

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.

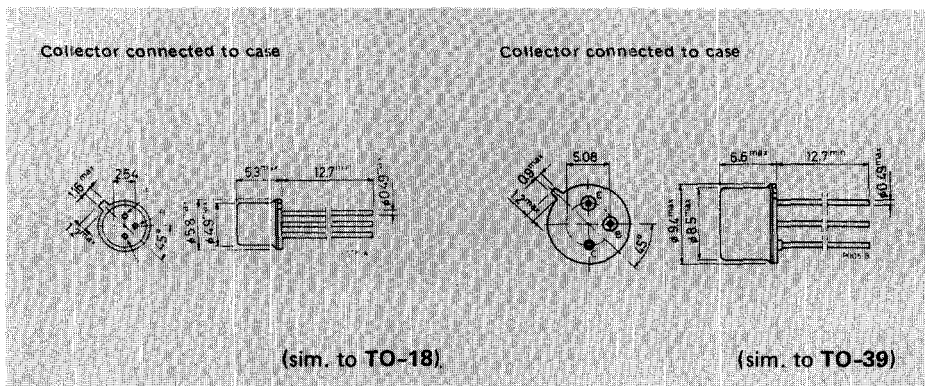
Both devices are designed for use in amplifiers where high voltage and high gain are necessary. In particular, they feature a $V_{CEO(sus)}$ of 150V and are specified over a wide range of currents.

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 $T_{amb} \leq 25^\circ\text{C}$		
	for BFW 43	0.4	W
	for BFW 44	0.7	W
	at $T_{case} \leq 25^\circ\text{C}$		
	for BFW 43	1.4	W
	for BFW 44	2.5	W
T_{stg}, T_j	Storage and junction temperature	-55 to 200	$^\circ\text{C}$

MECHANICAL DATA

Dimensions in mm



THERMAL DATA

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

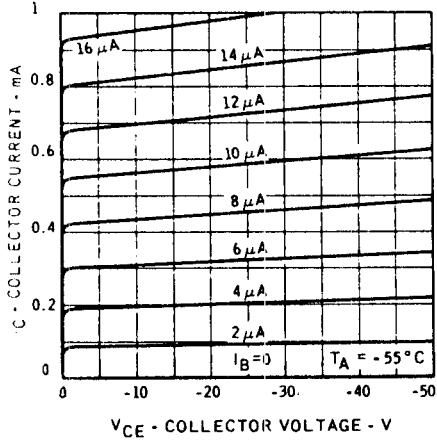
ELECTRICAL CHARACTERISTICS ($T_{amb} = 25^{\circ}C$ unless otherwise specified)

Parameter	Test conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector cutoff current ($I_E = 0$) $V_{CB} = -100V$ $V_{CB} = -100V$ $T_{amb} = 125^{\circ}C$		-0.2 -0.03	-10 -10	nA μA
$V_{(BR)CBO}$	Collector-base breakdown voltage ($I_E = 0$) $I_C = -10\mu A$	-150			V
$V_{CEO(sus)}$	* Collector-emitter sustaining voltage ($I_B = 0$) $I_C = -2mA$	-150			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage ($I_C = 0$) $I_E = -10\mu A$	-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 * * $I_C = -1mA$ $V_{CE} = -10V$ $I_C = -10mA$ $V_{CE} = -10V$ $I_C = -10\mu A$ $V_{CE} = -10V$ $T_{amb} = -55^{\circ}C$	40	85		-
		40	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 $I_C = 0$ $V_{EB} = -0.5V$ $f = 1MHz$		20	25	pF
C_{CBO}	Collector-base capacitance $I_E = 0$ $V_{CB} = -5V$ $f = 1MHz$		5	7	pF

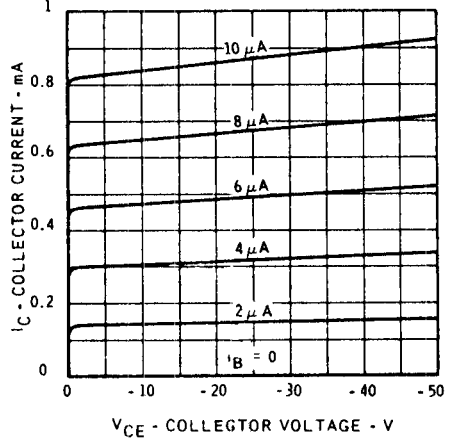
*Pulsed: pulse duration = 300 μs , duty cycle = 1%

BFW 43 BFW 44

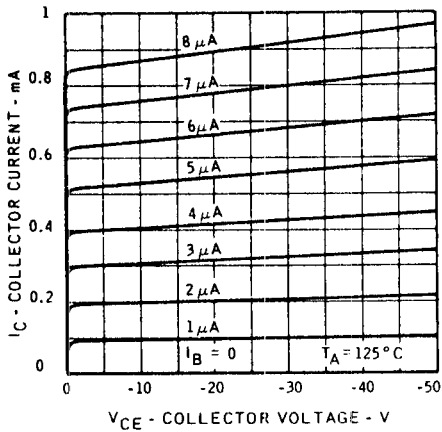
Output characteristics



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DC current gain

