

### BC639 TRANSISTOR (NPN)

#### FEATURES

Power dissipation

$$P_{CM}: 1 \text{ W (Tamb=25}^{\circ}\text{C)}$$

Collector current

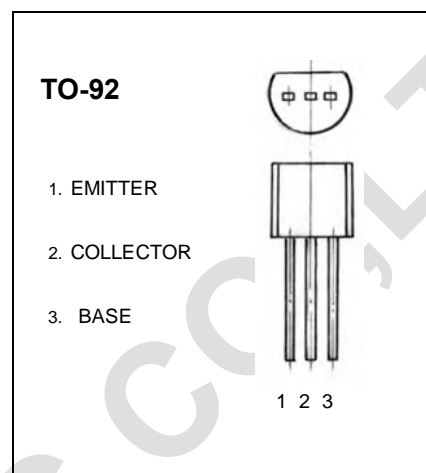
$$I_{CM}: 1 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 100 \text{ V}$$

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	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 30\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = 2\text{V}, I_C = 5\text{mA}$	25			
	$h_{FE(2)}$	$V_{CE} = 2\text{V}, I_C = 150\text{mA}$	40		160	
	$h_{FE(3)}$	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 500\text{mA}, I_B = 50\text{mA}$			0.5	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = 2\text{V}, I_C = 500\text{mA}$			1	V
Transition frequency	$f_T$	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$	100			MHz