



TO-92 Plastic-Encapsulate Transistors

BC309 TRANSISTOR (NPN)

FEATURES

Power dissipation

$$P_{CM}: 0.350 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

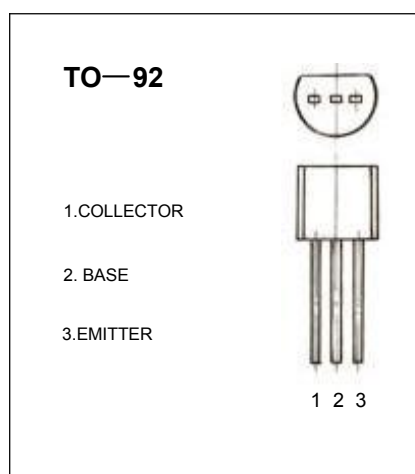
$$I_{CM}: 0.5 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 30 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=20\text{mA}, I_B=0$	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-25 \text{ V}, I_E=0$			-15	μA
Emitter cut-off current	I_{EBO}	$V_{EB}= 5 \text{ V}, I_C=0$			-15	μA
DC current gain(note)	$V_{CE(sat)}$	$V_{CE}=10\text{V}, I_C=2\text{mA}$	120		800	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$			-0.75	V
Base-emitter voltage	V_{BE}	$V_{CE}=5\text{V}, I_C=2\text{mA}$	-0.55		-0.75	V
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=50\text{MHz}$		130		MHz

CLASSIFICATION

HFE

Rank	1	2	3
Range	100-300	300-500	500-800