

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

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BFX34

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

**DESCRIPTION:** The CENTRAL SEMICONDUCTOR BFX34 is a silicon NPN transistor designed for switching and general purpose applications where a high collector current (5.0 AMPS) is required.

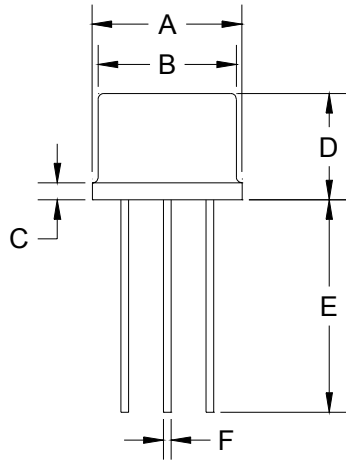
**MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

	<u>SYMBOL</u>		<u>UNITS</u>
Collector-Base Voltage	$V_{CB0}$	120	V
Collector-Emitter Voltage	$V_{CEO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	6.0	V
Collector Current	$I_C$	5.0	A
Power Dissipation	$P_D$	1.0	W
Power Dissipation ( $T_C=25^{\circ}\text{C}$ )	$P_D$	5.0	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +200	$^{\circ}\text{C}$
Thermal Resistance	$\theta_{JA}$	175	$^{\circ}\text{C/W}$
Thermal Resistance	$\theta_{JC}$	35	$^{\circ}\text{C/W}$

**ELECTRICAL CHARACTERISTICS** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

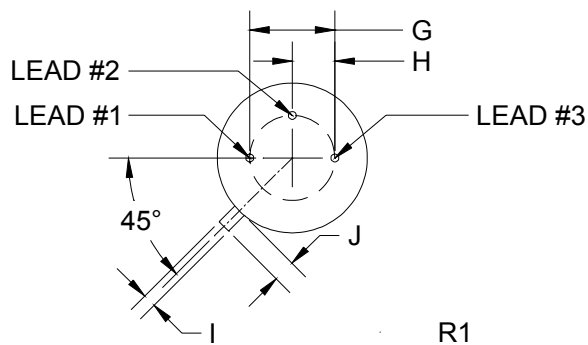
<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
$I_{CES}$	$V_{CE}=60\text{V}$		10	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=4.0\text{V}$		10	$\mu\text{A}$
$BV_{CB0}$	$I_C=5.0\text{mA}$	120		V
$BV_{CEO}$	$I_C=100\text{mA}$	60		V
$BV_{EBO}$	$I_E=1.0\text{mA}$	6.0		V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=0.5\text{A}$		1.0	V
$V_{BE(SAT)}$	$I_C=5.0\text{A}, I_B=0.5\text{A}$		1.6	V
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=2.0\text{A}$	40	150	
$f_T$	$V_{CE}=5.0\text{V}, I_C=0.5\text{A}, f=20\text{MHz}$	70		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		100	pF
$C_{ib}$	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$		500	pF
$t_{on}$	$V_{CC}=20\text{V}, I_C=5.0\text{A}, I_{B1}=I_{B2}=0.5\text{A}$		0.6	$\mu\text{s}$
$t_{off}$	$V_{CC}=20\text{V}, I_C=5.0\text{A}, I_{B1}=I_{B2}=0.5\text{A}$		1.2	$\mu\text{s}$

(SEE REVERSE SIDE)

TO-39 PACKAGE - MECHANICAL OUTLINE

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

Lead Code

- 1) Emitter
- 2) Base
- 3) Collector

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