



TO-92 Plastic-Encapsulate Transistors

S9014 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.4 \text{ W (Tamb=25°C)}$$

Collector current

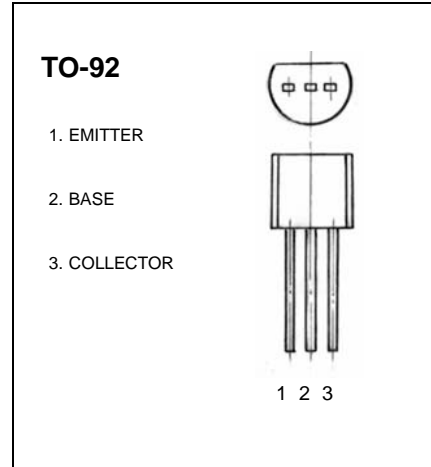
$$I_{CM}: 0.1 \text{ A}$$

Collector-base voltage

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

Operating and storage junction temperature range

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

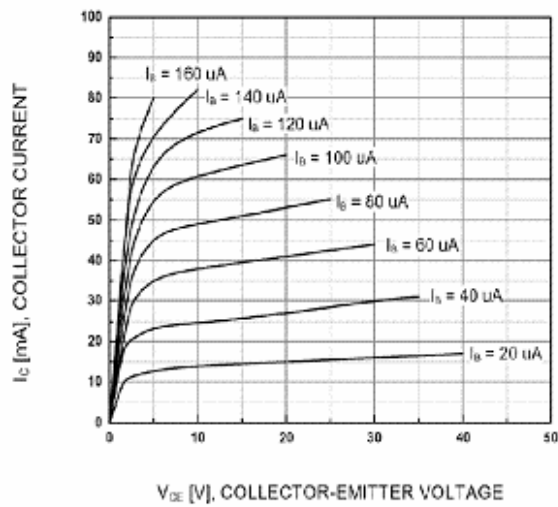


ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

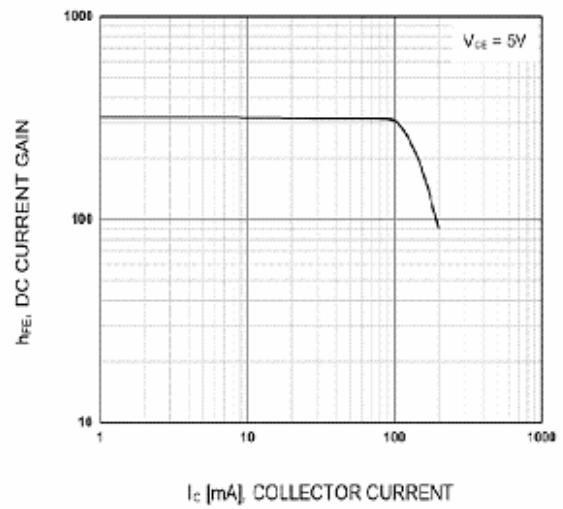
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 50\text{V}, I_E = 0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 35\text{V}, I_B = 0$			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}	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	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 $h_{FE(1)}$

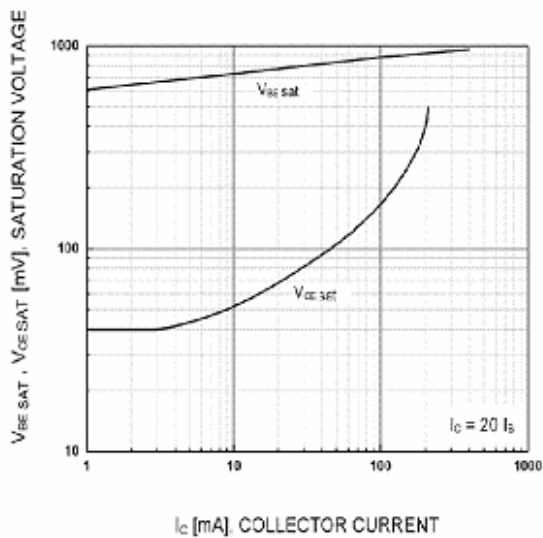
Rank	A	B	C	D
Range	60-150	100-300	200-400	400-1000



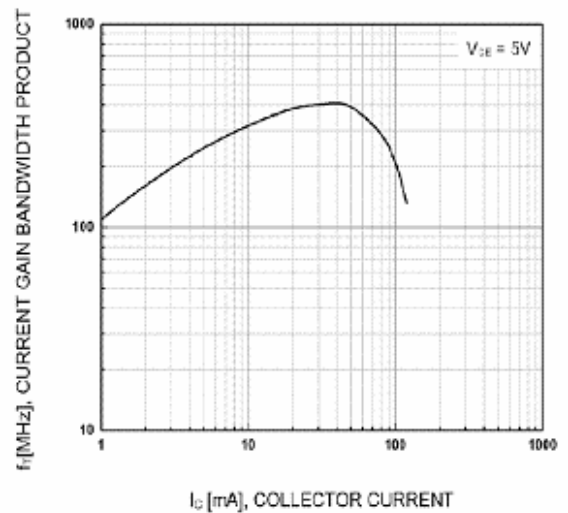
Static Characteristic



DC current Gain



**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



Current Gain Bandwidth Product