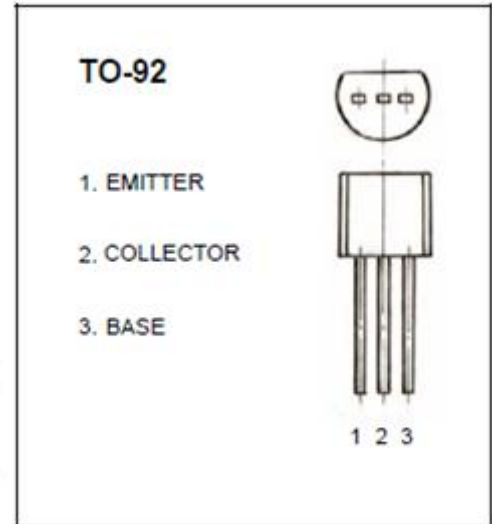


isc Silicon NPN Transistor
2SC3198
DESCRIPTION

- High DC Current Gain- $h_{FE}=70-700@I_C = 2\text{mA}$
- Excellent h_{FE} Linearity
- Excellent Safe Operating Area
- Low Noise
- Complement to Type 2SA1266
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Low Frequency Amplifiers.
- Low Noise Amplifiers.


ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

| SYMBOL | PARAMETER | VALUE | UNIT |
|-----------|---|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 60 | V |
| V_{CEO} | Collector-Emitter Voltage | 50 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Curren | 150 | mA |
| P_C | Collector Power Dissipation @ $T_c=25^\circ\text{C}$ | 400 | mW |
| T_J | Junction Temperature | 125 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature Range | -55~125 | $^\circ\text{C}$ |

isc Silicon NPN Transistor**2SC3198****ELECTRICAL CHARACTERISTICS** $T_c=25^\circ\text{C}$ unless otherwise specified

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---------------|--------------------------------------|--|-----|------|------|---------------|
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C=100\text{mA}; I_B=10\text{mA}$ | | | 0.25 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C=100\text{mA}; I_B=10\text{mA}$ | | | 1.0 | V |
| I_{CBO} | Emitter Cutoff Current | $V_{CB}=60\text{V}; I_E=0$ | | | 0.1 | μA |
| I_{EBO} | Collector Cutoff Current | $V_{EB}=5\text{V}; I_C=0$ | | | 0.1 | μA |
| h_{FE-1} | DC Current Gain | $I_C=2\text{mA}; V_{CE}=6\text{V}$ | 70 | | 700 | |
| h_{FE-2} | DC Current Gain | $I_C=150\text{mA}; V_{CE}=6\text{V}$ | 25 | | | |
| f_T | Current-Gain—Bandwidth Product | $I_C=1\text{mA}; V_{CE}=10\text{V};$ | 80 | | | MHz |
| C_{ob} | Collector Output Capacitance | $V_{CB}=10\text{V}; I_E=0; f=1\text{MHz}$ | | | 3.0 | pF |
| $R_{bb'}$ | Base Intrinsic Resistance | $V_{CE}=10\text{V}; I_E=-1\text{mA}; f=30\text{MHz}$ | | 50 | | Ω |
| NF | Noise Figure | $V_{CE}=6\text{V}; I_C=0.1\text{mA}; f=1\text{KHz};$ $R_G=10\text{K}\Omega$ | | | 10 | dB |

◆ **h_{FE-1} Classifications**

| O | Y | GR | BL |
|--------|---------|---------|---------|
| 70-140 | 120-400 | 200-400 | 350-700 |