

BFX67

ULTRA HIGH GAIN COMPOUND AMPLIFIER

NPN DIFFUSED SILICON PLANAR TRANSISTORS

GENERAL DESCRIPTION - The BFX67 is a four terminal device containing two high-gain silicon PLANAR transistors connected as a Darlington compound amplifier in one hermetically sealed enclosure. This device is particularly useful in circuits requiring very high gain and high input impedance.

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)

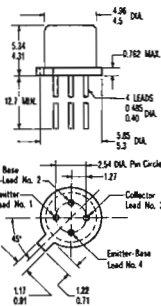
Total Dissipation at 25°C Case Temperature	1.8 Watt
at 100°C Case Temperature	1 Watt
at 25°C Ambient Temperature	0.5 Watt

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

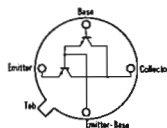
V_{CB0}	Collector to Base Voltage	60 Volts
V_{CE0}	Collector to Emitter Voltage (Note 4)	60 Volts
V_{EB0}	Emitter to Base Voltage	15 Volts
I_C	Collector Current	500 mA

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

PHYSICAL DIMENSIONS in accordance with JEDEC (TO-18) outline



CONNECTION DIAGRAM



Notes: All dimensions in mm.
Collector internally connected to case

SYMBOL	CHARACTERISTIC	MIN.	MAX.	UNIT	TEST CONDITIONS
h_{FE}	DC Pulse Current Gain (Note 5)	7000	70000		$I_C = 100 \text{ mA}$ $V_{CE} = 10 \text{ V}$
h_{FE}	DC Pulse Current Gain (Note 5)	4000			$I_C = 10 \text{ mA}$ $V_{CE} = 10 \text{ V}$
$h_{FE} (-55^\circ\text{C})$	DC Pulse Current Gain (Note 5)	1000			$I_C = 100 \text{ mA}$ $V_{CE} = 10 \text{ V}$
h_{FE}	DC Current Gain	1000			$I_C = 100 \text{ }\mu\text{A}$ $V_{CE} = 10 \text{ V}$
$V_{CE}(\text{sat})$	Collector Saturation Voltage		1.6	V	$I_C = 100 \text{ mA}$ $I_B = 1 \text{ mA}$
$V_{BE}(\text{sat})$	Base Saturation Voltage		1.8	V	$I_C = 100 \text{ mA}$ $I_B = 1 \text{ mA}$
I_{CBO}	Collector Cutoff Current	10		nA	$I_E = 0$ $V_{CB} = 45 \text{ V}$
$I_{CBO} (125^\circ\text{C})$	Collector Cutoff Current	10		μA	$I_E = 0$ $V_{CB} = 45 \text{ V}$
I_{EBO}	Emitter Cutoff Current		10	nA	$I_C = 0$ $V_{EB} = 10 \text{ V}$
BV_{CBO}	Collector to Base Breakdown Voltage	60		V	$I_C = 100 \text{ }\mu\text{A}$ $I_E = 0$
$V_{CEO}(\text{sust})$	Collector to Emitter Sustaining Voltage (Notes 4 and 5)	60		V	$I_C = 30 \text{ mA}$ $I_B = 0$
BV_{EBO}	Emitter to Base Breakdown Voltage	15		V	$I_C = 0$ $I_E = 100 \text{ }\mu\text{A}$ (pulsed)
C_{ob}	Output Capacitance		20	pF	$I_E = 0$ $V_{CB} = 10 \text{ V}$
C_{TE}	Emitter Transition Capacitance		10	pF	$I_C = 0$ $V_{EB} = 0.5 \text{ V}$