

TO-92 Plastic-Encapsulate Transistors

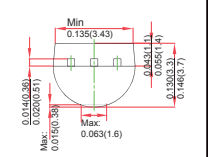
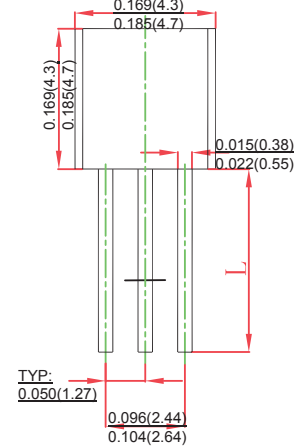
FEATURES

- Power dissipation
- TRANSISTOR (NPN)

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_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	3	A
P_C	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	200	°C / W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature	-55 ~ +150	°C

ELECTRICAL CHARACTERISTICS $T_a = 25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min r	T#:	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10\text{mA}, I_B = 0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40\text{V}, I_E = 0$			1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 30\text{V}, I_B = 0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6\text{V}, I_C = 0$			1	μA
DC current gain	h_{FE}	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	60		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 0.2\text{A}$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2\text{A}, I_B = 0.2\text{A}$			1.5	V
Transition frequency	f_T	$V_{CE} = 5\text{V}, I_C = 0.1\text{A}$ $f = 10\text{MHz}$	50	80		MHz

CLASSIFICATION OF h_{FE}

Rank	R	O	Y	GR
Range	60-120	100-200	160-320	200-400



RATINGS AND CHARACTERISTIC CURVES

Typical Characteristics

