2SC4115 NPN Silicon Epitaxial Planar Transistor

The transistor is subdivided into three groups, Q, R and S, 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
Weight approx. 0.19g

Features

- Low $V_{CE(sat)}$
- Excellent current gain characteristics

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	6	V
Collector Current	I_C	3	A(DC)
		5	A(Pulse)*
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to +150	°C

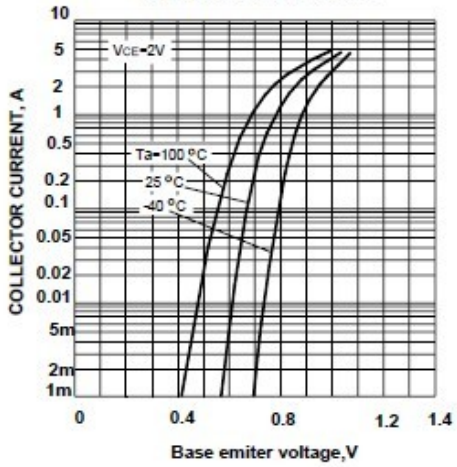
*Notes: Single pulse Pw=10ms

Characteristics at T_{amb}=25 °C

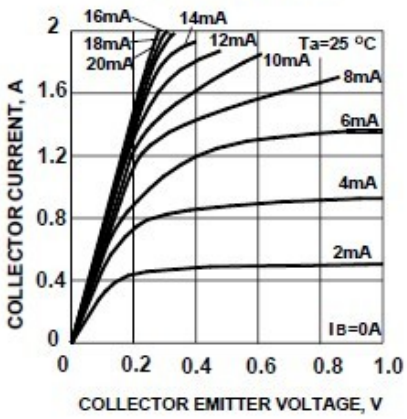
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at V_{CE}=2V, I_C=100mA					
Current Gain Group Q	h_{FE}	120	-	270	
R	h_{FE}	180	-	390	
S	h_{FE}	270	-	560	
Collector Base Breakdown voltage					
at I_C =50 μA	$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage					
at I_C =1mA	$V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage					
at I_E =50 μA	$V_{(BR)EBO}$	6	-	-	V
Collector Cutoff Current					
at V_{CB}=30V	I_{CBO}	-	-	0.1	μA
Collector Cutoff Current					
at V_{EB}=5V	I_{EBO}	-	-	0.1	μA
Collector Emitter Saturation Voltage*					
at I_C=2A, I_B=100mA	$V_{CE(sat)}$	-	0.2	0.5	V
Transition Frequency					
at V_{CE}=2V, I_E=-500mA, f=100MHz	f_T	-	290	-	MHz
Collector Output Capacitance					
at V_{CE}=10V, f=1MHz	C_{OB}	-	25	-	pF

*Note: Measured using pulse current.

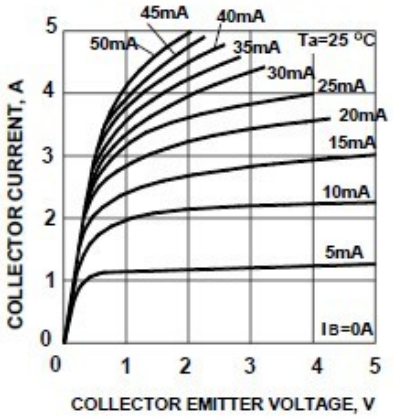
Grounded emitter propagation characteristics



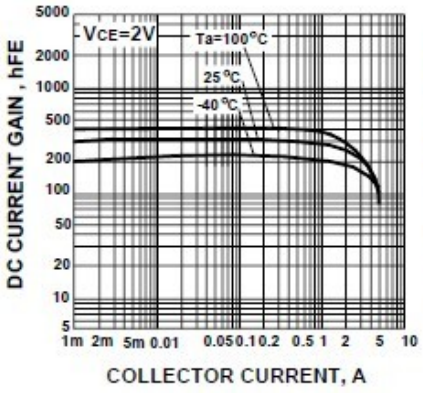
GROUNDED EMITTER OUTPUT CHARACTERISTICS (1)



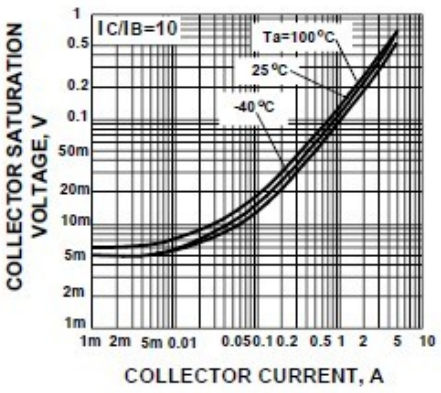
GROUNDED EMITTER OUTPUT CHARACTERISTICS (2)



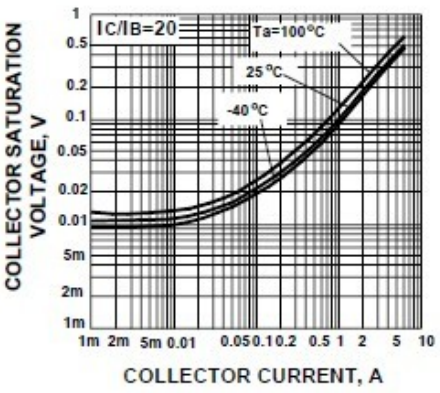
DC CURRENT GAIN VS. COLLECTOR CURRENT



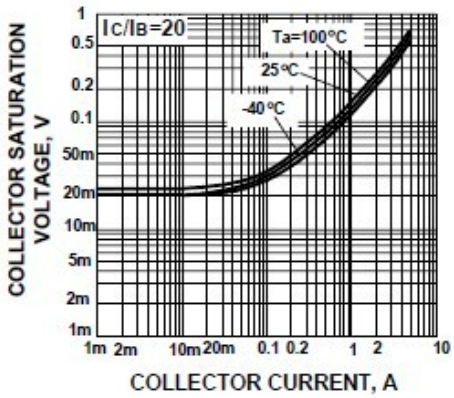
COLLECTOR EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT (1)



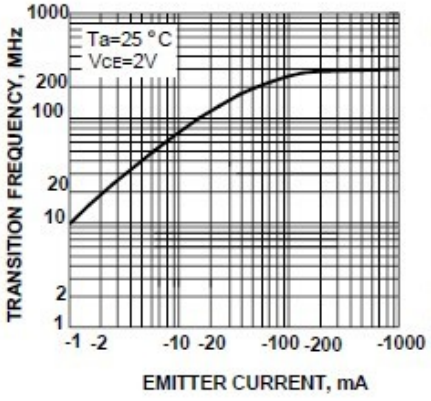
COLLECTOR EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT (2)



COLLECTOR EMITTER SATURATION VOLTAGE vs. COLLECTOR CURRENT (3)



GAIN BANDWIDTH PRODUCT VS.EMITTER CURRENT



Collector output capacitance vs.collector base voltage
Emitter input capacitance vs. emitter base voltage