

## TO-3P Plastic-Encapsulate Transistors

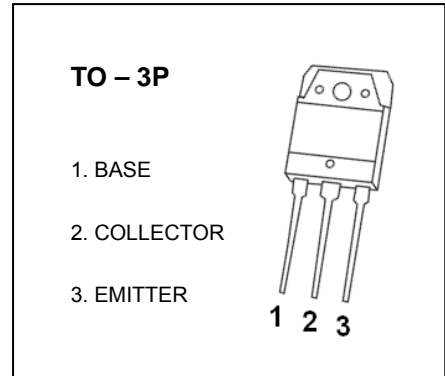
### 2SC5198 TRANSISTOR (NPN)

#### FEATURES

- Low Collector Saturation Voltage
- Good Linearity of  $h_{FE}$

#### APPLICATIONS

- Power Amplifier Applications
- Recommend for 70W High Fidelity Audio Frequency Amplifier Output Stage Applications



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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	140	V
$V_{CEO}$	Collector-Emitter Voltage	140	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	10	A
$P_C$	Collector Power Dissipation $T_C=25^{\circ}\text{C}$	100	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	36	$^{\circ}\text{C}/\text{W}$
$T_j$	Junction Temperature	150	$^{\circ}\text{C}$
$T_{stg}$	Storage Temperature	-55~+150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1\text{mA}, I_E=0$	140			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=50\text{mA}, I_B=0$	140			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\text{mA}, I_C=0$	5			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=140\text{V}, I_E=0$			5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=5\text{V}, I_C=0$			5	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=1\text{A}$	55		160	
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=5\text{A}$	35			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=7\text{A}, I_B=0.7\text{A}$			2	V
Base-emitter voltage	$V_{BE}$	$V_{CE}=5\text{V}, I_C=5\text{A}$			1.5	V
Collector output capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		170		pF
Transition frequency	$f_T$	$V_{CE}=5\text{V}, I_C=1\text{A}$		30		MHz

#### CLASSIFICATION OF $h_{FE(1)}$

RANK	R	O
RANGE	55-110	80-160