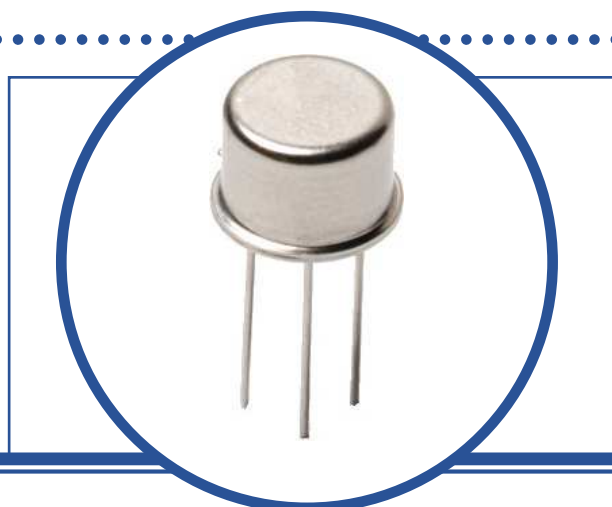


HIGH CURRENT GENERAL PURPOSE TRANSISTOR

BFX34

- Silicon Epitaxial NPN Transistor
- High Speed, Low Saturation Switch
- Hermetic TO39 Package
- Screening Options Available



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

V _{CBO}	Collector – Base Voltage	120V
V _{CEO}	Collector – Emitter Voltage	60V
V _{EBO}	Emitter – Base Voltage	6V
I _B	Continuous Base Current	1.0A
I _C	Continuous Collector Current	2A
I _{CM}	Peak Repetitive Collector Current	5A
P _D	Total Power Dissipation at T _A = 25°C	870mW
	T _C = 25°C	5W
T _J	Junction Temperature Range	200°C
T _{stg}	Storage Temperature Range	-65 to +200°C

THERMAL PROPERTIES

Symbols	Parameters	Max.	Unit
R _{θJA}	Thermal Resistance, Junction To Ambient	200	°C/W
R _{θJC}	Thermal Resistance, Junction To Case	35	°C/W

Semelab Limited reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by Semelab is believed to be both accurate and reliable at the time of going to press. However Semelab assumes no responsibility for any errors or omissions discovered in its use. Semelab encourages customers to verify that datasheets are current before placing orders.



HIGH CURRENT GENERAL PURPOSE TRANSISTOR BFX34

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

Symbols	Parameters	Test Conditions	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}^{(1)}$	Collector-Base Breakdown Voltage	$I_C = 5\text{mA}$ $V_{BE} = 0$	120			V
$V_{(BR)CEO}^{(1)}$	Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}$ $I_B = 0$	60			
$V_{EBO}^{(1)}$	Emitter - Base Voltage	$I_E = 1.0\text{mA}$ $I_C = 0$	6			
$V_{CE(sat)}^{(1)}$	Collector-Emitter Saturation Voltage	$I_C = 5\text{A}$ $I_B = 0.5\text{A}$		0.4	1.0	
$V_{BE(sat)}^{(1)}$	Base-Emitter Saturation Voltage			1.3	1.6	
I_{CES}	Collector Cut-Off Current	$V_{CE} = 60\text{V}$ $V_{BE} = 0$		0.02	10	μA
I_{EBO}	Emitter Cut-Off Current	$V_{EB} = 4\text{V}$ $I_C = 0$		0.05	10	
h_{FE}	DC Current Gain	$I_C = 1.0\text{A}$ $V_{CE} = 2\text{V}$		100		-
		$I_C = 1.5\text{A}$ $V_{CE} = 0.6\text{V}$		75		
		$I_C = 2\text{A}$ $V_{CE} = 2\text{V}$	40	80	150	

DYNAMIC CHARACTERISTICS

f_T	Transition Frequency	$I_C = 0.5\text{A}$ $V_{CE} = 5\text{V}$ $f = 20\text{MHz}$	70	100		MHz
C_{obo}	Output Capacitance	$V_{CB} = 10\text{V}$ $f = 1.0\text{MHz}$		40	100	pF
C_{ibo}	Input Capacitance	$V_{EB} = 0.5\text{V}$ $f = 1.0\text{MHz}$		300	500	
t_{on}	Turn on Time	$V_{CC} = 20\text{V}$ $I_C = 0.5\text{A}$			0.6	μs
t_{off}	Turn off Time	$I_{B1} = -I_{B2} = 50\text{mA}$			1.2	

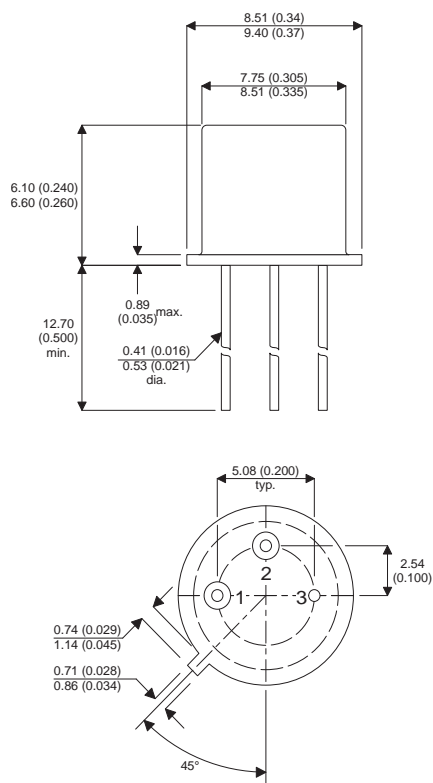
Notes

(1) Pulse Width $\leq 300\mu\text{s}$, $\delta \leq 2\%$

HIGH CURRENT GENERAL PURPOSE TRANSISTOR BFX34

MECHANICAL DATA

Dimensions in mm (inches)



TO39 (TO-205AD) METAL PACKAGE

Underside View

PIN 1 - Emitter

PIN 2 - Base

PIN 3 - Collector