



## TO-92 Plastic-Encapsulate Transistors

### 8050S TRANSISTOR ( NPN )

#### FEATURES

Power dissipation

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

Collector current

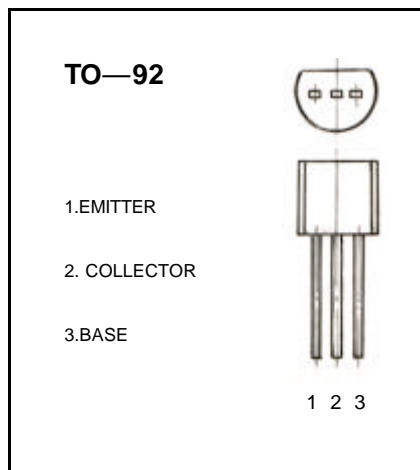
$$I_{CM} : 0.5 \text{ A}$$

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	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE}=20 \text{ V}, I_B=0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=3 \text{ V}, I_C=0$			0.1	$\mu A$
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