



TO-92 Plastic-Encapsulate Transistors

8050S TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM} : 0.625 \text{ W (} T_{amb}=25 \text{)}$$

Collector current

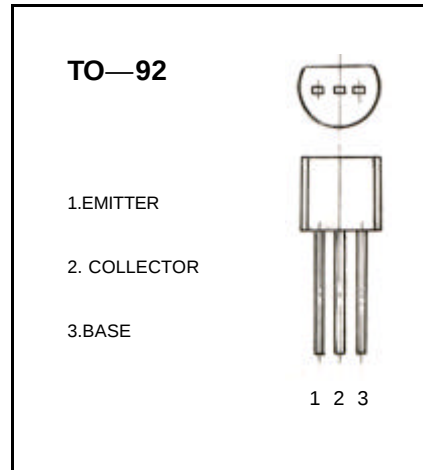
$$I_{CM} : 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 40 \text{ V}$$

Operating and storage junction temperature range

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



ELECTRICAL CHARACTERISTICS ($T_{amb}=25$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 40 \text{ V}, I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20 \text{ V}, I_B = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3 \text{ V}, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 1 \text{ V}, I_C = 50 \text{ mA}$	85		300	
	$h_{FE(2)}$	$V_{CE} = 1 \text{ V}, I_C = 500 \text{ mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}$			1.2	V
Transition frequency	f_T	$V_{CE} = 6 \text{ V}, I_C = 20 \text{ mA}$ $f = 30 \text{ MHz}$	150			MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	B	C	D
Range	85-160	120-200	160-300