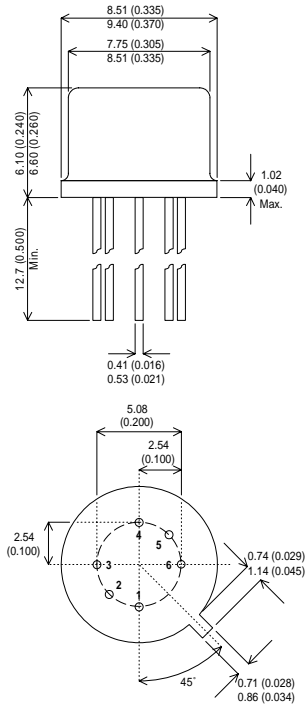


MECHANICAL DATA

Dimensions in mm (inches)



TO77

- Pin 1 – Collector 1
- Pin 2 – Base 1
- Pin 3 – Emitter 1
- Pin 4 – Emitter 2
- Pin 5 – Base 2
- Pin 6 – Collector 2

SILICON PLANAR EPITAXIAL NPN TRANSISTOR

DESCRIPTION

The BFY84 is a six terminal device containing two isolated silicon planar epitaxial NPN transistors in Jedec TO77 metal case.

The good thermal tracking over a wide current and temperature range, offers the circuit designer matched transistors with specified performance for differential amplifiers.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector – Base Voltage ($I_E = 0$)	30V
V_{CEO}	Collector – Emitter Voltage ($I_B = 0$)	12V
V_{EBO}	Emitter – Base Voltage ($I_C = 0$)	3V
I_C	Collector Current	200mA
P_{tot}	Total Dissipation at $T_{amb} \leq 25^\circ C$ (one side)	0.3W
	$T_{amb} \leq 25^\circ C$ (both sides)	0.38W
	$T_{case} \leq 25^\circ C$ (one side)	0.6W
	$T_{case} \leq 25^\circ C$ (both sides)	0.98W
	$T_{case} \leq 100^\circ C$ (one side)	0.34W
	$T_{case} \leq 100^\circ C$ (both sides)	0.56W
T_{stg}, T_j	Storage and Junction Temperature	-65 to +200°C

THERMAL DATA

			One side	Both Sides	
$R_{thj-case}$	Thermal Resistance Junction-case	Max	292	178	°C/W
$R_{thj-amb}$	Thermal Resistance Junction-ambient	Max	583	460	°C/W

ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise stated)

Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO} Collector Cut Off Current	$V_{CB} = 15V$ $I_E = 0$			10	nA
	$V_{CB} = 15V$ $T_{amb} = 150^{\circ}C$			1	μA
$V_{(BR)CBO}$ Collector Base Breakdown Voltage	$I_C = 1\mu A$ $I_E = 0$	30			V
$V_{CEO(sus)*}$ Collector Emitter Sustaining Voltage	$I_C = 3mA$ $I_B = 0$	12			V
$V_{(BR)EBO}$ Emitter Base Breakdown Voltage	$I_C = 0$ $I_E = 10\mu A$	3			V
$V_{CE(sat)}$ Collector Emitter Saturation Voltage	$I_C = 10mA$ $I_B = 1mA$			0.4	V
$V_{BE(sat)}$ Base Emitter Saturation Voltage	$I_C = 10mA$ $I_B = 1mA$			1	V
$ V_{BE1} - V_{BE2} $ Input Offset Voltage	$I_C = 3mA$ $V_{CE} = 1V$			15	mV
$\frac{ V_{BE1} - V_{BE2} }{\Delta T}$ Input Offset Voltage Temperature Coefficient	$I_C = 3mA$ $V_{CE} = 1V$			25	$\mu V/^{\circ}C$
h_{FE} DC Current Gain	$I_C = 3mA$ $V_{CE} = 1V$	20			—
h_{FE1}/h_{FE2} Matched Pair Ratio	$I_C = 3mA$ $V_{CE} = 1V$			1.25	—
f_T Transistion Frequency	$I_C = 4mA$ $V_{CE} = 10V$ $f = 100MHz$	600			MHz
C_{EBO} Emitter Base Capacitance	$I_C = 0$ $V_{EB} = 0.5V$ $f = 1MHz$			2	pF
C_{CBO} Collector Base Capacitance	$I_E = 0$ $V_{CB} = -10V$ $f = 1MHz$			1.7	pF
NF Noise Figure	$I_C = 1mA$ $V_{CE} = 6V$ $f = 60MHz$			6	dB

* Pulse test $t_p = 300\mu s$, Duty Cycle = 1%