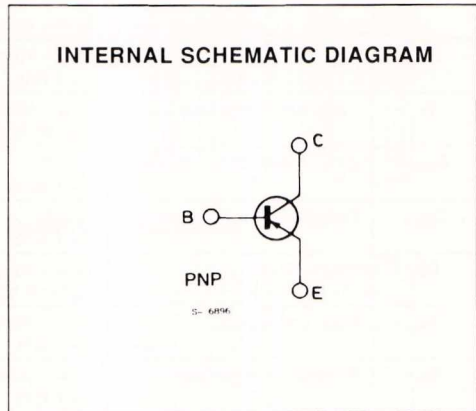
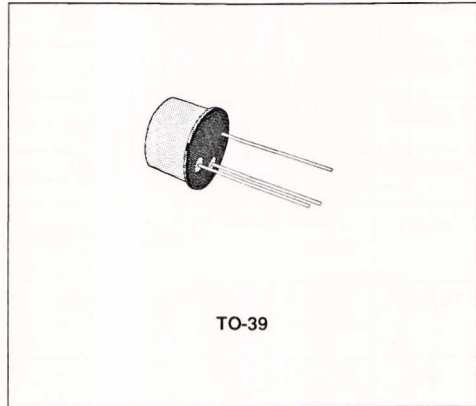


HIGH-CURRENT GENERAL PURPOSE TRANSISTOR

DESCRIPTION

The BFY64 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 $T_{amb} \leq 25^\circ\text{C}$	0.7	W
	at $T_{case} \leq 25^\circ\text{C}$	3	W
T_{stg}, T_J	Storage and Junction Temperature	- 65 to 200	$^\circ\text{C}$

THERMAL DATA

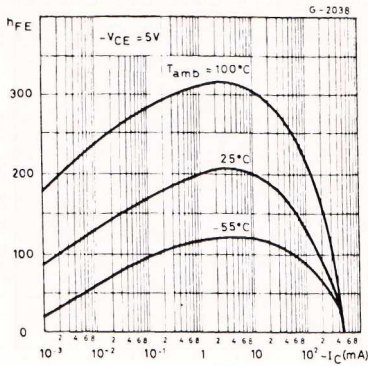
R _{th j-case}	Thermal Resistance Junction-case	Max	58	°C/W
R _{th j-amb}	Thermal Resistance Junction-ambient	Max	250	°C/W

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

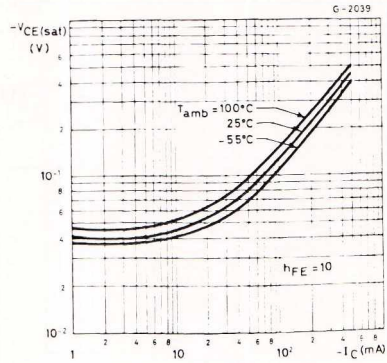
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I _{CES}	Collector Cutoff Current (V _{BE} = 0)	V _{CE} = - 25 V			- 30	nA
V _{(BR)CBO}	Collector-base Breakdown Voltage (I _E = 0)	I _C = - 10 μA	- 40			V
V _{(BR)CEO} *	Collector-emitter Breakdown Voltage (I _B = 0)	I _C = - 10 mA	- 40			V
V _{(BR)EBO}	Emitter-base Breakdown Voltage (I _c = 0)	I _E = -10 μA	- 5			V
V _{CE(sat)} *	Collector-emitter Saturation Voltage	I _C = - 50 mA I _B = - 2.5 mA I _C = - 150 mA I _B = - 15 mA I _C = - 500 mA I _B = - 50 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 mA I _B = - 2.5 mA I _C = - 150 mA I _B = - 15 mA I _C = - 500 mA I _B = - 50 mA		- 0.92 - 1	- 1.1 - 1.4 - 2.2	V V V
h _{FE}	DC Current Gain	I _C = - 10 μA V _{CE} = - 10 V I _C = - 1 mA V _{CE} = - 10 V I _C = - 10 mA V _{CE} = - 10 V I _C = - 50 mA V _{CE} = - 1 V I _C = - 150 mA V _{CE} = - 10 V	80	130 200 200 150 130		
h _{fe}	Small Signal Current Gain	I _C = - 10 mA f = 1 kHz V _{CE} = - 10 V		200		
f _T	Transition Frequency	I _C = - 50 mA f = 100 MHz V _{CE} = - 20 V	200	250		MHz
C _{EBO}	Emitter-base Capacitance	I _C = 0 f = 1 MHz V _{EB} = - 2 V		15	30	pF
C _{CBO}	Collector-base Capacitance	I _E = 0 f = 1 MHz V _{CB} = - 10 V		6	10	pF
NF	Noise Figure	I _C = - 30 μA V _{CE} = - 5 V R _g = 10 kΩ f = 1 kHz		1		dB
h _{ie}	Input Impedance	I _C = - 10 mA f = 1 kHz V _{CE} = - 10 V		1		kΩ
h _{re}	Reverse Voltage Ratio	I _C = - 10 mA f = 1 kHz V _{CE} = - 10 V		2.4x10 ⁻⁴		
h _{oe}	Output Admittance	I _C = - 10 mA f = 1 kHz V _{CE} = - 10 V		110		μS
t _{on}	Turn-on Time	I _C = - 300 mA V _{CC} = - 30 V I _{B1} = - 30 mA		35	50	ns
t _{off}	Turn-off Time	I _C = - 300 mA V _{CC} = - 30 V I _{B1} = - I _{B2} = - 30 mA		70	120	ns

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

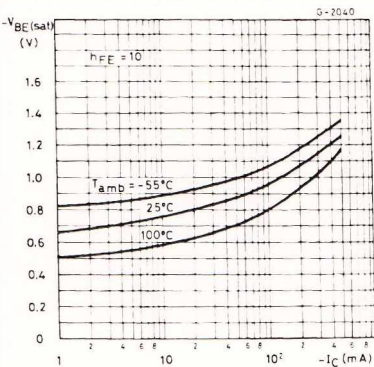
DC Current Gain.



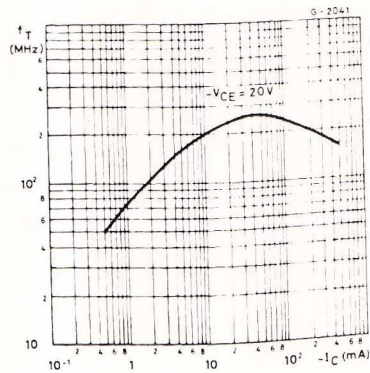
Collector-emitter Saturation Voltage.



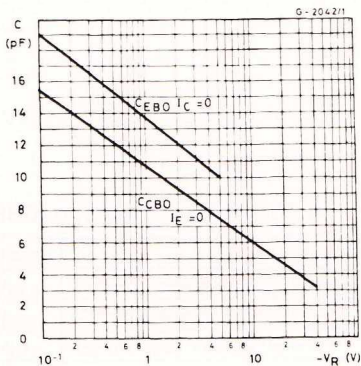
Base-emitter Saturation Voltage.



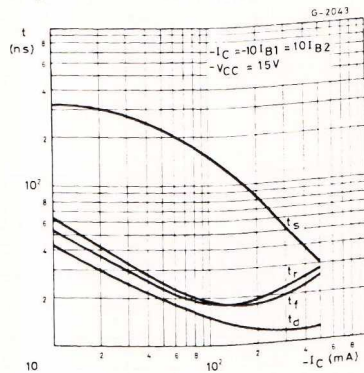
Transition Frequency.



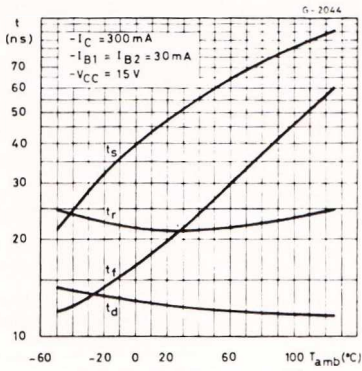
Emitter-base and Collector-base Capacitances.



Switching Characteristics.



Switching Characteristics vs. Ambient Temperature.



Contours of Constant Noise Figure.

