

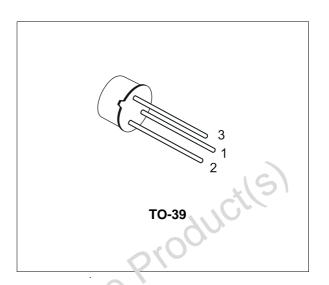
# SILICON NPN TRANSISTOR

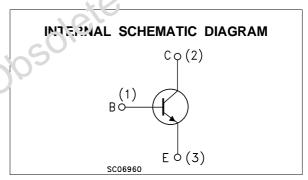
- STMicroelectronics PREFERRED SALESTYPE
- NPN TRANSISTOR

### **DESCRIPTION**

The BFX34 is a silicon Epitaxial Planar NPN transistor in Jedec TO-39 metal case, intented 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 drivers inverters.





# ABSOLUTE MAXIMUM RATINGS

loant	Parameter Value		Unit
$V_{CBO}$	Collector-Base Voltage (I <sub>E</sub> = 0)	120	V
$V_{CEO}$	Collector-Emitter Voltage (I <sub>B</sub> = 0)	60	V
VEBO	Emitter-Base Voltage (Ic = 0)	6	V
Ic	Collector Current	5	А
P <sub>tot</sub>	Total Dissipation at $T_{case} \le 25$ °C $T_{amb} \le 25$ °C	5 0.87	W
T <sub>stg</sub>	Storage Temperature	-65 to 200	°C
Tj	Max. Operating Junction Temperature	200	°C

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### THERMAL DATA

R <sub>thj-case</sub>	Thermal Resistance Junction-case	Max	35	°C/W
R <sub>thj-amb</sub>	Thermal Resistance Junction-amb	Max	200	°C/W

# **ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25$ $^{\circ}C$ unless otherwise specified)

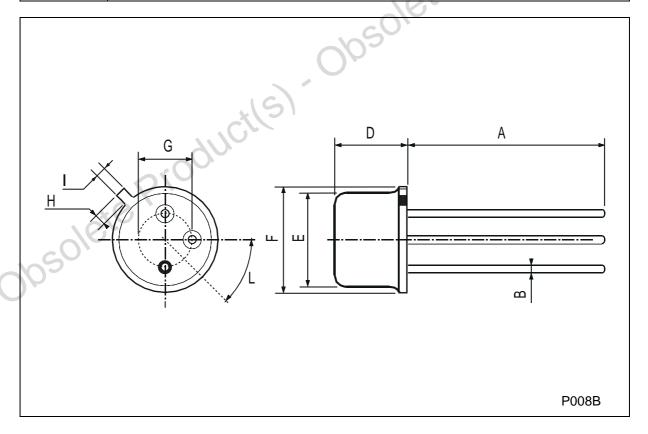
Symbol	Parameter	Test Conditi	ons	Min.	Тур.	Max.	Unit
I <sub>CES</sub>	Collector Cut-off Current (V <sub>BE</sub> = 0)	VcE = 60 V			0.02	10	μΑ
I <sub>EBO</sub>	Emitter Cut-off Current (I <sub>C</sub> = 0)	$V_{EB} = 4 V$			0.05	10	μΑ
V <sub>(BR)CBO</sub> *	Collector-base Breakdown Voltage (I <sub>E</sub> = 0)	I <sub>C</sub> = 5 mA		120			V
$V_{CEO(sus)}^*$	Collector-Emitter Sustaining Voltage (I <sub>B</sub> = 0)	I <sub>C</sub> = 100 mA		60			V
V <sub>EBO</sub> *	Emitter-base Voltage (I <sub>C</sub> = 0)	I <sub>E</sub> = 1 mA		6		Cil.	V
V <sub>CE(sat)</sub> *	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 5 A I <sub>B</sub> =	0.5 A		0.4	1	V
$V_{BE(sat)}^*$	Base-Emitter Saturation Voltage	I <sub>C</sub> = 5 A I <sub>B</sub> =	: 0.5 A	70	1.3	1.6	V
h <sub>FE</sub> *	DC Current Gain	Ic = 1.5 A Vc	= 2 V = 0.6 V = 2 V	40	100 75 80	150	
f <sub>T</sub> *	Transition Frequency	I <sub>C</sub> = 0.5 A V <sub>CE</sub> f = 20 MHz	= 5 V	70	100		MHz
СЕВО	Emitter-base Capacitance	I <sub>C</sub> = 0 V <sub>EB</sub> f = 1 MHz	= 0.5 V		300	500	pF
Ссво	Collector-base Capacitance	I <sub>E</sub> = 0 V <sub>CB</sub> f = 1 MHz	= 10 V		40	100	pF
t <sub>on</sub> t <sub>off</sub>	RESISTIVE LOAD Turn-on Time Turn-off Time	I <sub>C</sub> = 0.5 A V <sub>C</sub> C I <sub>B1</sub> = -I <sub>B2</sub> = 0.5 A	e = 20 V		0.6 0.6	0.25 1.2	μs μs

<sup>\*</sup> Pulsed: Pulse duration = 300 μs, duty cycle 1.5 %

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# **TO-39 MECHANICAL DATA**

DIM.	mm			inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
А	12.7			0.500			
В			0.49			0.019	
D			6.6			0.260	
E			8.5			0.334	
F			9.4			0.370	
G	5.08			0.200		4(6)	
Н			1.2		All	0.047	
ı			0.9		0100	0.035	
L			45° (	(typ.)			



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