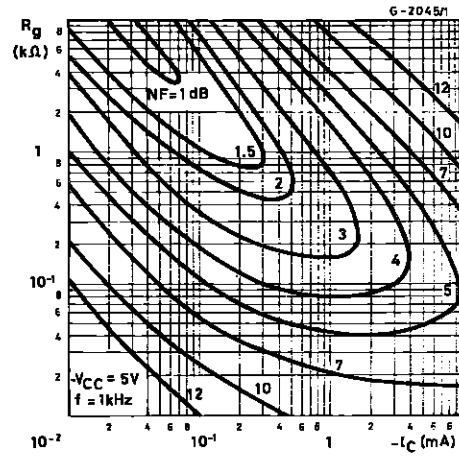


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Switching Characteristics vs. Ambient Temperature.

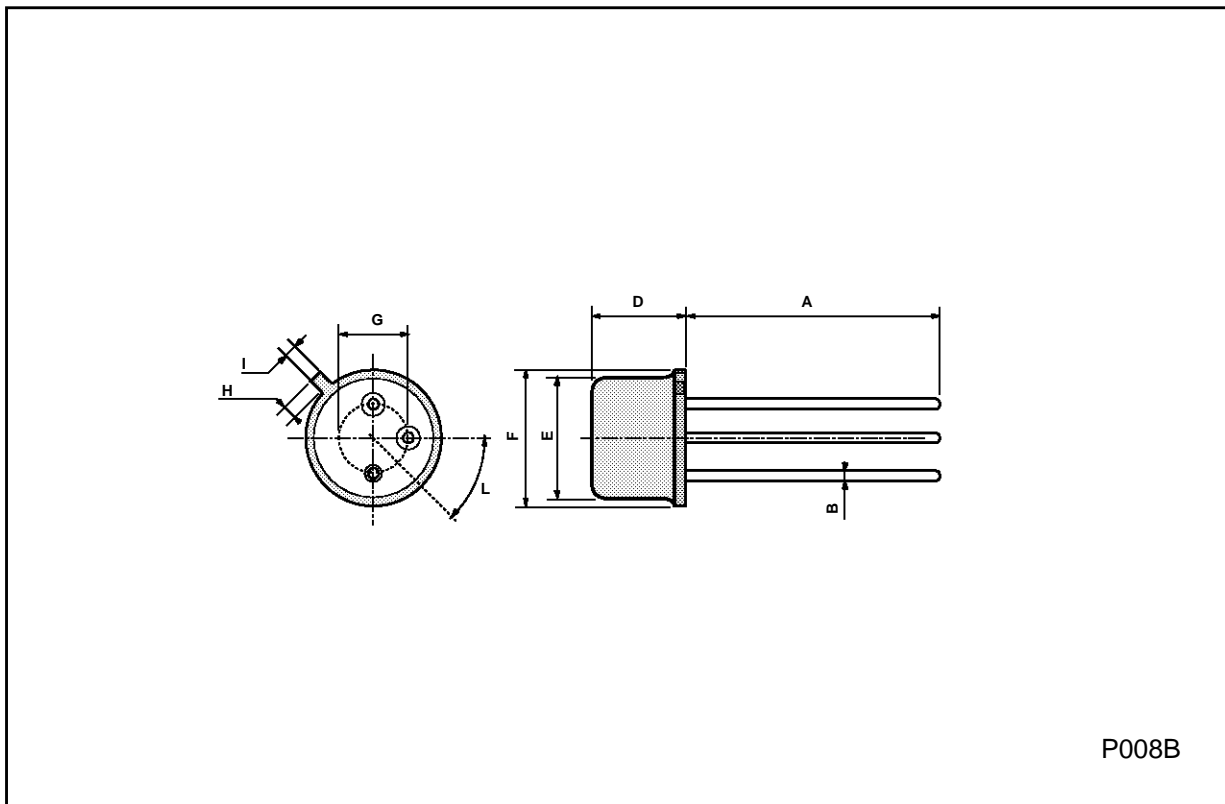


Contours of Constant Noise Figure.



TO39 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	12.7			0.500		
B			0.49			0.019
D			6.6			0.260
E			8.5			0.334
F			9.4			0.370
G	5.08			0.200		
H			1.2			0.047
I			0.9			0.035
L	45° (typ.)					



P008B

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