

### 8050S TRANSISTOR (NPN)

#### FEATURES

Power dissipation

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

Collector current

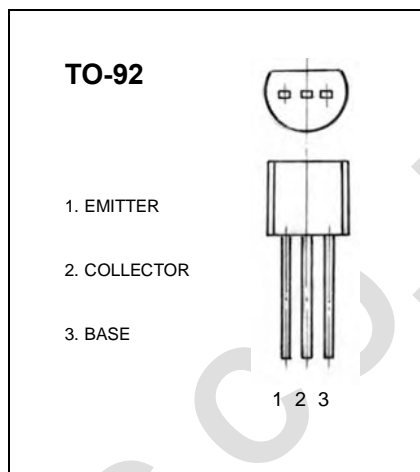
$$I_{CM}: 0.5 \text{ A}$$

Collector-base voltage

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

Operating and storage junction temperature range

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



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

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

#### CLASSIFICATION OF $h_{FE(1)}$

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