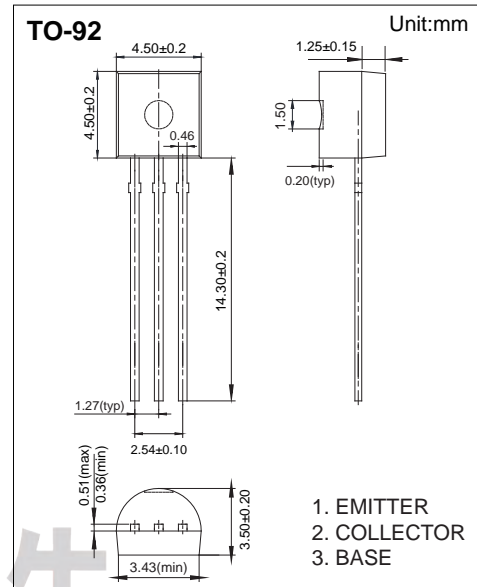


# Transistor

## NPN Transistors C3198

### ■ Features

- Collector current:  $I_C=150\text{mA}$
- Collector-emitter voltage:  $V_{CEO}=50\text{V}$



### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	60	V
Collector - Emitter Voltage	$V_{CEO}$	50	
Emitter - Base Voltage	$V_{EBO}$	5	
Collector Current - Continuous	$I_C$	150	mA
Base Current	$I_B$	50	
Collector Power Dissipation	$P_C$	625	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to 150	

# Transistor

## NPN Transistors C3198

### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

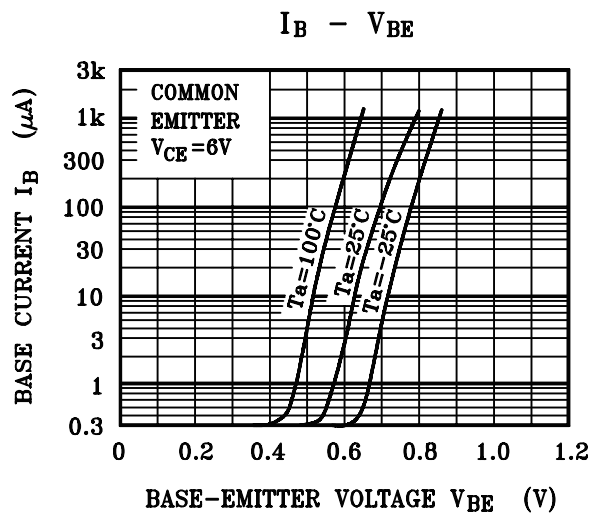
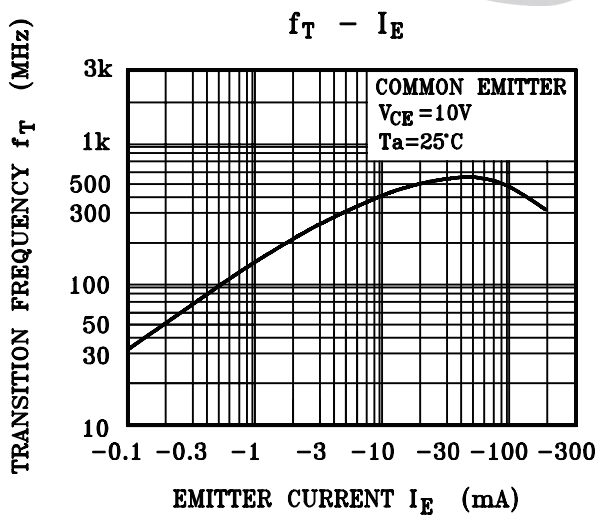
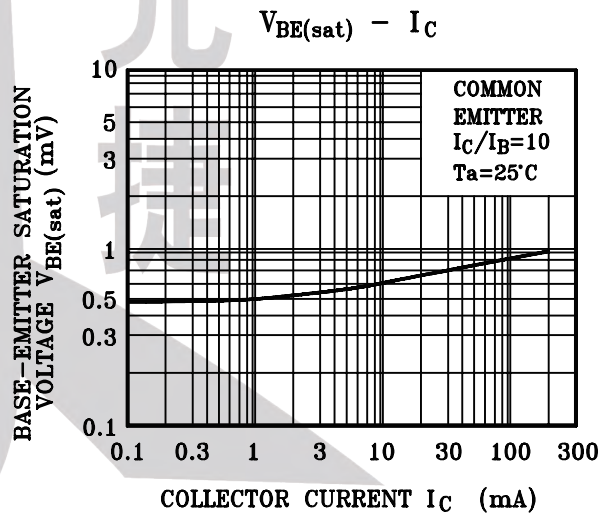
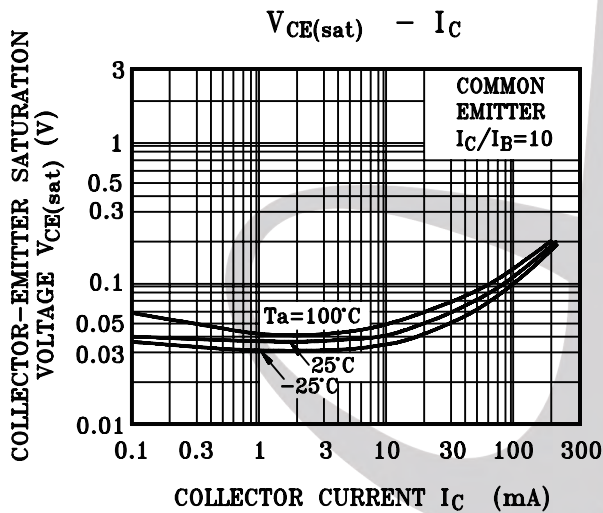
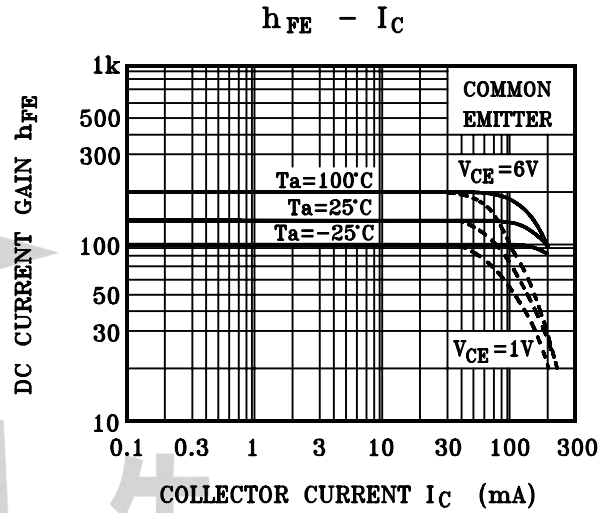
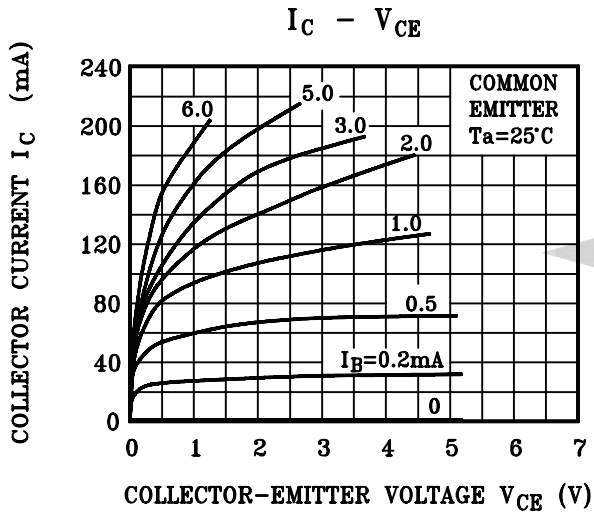
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	50			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	5			
Collector cut-off current	$I_{CBO}$	$V_{CB} = 60 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 \text{ V}, I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$			0.25	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$			1	
DC current gain	$h_{FE(1)}$	$V_{CE} = 6 \text{ V}, I_C = 2 \text{ mA}$	70		700	
	$h_{FE(2)}$	$V_{CE} = 6 \text{ V}, I_C = 150 \text{ mA}$	25			
Baseintrinsic resistance	$r_{bb'}$	$V_{CB} = 10 \text{ V}, I_C = -1 \text{ mA}, f = 30 \text{ MHz}$		50		$\Omega$
Noise figure	NF	$V_{CE} = 6 \text{ V}, I_C = 0.1 \text{ mA}$ $f = 1 \text{ KHz}, R_G = 10 \text{ K}\Omega$			10	dB
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$			3.5	pF
Transition frequency	$f_T$	$V_{CE} = 10 \text{ V}, I_E = -1 \text{ mA}$	80			MHz

### ■ Classification of $h_{FE(1)}$

Rank	O	Y	GR	BL
Range	70-140	120-240	200-400	350-700

## NPN Transistors C3198

### Typical Characteristics

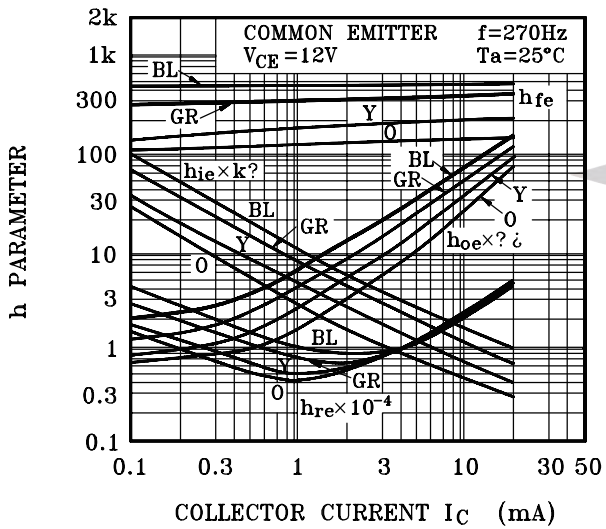


# Transistor

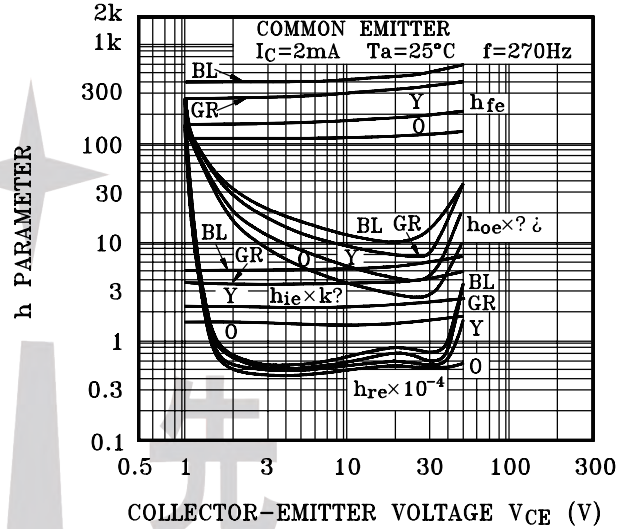
## NPN Transistors C3198

### Typical Characteristics

h PARAMETER -  $I_C$



h PARAMETER -  $V_{CE}$



$P_C$  -  $T_a$

