



9014

**NPN SILICON TRANSISTOR**

**FEATURES**

Power dissipation

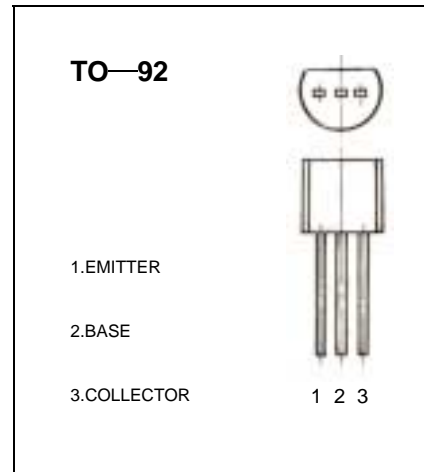
$$P_{CM} : 0.4 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

$$I_{CM} : 0.1 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 50 \text{ V}$$



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A, I_E = 0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1 \text{ mA}, I_B = 0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A, I_C = 0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	$\mu A$
Collector cut-off current	$I_{CEO}$	$V_{CE} = 35 \text{ V}, I_B = 0$			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(note)	$H_{FE(1)}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$	60		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100 \text{ mA}, I_B = 5 \text{ mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$ $f = 30 \text{ MHz}$	150			MHz

**CLASSIFICATION OF  $H_{FE(1)}$**

Rank	A	B	C	D
Range	60-150	100-300	200-600	400-1000