

NPN SILICON PLANAR TRANSISTOR

BFX84



**TO-39
Metal Can Package**

AMPLIFIER TRANSISTOR

ABSOLUTE MAXIMUM RATINGS (Ta=25°C unless specified otherwise)

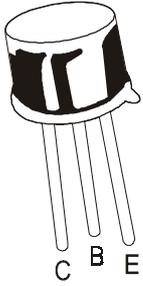
DESCRIPTION	SYMBOL	VALUE	UNITS
Collector Emitter Voltage	V_{CEO}	60	V
Collector Base Voltage	V_{CBO}	100	V
Emitter Base Voltage	V_{EBO}	6.0	V
Collector Current Continuous	I_C	1.0	A
Total Device Dissipation @ Ta=25°C	P_D	0.8	W
Derate Above 25°C		4.57	mW/°C
Operating And Storage Junction Temperature Range	T_j, T_{stg}	-65 to +200	°C

THERMAL RESISTANCE

Junction to Ambient	$R_{th(j-a)}$	220	°C/W
Junction to Case	$R_{th(j-c)}$	35	°C/W

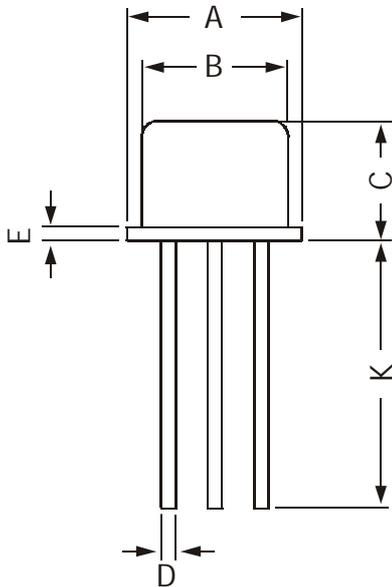
ELECTRICAL CHARACTERISTICS (Ta=25° C unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BFX84		UNITS
			MIN	MAX	
Collector Emitter Breakdown Voltage	BV_{CEO}	$I_C=10mA, I_B=0$	60		V
Collector Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	100		V
Collector Cut off Current	I_{CBO}	$V_{CB}=80V, I_E=0$		50	nA
		$V_{CB}=80V, I_E=0, T_j=100^\circ C$		2.5	μA
		$V_{CB}=100V, I_E=0$		500	nA
		$V_{CB}=100V, I_E=0, T_j=100^\circ C$		2.5	μA
Emitter Cut off Current	I_{EBO}	$V_{EB}=5V, I_C=0$		50	nA
		$V_{EB}=5V, I_C=0, T_j=100^\circ C$		2.5	μA
		$V_{EB}=6V, I_C=0$		500	nA
DC Current Gain	h_{FE}	$I_C=10mA, V_{CE}=10V$	20		
		$I_C=150mA, V_{CE}=10V$	30		
		$I_C=500mA, V_{CE}=10V$	20		
		$I_C=1A, V_{CE}=10V$	15		
Collector Emitter (Sat) Voltage	$V_{CE(Sat)}$	$I_C=10mA, I_B=1.0mA$		0.15	V
		$I_C=150mA, I_B=15mA$		0.35	V
		$I_C=500mA, I_B=50mA$		1.00	V
		$I_C=1A, I_B=100mA$		1.60	V

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Metal Can Package****ELECTRICAL CHARACTERISTICS (Ta=25°C unless specified otherwise)**

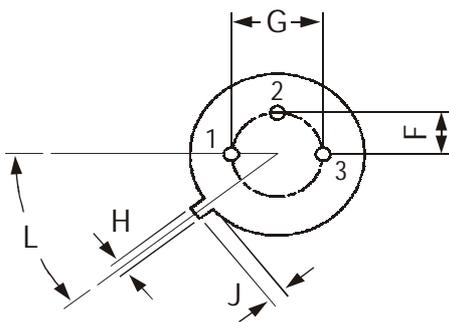
DESCRIPTION	SYMBOL	TEST CONDITION	BFX84		UNITS
			MIN	MAX	
Base Emitter (Sat) Voltage	$V_{BE(Sat)}$	$I_C=10mA, I_B=1.0mA$		1.2	V
		$I_C=150mA, I_B=15mA$		1.3	V
		$I_C=500mA, I_B=50mA$		1.5	V
		$I_C=1A, I_B=100mA$		2.0	V
<u>SMALL SIGNAL CHARACTERISTICS</u>					
Current Gain Bandwidth Product	f_T	$I_C=50mA, V_{CE}=10V$ $f=35MHz$	50		MHz
Collector Capacitance	C_{obo}	$V_{CB}=10V, I_E=0, f=1MHz$		12	pF
Small Signal Current Gain	$ h_{fe} $	$I_C=1.0mA, V_{CE}=5.0V,$ $f=1kHz$	10		
		$I_C=10mA, V_{CE}=5.0V,$ $f=1.0kHz$	15		
Input Impedance	h_{ie}	$I_C=10mA, V_{CE}=5.0V,$ $f=1.0kHz$		750	$\mu mhos$
Voltage Feedback Ratio	h_{re}	$I_C=10mA, V_{CE}=5.0V,$ $f=1.0kHz$		5.0	$\times 10^{-4}$
Output Admittance	h_{oe}	$I_C=10mA, V_{CE}=5.0V,$ $f=1.0kHz$		80	$\mu mhos$

TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG



PIN CONFIGURATION

1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

Disclaimer

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