



TO-92 Plastic-Encapsulate Transistors

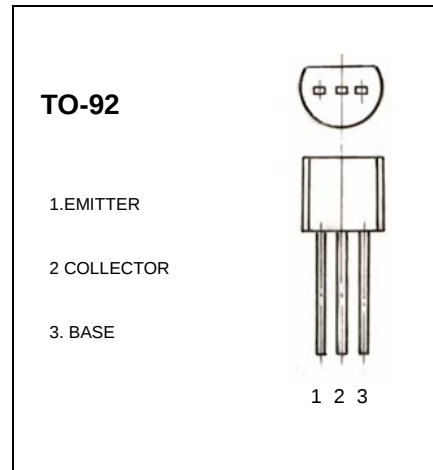
2SC1674 TRANSISTOR (NPN)

FEATURES

- High current gain bandwidth product $f_T=600\text{MHz(Typ.)}$,
- High power gain $G_{PE}=22\text{dB}$ at $f=100\text{MHz}$

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current	20	mA
P_C	Collector Power dissipation	250	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	20		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	4		V
Collector cut-off current	I_{CBO}	$V_{CB}=30\text{V}$, $I_E=0$		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}	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$	40	180	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$		0.3	V
Base-emitter voltage	$V_{BE(ON)}$	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$	0.65	0.77	V
Transition frequency	f_T	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$	400		MHz
Collector output capacitance	C_{ob}	$V_{CE}=6\text{V}$, $I_E=0$, $f=1\text{MHz}$		1.3	pF

CLASSIFICATION OF h_{FE}

Rank	Y	GR	BL
Range	40-80	60-120	90-180

Typical Characteristics

2SC1674

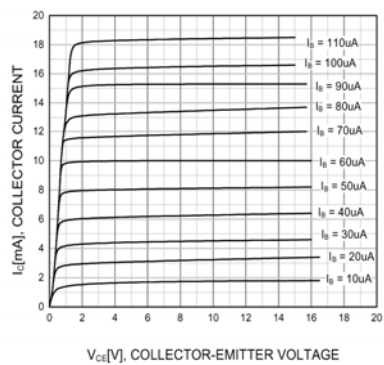


Figure 1. Static Characteristic

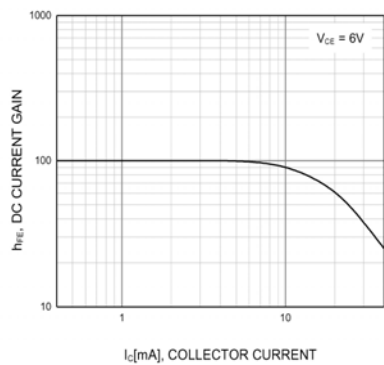


Figure 2. DC current Gain

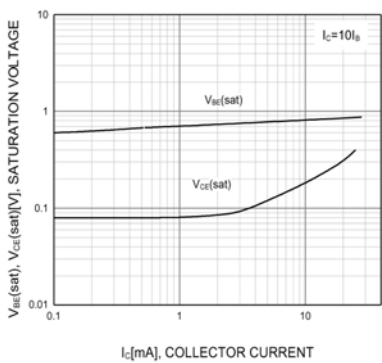


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

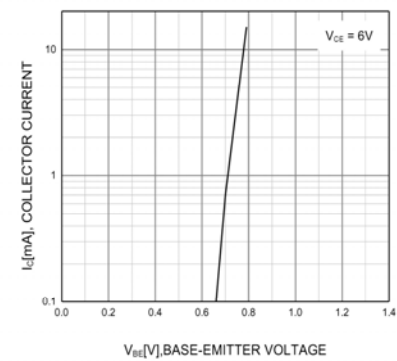


Figure 4. Base-Emitter On Voltage

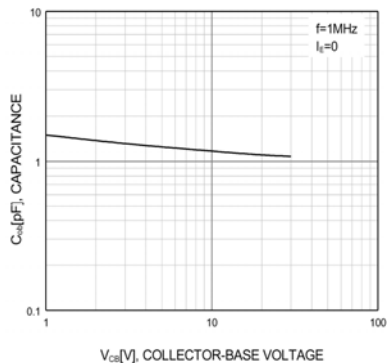


Figure 5. Collector Output Capacitance

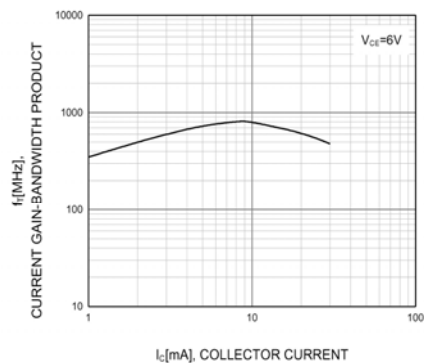


Figure 6. Current Gain Bandwidth Product