



TO-92 Plastic-Encapsulate Transistors

2N4400 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.625 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

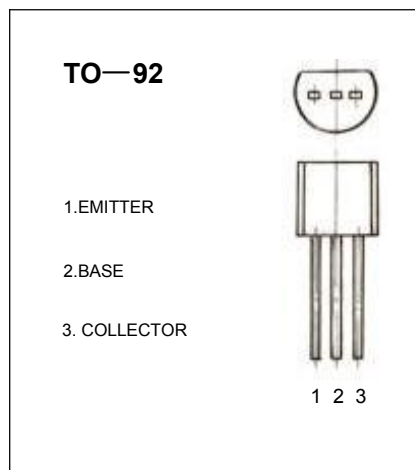
$$I_{CM}: 0.6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 60 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^{\circ}\text{C to } +150^{\circ}\text{C}$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=0.1\text{mA}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	40			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			0.1	μA
DC current gain	$H_{FE(1)}$	$V_{CE}=1\text{V}, I_C=1\text{mA}$	20			
DC current gain	$H_{FE(2)}$	$V_{CE}=1\text{V}, I_C=10\text{mA}$	40			
DC current gain	$H_{FE(3)}$	$V_{CE}=1\text{V}, I_C=150\text{mA}$	50		150	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=150\text{mA}, I_B=15\text{mA}$	0.75		0.95	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_C=20\text{mA}$ $f=100\text{MHz}$	200			MHz

CLASSIFICATION OF HFE

Rank	1	2	3
Range	40-80	80-100	100-150