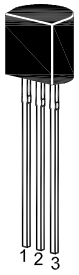
2SC2310

NPN Silicon Epitaxial Planar Transistor

low frequency, low noise amplifier.

The transistor is subdivided into two groups B and C 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

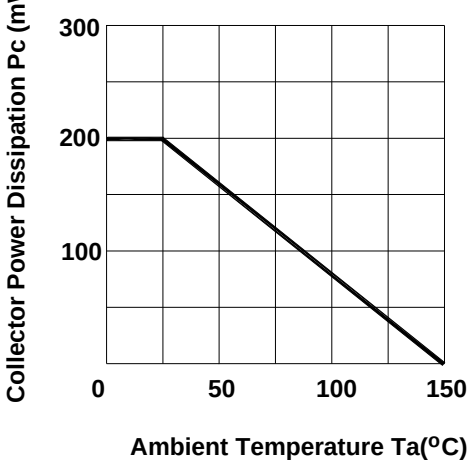
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	55	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Emitter Current	$-I_E$	100	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

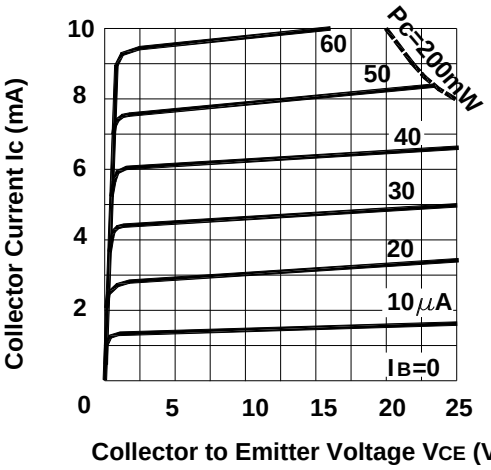
Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 12 V, I_C = 2 mA	Current Gain Group	B C	h_{FE} h_{FE}	100 160	- -	200 320	- -
Collector Base Cutoff Current at V_{CB} = 18 V			I_{CBO}	-	-	500	nA
Emitter Base Cutoff Current at V_{EB} = 2 V			I_{EBO}	-	-	500	nA
Collector Base Breakdown Voltage at I_C = 10 µA			V_{CBO}	55	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA			V_{CEO}	50	-	-	V
Emitter Base Breakdown Voltage at I_C = 10 µA			V_{EBO}	5	-	-	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA			$V_{CE(sat)}$	-	-	0.2	V
Base Emitter Voltage at I_C = 2 mA, V_{CE} = 12 V			V_{BE}	-	-	0.75	V
Transition Frequency at V_{CE} = 12 V, I_C = 2 mA			f_T	-	230	-	MHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz			C_{ob}	-	-	3.5	pF

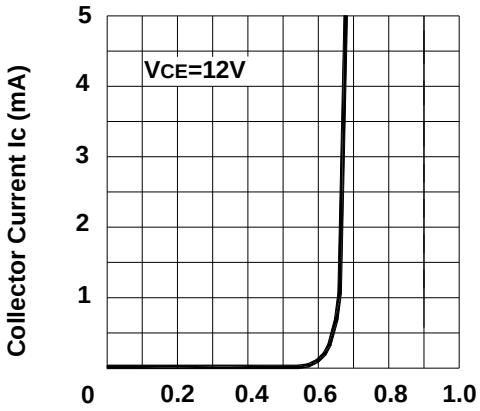
Maximum Collector Dissipation Curve



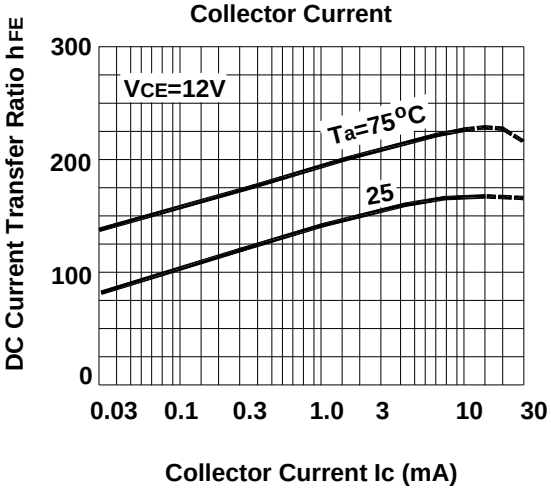
Typical Output Characteristics

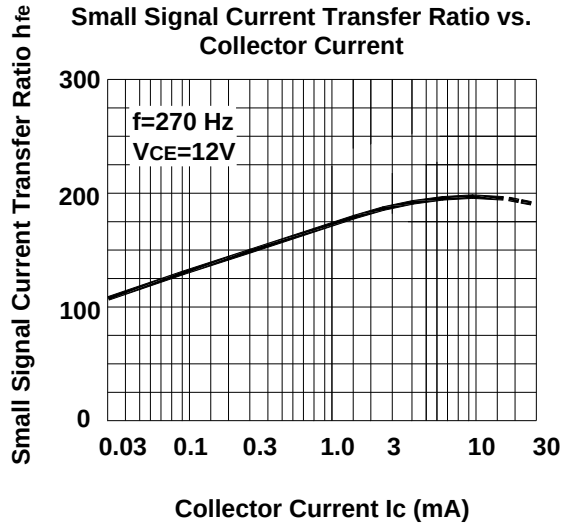


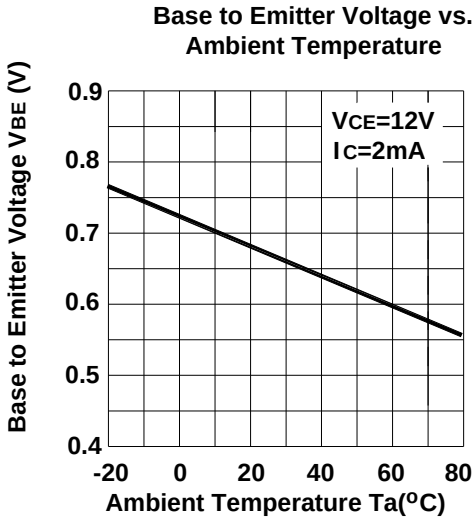
Typical Transfer Characteristics

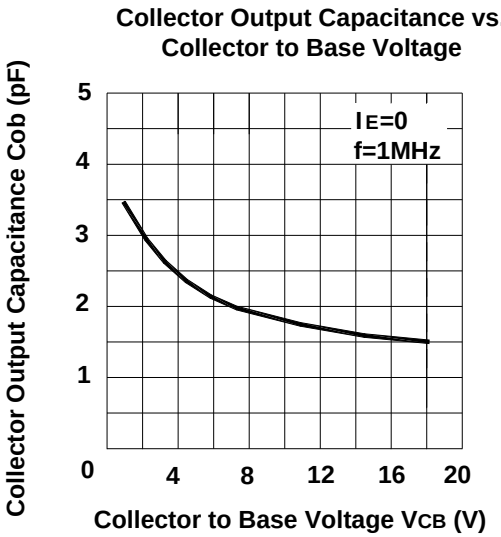


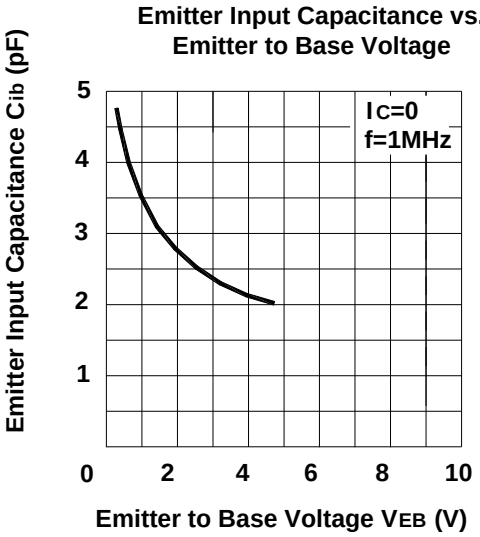
DC Current Transfer Ratio vs. Collector Current




Small Signal Current Transfer Ratio vs.
Collector Current
Small Signal Current Transfer Ratio hfe
300
200
100
0
f=270 Hz
VCE=12V
0.03 0.1 0.3 1.0 3 10 30
Collector Current Ic (mA)


Base to Emitter Voltage vs.
Ambient Temperature
Base to Emitter Voltage VBE (V)
0.9
0.8
0.7
0.6
0.5
0.4
VCE=12V
IC=2mA
-20 0 20 40 60 80
Ambient Temperature Ta(°C)


Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance Cob (pF)
5
4
3
2
1
0
IE=0
f=1MHz
4 8 12 16 20
Collector to Base Voltage VCB (V)


Emitter Input Capacitance vs.
Emitter to Base Voltage
Emitter Input Capacitance Cib (pF)
5
4
3
2
1
0
IC=0
f=1MHz
0 2 4 6 8 10
Emitter to Base Voltage VEB (V)