



TIP9013

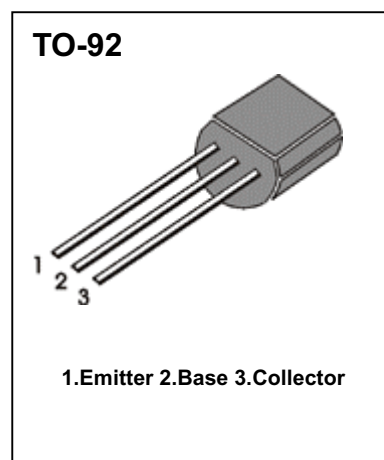
## NPN SILICON TRANSISTOR

### ■ Description

- General Purpose Application
- Switching Transistor

### ■ Features

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



### ■ ABSOLUTE MAXIMUM RATINGS

(T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	40	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	500	mA
Emitter Current	I <sub>E</sub>	-500	mA
Collector Dissipation	P <sub>C</sub>	625	mW
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ 150	°C

### ■ ELECTRICAL CHARACTERISTICS

(T<sub>A</sub>=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector Cut-off Current	I <sub>CB0</sub>	V <sub>CB</sub> = 35V, I <sub>E</sub> =0			0.1	μA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> =0			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =50mA	96		246	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =100mA, I <sub>B</sub> =10mA		0.1	0.25	V
Base-Emitter Voltage	V <sub>BE</sub>	I <sub>C</sub> =100mA, V <sub>CE</sub> =1V		0.8	1	V
Transistor Frequency	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> =20mA, f=100MHz	140			MHz
Collector Output Capacitance	C <sub>OB</sub>	V <sub>CB</sub> =6V, I <sub>E</sub> =0, f=1MHz		7		pF

### h<sub>FE</sub> CLASSIFICATION

Classification	F	G	H	I
h <sub>FE</sub>	96-135	118 - 166	144 - 202	176 - 246

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