



## TO-92S Plastic-Encapsulate Transistors

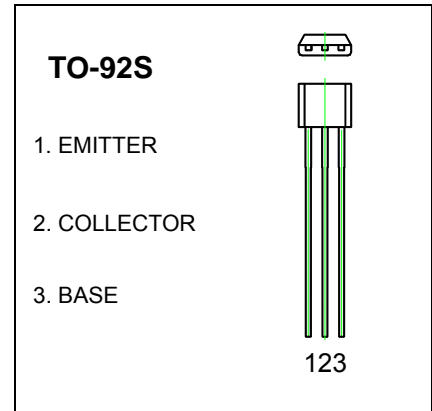
**2SC2668** TRANSISTOR (NPN)

### FEATURES

- Small reverse transfer capacitance
- Low Noise Figure

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

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	40	V
$V_{CE0}$	Collector-Emitter Voltage	30	V
$V_{EB0}$	Emitter-Base Voltage	4	V
$I_C$	Collector Current -Continuous	20	mA
$P_C$	Collector Power Dissipation	200	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	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	4			V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 40\text{V}, I_E = 0$			0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$			0.5	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	40		200	
Reverse Transfer Capacitance	$C_{re}$	$V_{CE} = 6\text{V}, f = 1\text{MHz}$		0.7		pF
Collector-Base Time Constant	$C_c \cdot r_{bb}'$	$V_{CE} = 6\text{V}, I_E = -1\text{mA}, f = 30\text{MHz}$			30	ps
Transition frequency	$f_T$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$		550		MHz
Power Gain	$G_{pe}$	$V_{CC} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}$		18		dB
Noise figure	NF	$V_{CC} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}$			5	dB

### CLASSIFICATION OF $h_{FE}$

Rank	R	O	Y
Range	40-80	70-140	100-200

# Typical Characteristics

2SC2668

