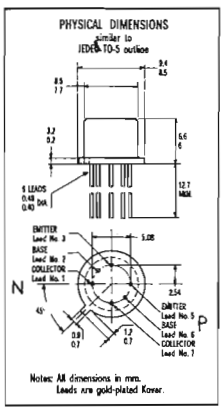
BFX79

HIGH-VOLTAGE, HIGH-CURRENT COMPLEMENTARY AMPLIFIER

NPN/PNP DIFFUSED SILICON PLANAR EPITAXIAL TRANSISTORS

GENERAL DESCRIPTION - The BFX79 is a six terminal device containing a pair of NPN/PNP complementary isolated double diffused silicon PLANAR epitaxial transistors in one hermetically sealed encapsulation. The high voltage and high current capabilities make this device particularly suitable for use in complementary driver amplifiers, complementary output stages and many other applications.



ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

T_{STG}	Storage Temperature	- 55°C to + 200°C
T_J	Operating Junction Temperature	+ 200°C Maximum
T_L	Lead Temperature (Soldering, 10 sec. time limit)	+ 260°C Maximum

Maximum Power Dissipations (Notes 2 and 3)		One Side	Both Sides
P	Total Dissipation at	25°C Case Temperature	1.2 Watt	1.8 Watt
	at	100°C Case Temperature	0.68 Watt	1.06 Watt
	at	25°C Ambient Temperature	0.5 Watt	0.6 Watt

Maximum Voltages (25°C free air temperature unless otherwise noted)

V_{CBO}	Collector Base Voltage	80 Volts
V_{CEO}	Collector Emitter Voltage (Note 4)	60 Volts
V_{EBO}	Emitter Base Voltage	5 Volts

ELECTRICAL CHARACTERISTICS (25°C free air temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS	
h_{FE}	DC Current Gain	40	100			I_C = 0.1 mA	V_{CE} = 5 V
h_{FE}	DC Pulse Current Gain (Note 5)	60	125			I_C = 150 mA	V_{CE} = 5 V
h_{FE}	DC Pulse Current Gain (Note 5)	40	100			I_C = 500 mA	V_{CE} = 5 V
V_{BE} (on)	Base-Emitter On Voltage		0.6	0.8	V	I_C = 0.1 mA	V_{CE} = 5 V
V_{BE} (sat)	Base-Emitter Saturation Voltage		0.7	1.1	V	I_C = 150 mA	I_B = 15 mA
V_{BE} (sat)	Base-Emitter Saturation Voltage		1.2	2	V	I_C = 1 A	I_B = 0.1 A
V_{CE} (sat)	Collector-Emitter Saturation Voltage		0.1	0.25	V	I_C = 150 mA	I_B = 15 mA
V_{CE} (sat)	Collector-Emitter Saturation Voltage		0.25	0.5	V	I_C = 500 mA	I_B = 50 mA
V_{CE} (sat)	Collector-Emitter Saturation Voltage		0.6	1.5	V	I_C = 1 A	I_B = 0.1 A
I_{CBO}	Collector-Cutoff Current		1	50	nA	V_{CB} = 60 V	I_E = 0
I_{CBO} (125°C)	Collector-Cutoff Current		0.1	50	μA	V_{CB} = 60 V	I_E = 0
BV_{CBO}	Collector-Base Breakdown Voltage	80			V	I_C = 100 μA	I_E = 0
BV_{EBO}	Emitter-Base Breakdown Voltage	5			V	I_E = 100 μA	I_C = 0
V_{CEO} (sust)	Collector-Emitter Sustaining Voltage (Notes 4 and 5)	60			V	I_C = 10 mA	I_B = 0
h_{fe}	High Frequency Current Gain (f = 20 MHz)	3	5			I_C = 50 mA	V_{CE} = 10 V
C_{ob}	Output Capacitance (f = 1 MHz)		12	20	pF	V_{CB} = 10 V	I_E = 0
C_{TE}	Emitter Transition Capacitance (f = 1 MHz)		75	110	pF	V_{EB} = 0.5 V	I_C = 0
NF	Narrow Band Noise Figure (Note 6)		3		dB	I_C = 30 μA	V_{CE} = 5 V