



TO-92 Plastic-Encapsulate Transistors

2SC1959

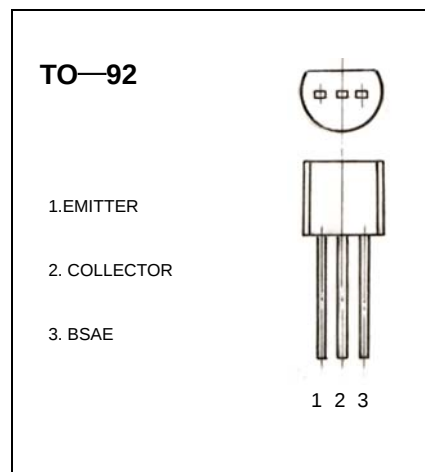
TRANSISTOR (NPN)

FEATURES

Power amplifier applications

MAXIMUM RATINGS* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_{C}	Collector Current –Continuous	0.5	A
P_{C}	Collector Dissipation	500	mW
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS ($T_{\text{amb}}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(\text{BR})_{\text{CBO}}$	$I_{\text{C}}=100\mu\text{A}$, $I_{\text{E}}=0$	35			V
Collector-emitter breakdown voltage	$V(\text{BR})_{\text{CEO}}$	$I_{\text{C}}=1\text{mA}$, $I_{\text{B}}=0$	30			V
Emitter-base breakdown voltage	$V(\text{BR})_{\text{EBO}}$	$I_{\text{E}}=100\mu\text{A}$, $I_{\text{C}}=0$	5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}}=35\text{V}$, $I_{\text{E}}=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}}=5\text{V}$, $I_{\text{C}}=0$			0.1	μA
DC current gain	$h_{\text{FE}(1)}$	$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=100\text{mA}$	70		400	
	$h_{\text{FE}(2)}$	$V_{\text{CE}}=6\text{V}$, $I_{\text{C}}=400\text{mA}$	25			
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}$	$I_{\text{C}}=100\text{mA}$, $I_{\text{B}}=10\text{mA}$			0.25	V
Base-emitter voltage	V_{BE}	$V_{\text{CE}}=1\text{V}$, $I_{\text{C}}=100\text{mA}$			1.0	V
Transition frequency	f_{T}	$V_{\text{CE}}=12\text{V}$, $I_{\text{C}}=2\text{mA}$		300		MHz
Collector output capacitance	C_{ob}	$V_{\text{CB}}=6\text{V}$, $I_{\text{E}}=0$, $f=1\text{MHz}$		7		pF

CLASSIFICATION OF h_{FE}

Rank		O	Y	GR
Range	$h_{\text{FE}(1)}$	70-140	120-240	200-400
	$h_{\text{FE}(2)}$	25(min)	40(min)	

Typical Characteristics

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