

ST 2SC3190

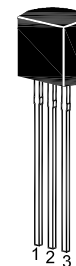
NPN Silicon Epitaxial Planar Transistor

High frequency low noise amplifier application

HF band amplifier application

The transistor is subdivided into three groups R, O and Y, according to its DC current gain

On special request, these transistors can be manufactured in different pin configurations.



1. Emitter 2. Collector 3. Base
TO-92 Plastic Package

Absolute Maximum Ratings ($T_a = 25\text{ }^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	35	V
Collector Emitter Voltage	V_{CEO}	30	V
Emitter Base Voltage	V_{EBO}	4	V
Collector Current	I_C	100	mA
Emitter Current	I_E	-100	mA
Power Dissipation	P_{tot}	400	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 12\text{ V}$, $I_C = 2\text{ mA}$ Group	Current Gain R	h_{FE}	40	-	80	-
	O	h_{FE}	70	-	140	-
	Y	h_{FE}	120	-	240	-
Collector Base Cutoff Current at $V_{CB} = 20\text{ V}$	I_{CBO}	-	-	0.1	μA	
Emitter Base Cutoff Current at $V_{EB} = 2\text{ V}$	I_{EBO}	-	-	1	μA	
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.4	V	
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{BE(sat)}$	-	-	1	V	
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 2\text{ mA}$	f_T	80	120	-	MHz	
Reverse Transfer Capacitance at $V_{CE} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{re}	-	2.2	3	pF	
Collector Base Time Constant at $V_{CE} = 10\text{ V}$, $I_E = -1\text{ mA}$, $f = 30\text{ MHz}$	$C_{c, rbb}$	-	30	50	ps	
Noise Figure at $V_{CE} = 10\text{ V}$, $f = 1\text{ MHz}$, $I_E = -1\text{ mA}$, $R_g = 50\ \Omega$	NF	-	2	3.5	dB	