

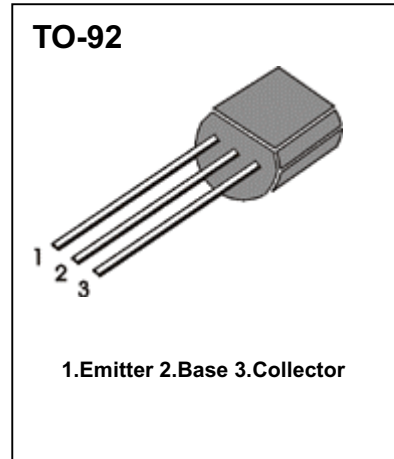
## NPN SILICON TRANSISTOR

**■ Description**

- General Purpose Application
- Switching Transistor

**■ Features**

- Excellent  $h_{FE}$  Linearity.
- Complementary Pair with TIP9012


**■ ABSOLUTE MAXIMUM RATINGS**

 ( $T_A=25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	30	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	500	mA
Emitter Current	$I_E$	-500	mA
Collector Dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-55 ~ 150	$^\circ\text{C}$

**■ ELECTRICAL CHARACTERISTICS**

 ( $T_A=25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=35\text{V}, I_E=0$			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	$h_{FE}$	$V_{CE}=1\text{V}, I_C=50\text{mA}$	96		246	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.1	0.25	V
Base-Emitter Voltage	$V_{BE}$	$I_C=100\text{mA}, V_{CE}=1\text{V}$		0.8	1	V
Transistor Frequency	$f_T$	$V_{CE}=6\text{V}, I_C=20\text{mA}, f=100\text{MHz}$	140			MHz
Collector Output Capacitance	$C_{OB}$	$V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$		7		pF

 **$h_{FE}$  CLASSIFICATION**

Classification	F	G	H	I
$h_{FE}$	96-135	118 - 166	144 - 202	176 - 246