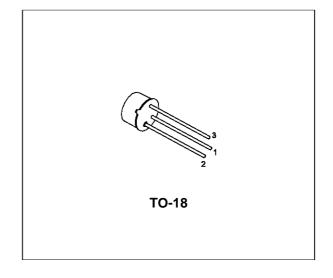


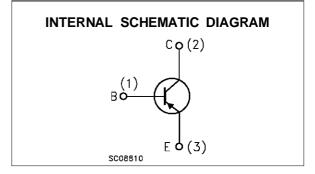
# **BFW43**

## 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  $V_{CEO}$  of 150V are specified over a wide range of curent.





#### ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
Vсво	Collector-Base Voltage (I <sub>E</sub> = 0)	-150	V
V <sub>CEO</sub>	Collector-Emitter Voltage (I <sub>B</sub> = 0)	-150	V
V <sub>EBO</sub>	Emitter-Base Voltage $(I_C = 0)$	-6	V
Ιc	Collector Current	-0.1	Α
P <sub>tot</sub>	Total Dissipation at T <sub>amb</sub> ≤ 25 °C at T <sub>case</sub> ≤ 25 °C	0.4 1.4	W W
T <sub>stg</sub>	Storage Temperature	-55 to 200	°C
Tj	Max. Operating Junction Temperature	200	°C

November 1997

#### THERMAL DATA

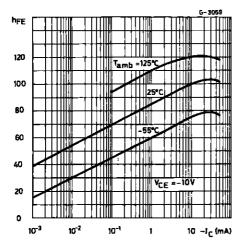
R <sub>thj-case</sub>	Thermal Res	sistance .	Junction-Case	Max	125	°C/W
R <sub>thj-amb</sub>	Thermal Res	sistance .	Junction-Ambient	Max	438	°C/W

### **ELECTRICAL CHARACTERISTICS** (T<sub>case</sub> = 25 °C unless otherwise specified)

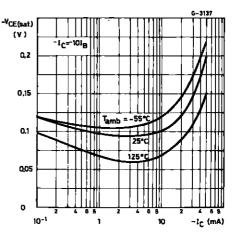
Symbol	ol Parameter Test Conditions		Min.	Тур.	Max.	Unit
I <sub>СВО</sub>	Collector Cut-off Current ( $I_E = 0$ )	$V_{CE} = -100 V$ $V_{CE} = -100 V$ $T_{amb} = 125 \ ^{o}C$		-0.2 -0.03	-10 -10	nA μA
V(br)cbo*	Collector-Base Breakdown Voltage (I <sub>E</sub> = 0)	I <sub>C</sub> = -10 μA	-150			V
$V_{(\text{BR})\text{CEO}}*$	Collector-Emitter Breakdown Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = -2 mA	-150			V
V <sub>(BR)EBO</sub> *	Emitter-Base Breakdown Voltage (I <sub>C</sub> = 0)	I <sub>E</sub> = -10 μA	-6			V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -10 mA I <sub>B</sub> = -1 mA		-0.1	-0.5	V
V <sub>BE(sat)*</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -10 mA I <sub>B</sub> = -1 mA		-0.74	-0.9	V
h <sub>FE</sub> *	DC Current Gain		40 40	85 100 30		
f⊤	Transition Frequency	V <sub>CE</sub> = -10 V f = 20 MHz I <sub>C</sub> = -1 mA I <sub>C</sub> = -10 mA	60	50		MHz MHz
СЕВО	Emitter Base Capacitance	$I_{E} = 0 \qquad V_{EB} = -0.5 \text{ V}  f = 1 \text{MHz}$		20	25	pF
Ссво	Collector Base Capacitance	$I_E = 0$ $V_{CB} = -5$ V $f = 1$ MHz		5	7	pF

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

#### DC Current Gain.

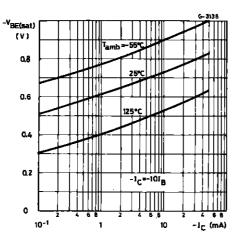


Collector-emitter Saturation Voltage.

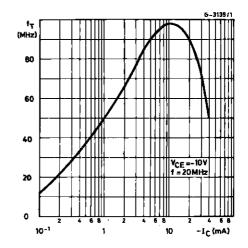




Base-emitter Saturation Voltage.



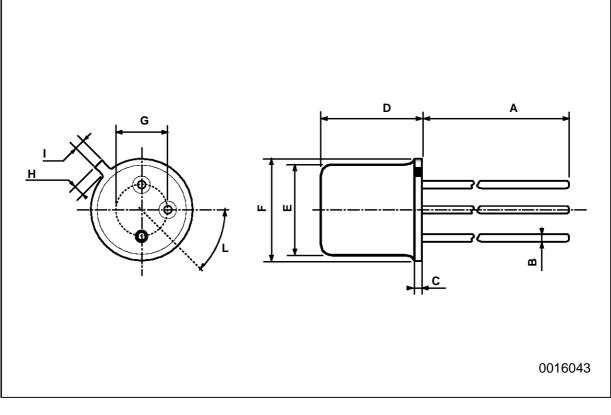
Transition Frequency.





### **TO-18 MECHANICAL DATA**

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





4/5

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsability for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication superseds and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical comporents in life support devices or systems without express written approval of SGS-THOMSON Microelectonics.

© 1997 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES Australia - Brazil - Canada - China - France - Germany - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A

