

## TO-92 Plastic-Encapsulate Transistors

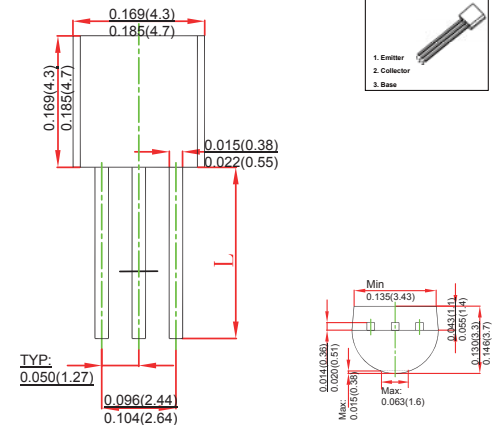
### FEATURES

- TRANSISTOR (NPN)
- Excellent hFE linearity

### MECHANICAL DATA

- Case style: TO-92 molded plastic
- Mounting position: any

### TO-92



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector Base Voltage	60	V
V <sub>CE0</sub>	Collector Emitter Voltage	50	V
V <sub>EB0</sub>	Emitter Base Voltage	5	V
I <sub>c</sub>	Collector Current-Continuous	150	mA
P <sub>c</sub>	Collector Power Dissipation	400	mW
T <sub>j</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55 ~ +150	°C
R <sub>θJA</sub>	Thermal Resistance from Junction to Ambient	312	°C/W

## ELECTRICAL CHARACTERISTICS Ta = 25°C unless otherwise specified

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V <sub>(BR)CB0</sub>	Collector-base breakdown voltage	I <sub>c</sub> = 100μA, I <sub>E</sub> = 0	60			V
V <sub>(BR)CE0</sub>	Collector-emitter breakdown voltage	I <sub>c</sub> = 0.1mA, I <sub>B</sub> = 0	50			V
V <sub>(BR)EB0</sub>	Emitter-base breakdown voltage	I <sub>E</sub> = 100μA, I <sub>c</sub> = 0	5			V
I <sub>cBO</sub>	Collector cut-off current	V <sub>CB</sub> = 60V, I <sub>E</sub> = 0			100	nA
I <sub>cEO</sub>	Collector cut-off current	V <sub>CE</sub> = 30V, I <sub>B</sub> = 0			100	nA
I <sub>EBO</sub>	Emitter cut-off current	V <sub>EB</sub> = 5V, I <sub>c</sub> = 0			100	nA
h <sub>FE(1)</sub>	DC current gain	V <sub>CE</sub> = 5V, I <sub>c</sub> = 1mA	70		700	
h <sub>FE(2)</sub>		V <sub>CE</sub> = 6V, I <sub>c</sub> = 2mA	70			
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>c</sub> = 100mA, I <sub>B</sub> = 10mA			0.25	V
V <sub>BE(sat)</sub>	Base-emitter saturation voltage	I <sub>c</sub> = 100mA, I <sub>B</sub> = 10mA			1	V
f <sub>T</sub>	Transition frequency	V <sub>CE</sub> = 10V, I <sub>c</sub> = 1mA, f = 30MHz	80			MHz
C <sub>ob</sub>	Collector Output Capacitance	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz			3.5	pF
NF	Noise Figure	V <sub>CE</sub> = 6V, I <sub>c</sub> = 0.1mA, f = 1KHz, R <sub>G</sub> = 10K			10	dB

### Classification OF h<sub>FE(1)</sub>

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

Typical Characteristics

