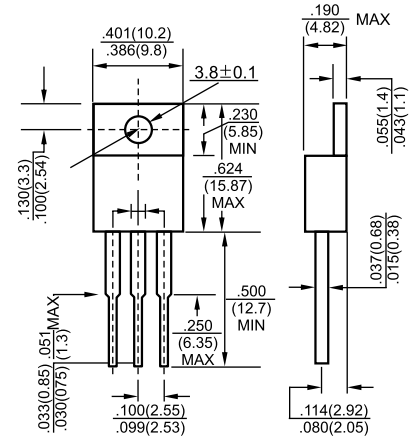


- 1.BASE
- 2.COLLECTOR
- 3.EMITTER

**TO-220**


Dimensions in inches and (millimeters)

**Features**

- ✧ power switching applications

**MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)**

Symbol	Parameter	Value	Units
V <sub>CB0</sub>	Collector-Base Voltage	700	V
V <sub>CEO</sub>	Collector-Emitter Voltage	400	V
V <sub>EBO</sub>	Emitter-Base Voltage	9	V
I <sub>C</sub>	Collector Current -Continuous	8	A
P <sub>C</sub>	Collector Power Dissipation	2	W
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55-150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)**

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 1mA, I <sub>E</sub> =0	700			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> =0	400			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 1mA, I <sub>C</sub> =0	9			V
Collector cut-off current	I <sub>CB0</sub>	V <sub>CB</sub> = 700V, I <sub>E</sub> =0			1	mA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> = 400V, I <sub>B</sub> =0			100	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 9V, I <sub>C</sub> =0			100	μA
DC current gain	h <sub>FE1</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 2 A	8		40	
	h <sub>FE2</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =5A	5		30	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =2A, I <sub>B</sub> =0.4A I <sub>C</sub> =5A, I <sub>B</sub> =1A I <sub>C</sub> =8A, I <sub>B</sub> =2A			1 2 3	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =2A, I <sub>B</sub> = 0.4A I <sub>C</sub> =5A, I <sub>B</sub> =1A			1.2 1.6	V
Transition frequency	f <sub>T</sub>	I <sub>C</sub> =500mA, V <sub>CE</sub> =10V, f=1MHz	4			MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =0, f=0.1MHz		80		pF
Fall time	t <sub>f</sub>	V <sub>CC</sub> =125V, I <sub>C</sub> =5A I <sub>B1</sub> =-I <sub>B2</sub> =1A			0.7	μs
Storage time	t <sub>s</sub>	I <sub>C</sub> =0.5A	2.7		7.7	μs

**CLASSIFICATION OF h<sub>FE(1)</sub>**

Rank						
Range	8-15	15-20	20-25	25-30	30-35	35-40

## Typical Characteristics

