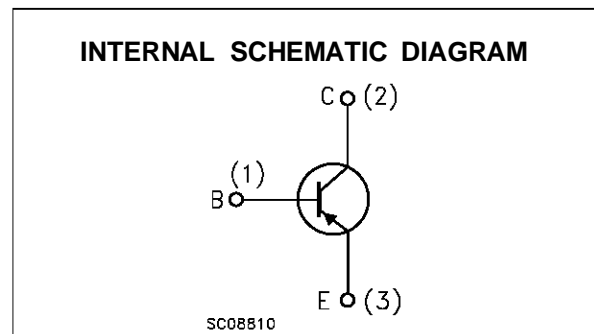
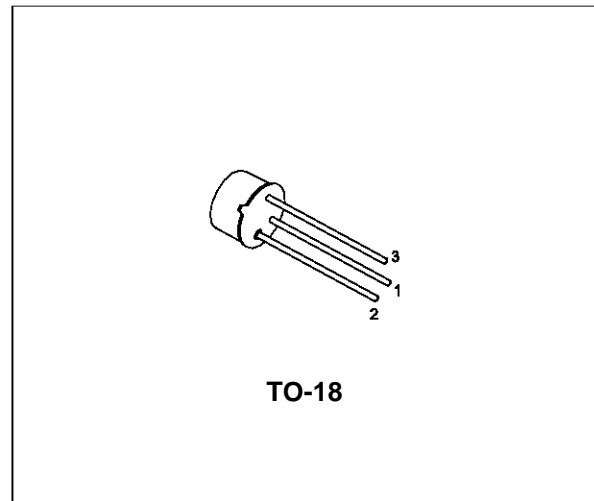


## HIGH VOLTAGE AMPLIFIER

### DESCRIPTION

The BFW43 is a silicon planar epitaxial PNP transistors in Jedec TO-18 metal case. It is designed for use in amplifiers where high voltage and high gain are necessary. In particular, its feature a  $V_{CE0}$  of 150V are specified over a wide range of current.



### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
$V_{CB0}$	Collector-Base Voltage ( $I_E = 0$ )	-150	V
$V_{CE0}$	Collector-Emitter Voltage ( $I_B = 0$ )	-150	V
$V_{EB0}$	Emitter-Base Voltage ( $I_C = 0$ )	-6	V
$I_C$	Collector Current	-0.1	A
$P_{tot}$	Total Dissipation at $T_{amb} \leq 25\text{ }^\circ\text{C}$ at $T_{case} \leq 25\text{ }^\circ\text{C}$	0.4	W
		1.4	W
$T_{stg}$	Storage Temperature	-55 to 200	$^\circ\text{C}$
$T_j$	Max. Operating Junction Temperature	200	$^\circ\text{C}$

**THERMAL DATA**

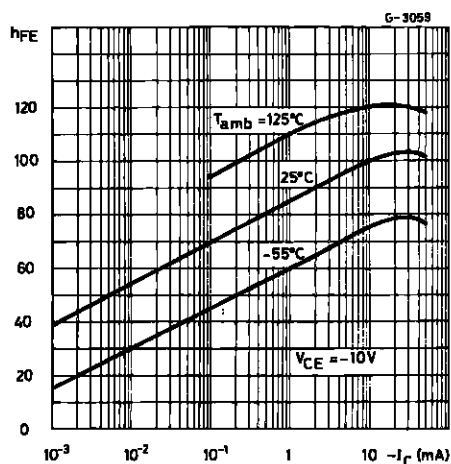
$R_{thj-case}$	Thermal Resistance Junction-Case	Max	125	$^{\circ}C/W$
$R_{thj-amb}$	Thermal Resistance Junction-Ambient	Max	438	$^{\circ}C/W$

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

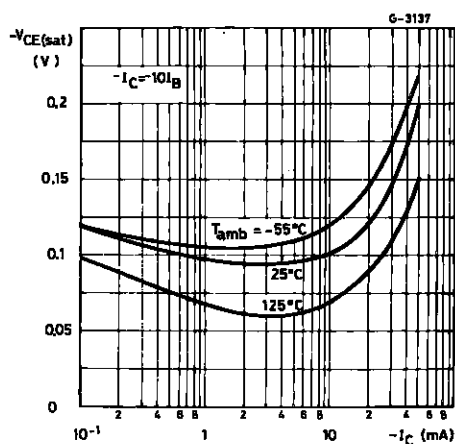
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{CBO}$	Collector Cut-off Current ( $I_E = 0$ )	$V_{CE} = -100 V$ $V_{CE} = -100 V$ $T_{amb} = 125^{\circ}C$		-0.2 -0.03	-10 -10	nA $\mu A$
$V_{(BR)CBO}^*$	Collector-Base Breakdown Voltage ( $I_E = 0$ )	$I_C = -10 \mu A$	-150			V
$V_{(BR)CEO}^*$	Collector-Emitter Breakdown Voltage ( $I_B = 0$ )	$I_C = -2 mA$	-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	$I_C = -10 mA$ $I_B = -1 mA$		-0.1	-0.5	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	$I_C = -10 mA$ $I_B = -1 mA$		-0.74	-0.9	V
$h_{FE}^*$	DC Current Gain	$I_C = -1 mA$ $V_{CE} = -10 V$ $I_C = -10 mA$ $V_{CE} = -10 V$ $I_C = -10 \mu A$ $V_{CE} = -10 V$ $T_{amb} = -55^{\circ}C$	40 40	85 100		
$f_T$	Transition Frequency	$V_{CE} = -10 V$ $f = 20 MHz$ $I_C = -1 mA$ $I_C = -10 mA$	60	50		MHz MHz
$C_{EBO}$	Emitter Base Capacitance	$I_E = 0$ $V_{EB} = -0.5 V$ $f = 1MHz$		20	25	pF
$C_{CBO}$	Collector Base Capacitance	$I_E = 0$ $V_{CB} = -5 V$ $f = 1MHz$		5	7	pF

\* Pulsed: Pulse duration = 300  $\mu s$ , duty cycle  $\leq 1\%$

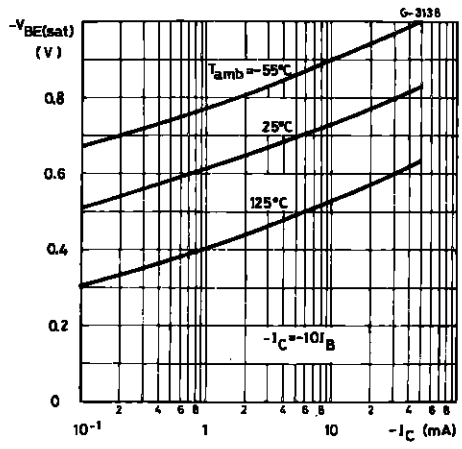
DC Current Gain.



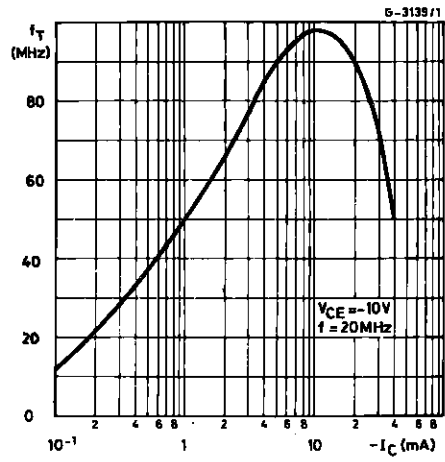
Collector-emitter Saturation Voltage.



Base-emitter Saturation Voltage.

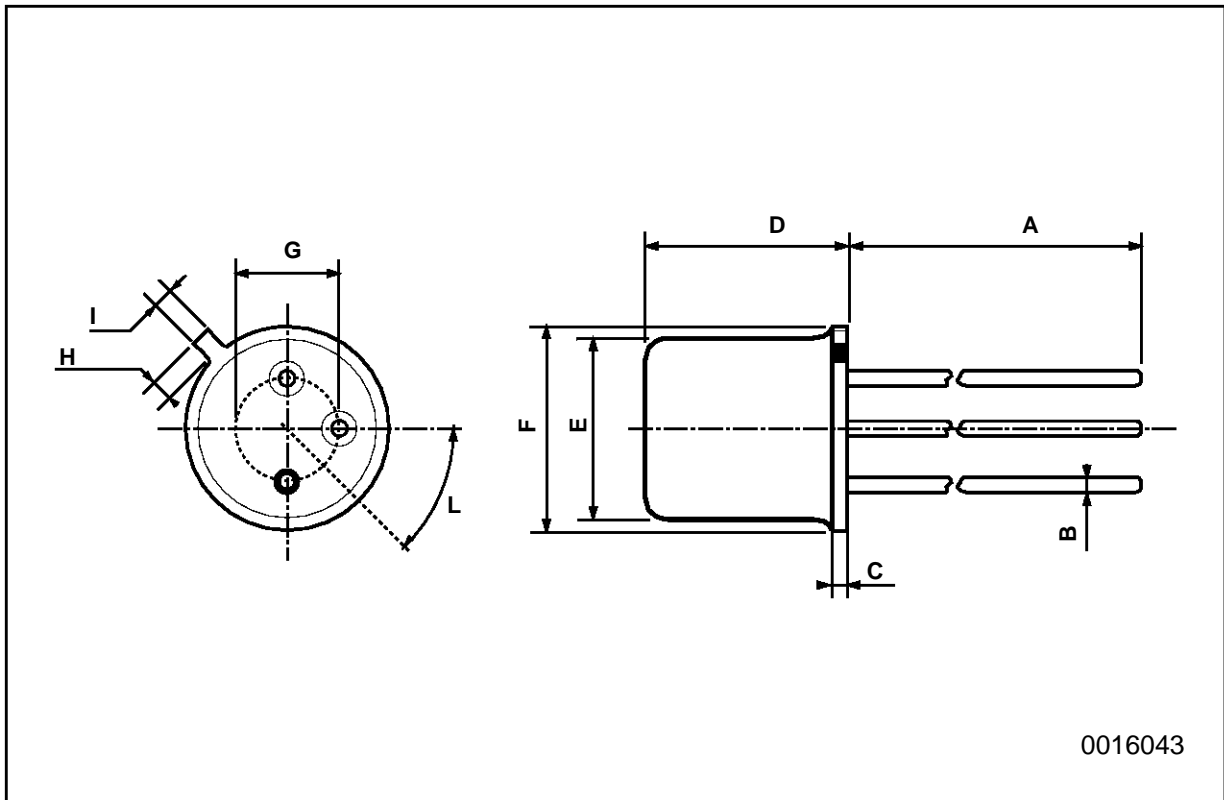


Transition Frequency.



**TO-18 MECHANICAL DATA**

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A		12.7			0.500	
B			0.49			0.019
D			5.3			0.208
E			4.9			0.193
F			5.8			0.228
G	2.54			0.100		
H			1.2			0.047
I			1.16			0.045
L	45°			45°		



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