



# TO-92 Plastic-Encapsulate Transistors

## BC639 TRANSISTOR ( NPN )

### FEATURES

Power dissipation

$$P_{CM}: 0.83 \text{ W (Tamb=25}^\circ\text{C)}$$

Collector current

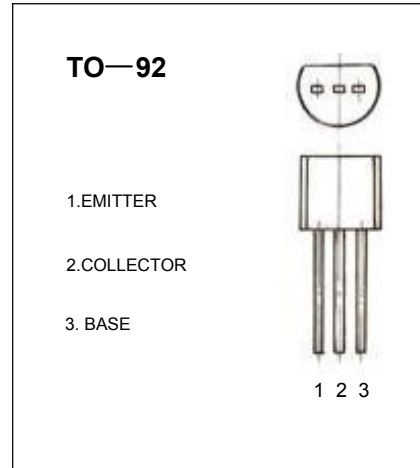
$$I_{CM}: 1.0 \text{ A}$$

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	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	80			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=30\text{V}, I_E=0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_B=0$			0.1	$\mu\text{A}$
DC current gain(note)	$H_{FE(1)}$	$V_{CE}=2\text{V}, I_C=5\text{mA}$	25			
	$H_{FE(2)}$	$V_{CE}=2\text{V}, I_C=150\text{mA}$	100		250	
	$H_{FE(3)}$	$V_{CE}=2\text{V}, I_C=500\text{mA}$	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	$f_T$	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=50\text{MHz}$	100			MHz

### CLASSIFICATION OF

#### HFE

Rank	1	2
Range	63-160	160-250