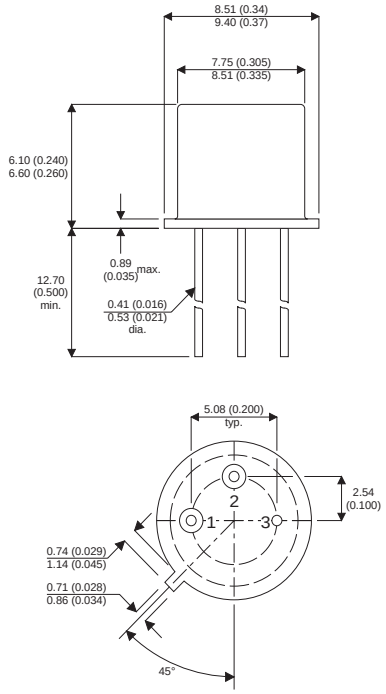
BFX34

MECHANICAL DATA
Dimensions in mm (inches)



TO39 (TO-205AD) Package

Underside View

PIN1 – EMITTER PIN 2 – BASE PIN 3 – COLLECTOR

HIGH CURRENT GENERAL PURPOSE TRANSISTOR

DESCRIPTION:

The BFX34 is a silicon Epitaxial Planar NPN transistor in a TO-39 case, intended for high current applications.

Very low saturation voltage and high speed at high current levels make it ideal for power drivers, power amplifiers, switching power supplies and relay drive inverters.

FEATURES

- **SILICON EPITAXIAL NPN TRANSISTOR**
- **HIGH SPEED, LOW SATURATION SWITCH**
- **CECC SCREENING OPTIONS**

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise stated)

V_{CBO}	Collector – Base Voltage (I_E = 0)		120V
V_{CEO}	Collector – Emitter Voltage (I_B = 0)		60V
V_{EBO}	Emitter – Base Voltage (I_C = 0)		6V
I_C	Continious Collector Current		2A
I_{CM}	Peak Repetitive Collector Current		5A
I_B	Continious Base Current		1A
P_{tot}	Total Device Dissipation	@ $T_A \leq 25°C$	0.87W
		@ $T_C \leq 25°C$	5W
T_{STG}	Storage Temperature Range		–65 to +200°C
T_J	Junction Temperature		200°C

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise stated)

	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{CES}	Collector Cut-off Current	V_{CE} = 60V	V_{BE} = 0		0.02	10	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 4V	I_C = 0		0.05	10	
$V_{(BR)CBO}$*	Collector – Base Breakdown Voltage	I_C = 5mA	I_E = 0	120			V
$V_{CEO(sus)}$*	Collector – Emitter Sustaining Voltage	I_C = 100mA	I_B = 0	60			
V_{EBO}*	Emitter– Base Voltage	I_E = 1mA	I_C = 0	6			
$V_{CE(sat)}$*	Collector – Emitter Saturation Voltage	I_C = 5A	I_B = 0.5A		0.4	1	
$V_{BE(sat)}$*	Base – Emitter Saturation Voltage	I_C = 5A	I_B = 0.5A		1.3	1.6	
h_{FE}*	DC Current Gain	I_C = 1A	V_{CE} = 2V		100		–
		I_C = 1.5A	V_{CE} = 0.6V		75		
		I_C = 2A	V_{CE} = 2V	40	80	150	
f_T*	Transition Frequency	I_C = 0.5A f = 20MHz	V_{CE} = 5V	70	100		MHz
C_{EBO}	Emitter – Base Capacitance	I_C = 0 f = 1MHz	V_{EB} = 0.5V		300	500	pF
C_{CBO}	Collector – Base Capacitance	V_{CB} = 10V f = 1MHz	I_E = 0		40	100	
t_{on}	Turn on Time	V_{CC} = 20V	I_C = 0.5A			0.6	µs
t_{off}	Turn off Time	I_{B1} = – I_{B2}= 0.5A				1.2	

* Pulse Duration = 300µs,duty cycle ≤ 2%.

THERMAL CHARACTERISTICS

$R_{\theta JC}$	Thermal Resistance Junction – Case			35	°C/W
$R_{\theta JA}$	Thermal Resistance Junction – Ambient			200	°C/W

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