BFW 43
BFW 44

SILICON PLANAR PNP

HIGH VOLTAGE AMPLIFIERS

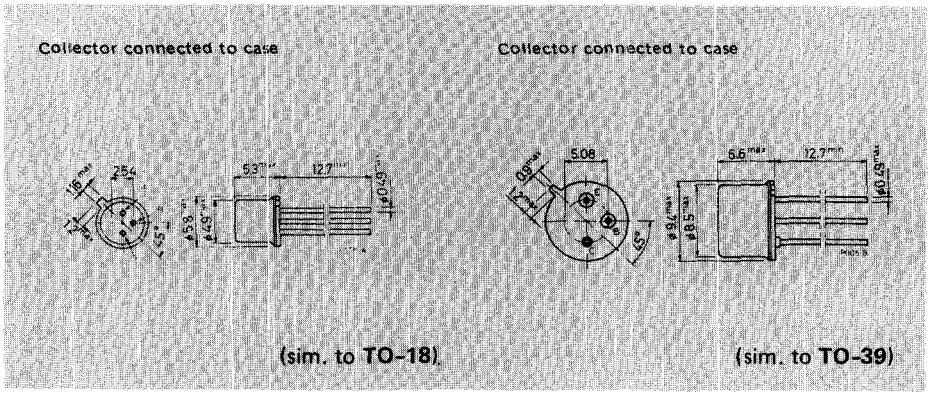
The BFW 43 and BFW 44 are silicon planar epitaxial PNP transistors in Jedec TO-18 (BFW43) and Jedec TO-39 (BFW 44) metal cases.
Both devices are designed for use in amplifiers where high voltage and high gain are necessary. In particular, they feature a $V_{CEO(sus)}$ of 150V and are specified over a wide range of currents.

ABSOLUTE MAXIMUM RATINGS

V_{CBO}	Collector-base voltage ($I_E = 0$)	-150	V
V_{CEO}	Collector-emitter voltage ($I_B = 0$)	-150	V
V_{EBO}	Emitter-base voltage ($I_C = 0$)	-6	V
I_C	Collector current	-100	mA
P_{tot}	Total power dissipation at $T_{amb} \leqslant 25°C$		
	for **BFW 43**	0.4	W
	for **BFW 44**	0.7	W
	at $T_{case} \leqslant 25°C$		
	for **BFW 43**	1.4	W
	for **BFW 44**	2.5	W
T_{stg}, T_j	Storage and junction temperature	-55 to 200	°C

MECHANICAL DATA

Dimensions in mm



THERMAL DATA

			BFW 43		BFW 44	
$R_{th\ j\text{-}case}$	Thermal resistance junction-case	max	125	°C/W	70	°C/W
$R_{th\ j\text{-}amb}$	Thermal resistance junction-ambient	max	438	°C/W	250	°C/W

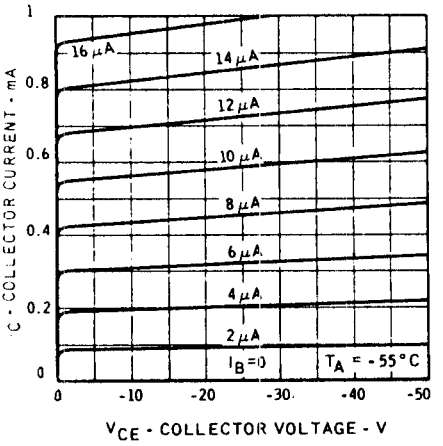
ELECTRICAL CHARACTERISTICS (T_{amb} = 25°C unless otherwise specified)

Parameter		Test conditions		Min.	Typ.	Max.	Unit
I_{CBO}	Collector cutoff current (I_E = 0)	V_{CB} = -100V V_{CB} = -100V	 T_{amb}=125°C		-0.2 -0.03	-10 -10	nA μA
$V_{(BR)CBO}$	Collector-base breakdown voltage (I_E = 0)	I_C = -10μA		-150			V
$V_{CEO(sus)}$ *	Collector-emitter sustaining voltage (I_B = 0)	I_C = -2mA		-150			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage (I_C = 0)	I_E = -10μA		-6			V
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C = -10mA	I_B = -1mA		-0.1	-0.5	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C = -10mA	I_B = -1mA		-0.74	-0.9	V
h_{FE}	DC current gain *	I_C = -1mA I_C = -10mA I_C = -10μA T_{amb} = -55°C	V_{CE}=-10V V_{CE}=-10V V_{CE}=-10V	40 40	85 100 30		– – –
f_T	Transition frequency	V_{CE} = -10V	f = 20MHz I_C = -1mA I_C =-10mA	 60	 50 	 	 MHz MHz
C_{EBO}	Emitter-base capacitance	I_C = 0 f = 1MHz	V_{EB}=-0.5V		20	25	pF
C_{CBO}	Collector-base capacitance	I_E = 0 f = 1MHz	V_{CB} = -5V		5	7	pF

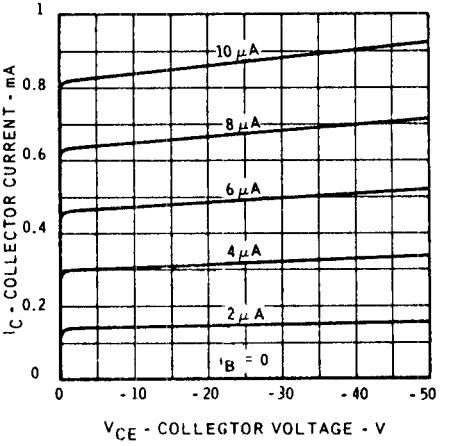
*Pulsed: pulse duration = 300μs, duty cycle = 1%

BFW 43
BFW 44

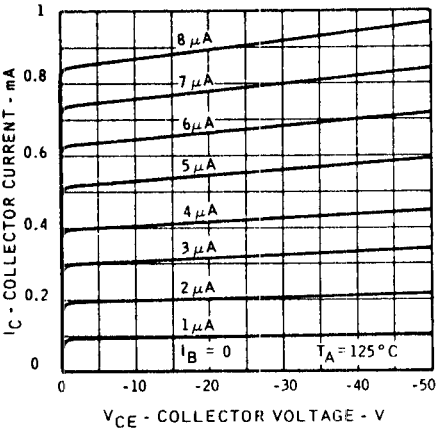
Output characteristics



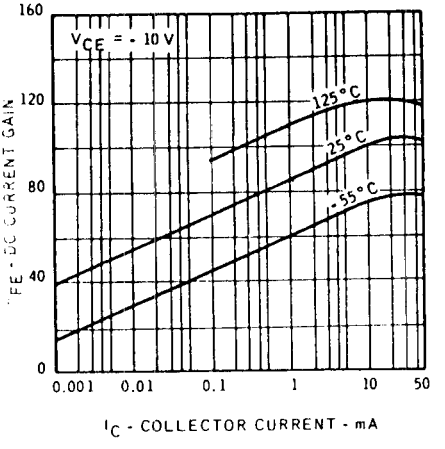
Output characteristics



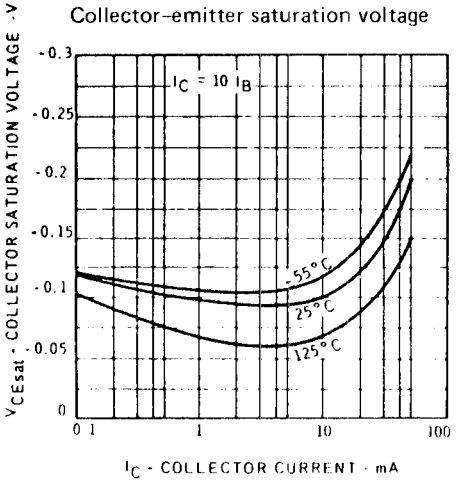
Output characteristics



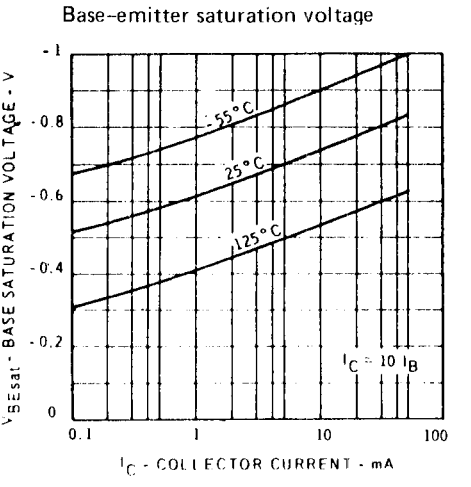
DC current gain



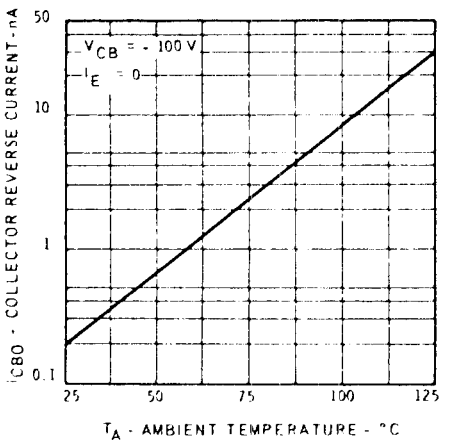
Collector-emitter saturation voltage



Base-emitter saturation voltage



Collector cutoff current



High frequency current gain