2SC2901 NPN Silicon Epitaxial Planar Transistor

for general purpose amplifier and high speed switching applications.

The transistor is subdivided into two groups L and K, 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

- High frequency current gain
- High speed switching
- Small output capacitance

Absolute Maximum Ratings (T_a = 25 °C)

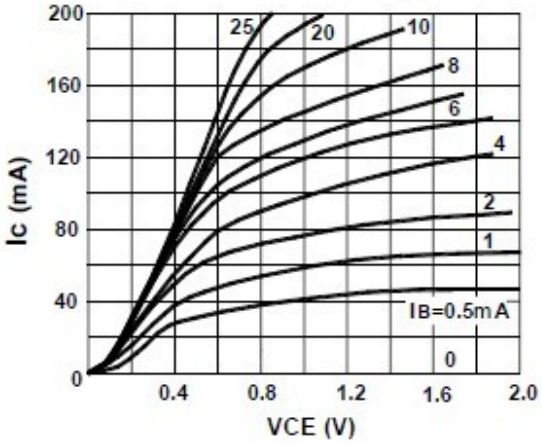
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CES}	40	V
Collector Emitter Voltage	V_{CEO}	15	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Current (10μs pulse)	I_C	500	mA
Power Dissipation	P_{tot}	600	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	-55 to+150	°C

Characteristics at T_{amb}=25 °C

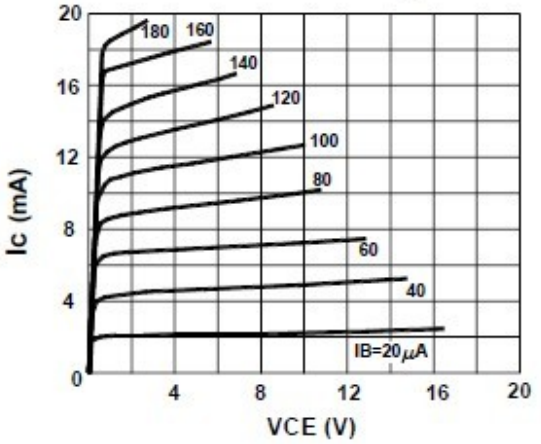
Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain*					
at V_{CE}=1V, I_C=10mA					
Current Gain Group L	h_{FE}	40	-	120	-
K	h_{FE}	100	-	200	-
Collector Cutoff Current					
at V_{CB}=20V	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current					
at V_{EB}=3V	I_{EBO}	-	-	0.1	μA
Collector Saturation Voltage*					
at I_C=10mA, I_B=1mA	$V_{CE(sat)}$	-	0.15	0.25	V
Base Saturation Voltage*					
at I_C=10mA, I_B=1mA	$V_{BE(sat)}$	-	0.8	0.85	V
Turn-on Time					
at V_{CC}=3V, I_C=10mA, I_{B1}=3mA, -V_{BE}=1.5V	t_{on}	-	8	12	ns
Storage Time					
at I_C=10mA, I_{B1}= -I_{B2}=10mA	t_{stg}	-	6	13	ns
Turn-off Time					
at V_{CC}=3V, I_C=10mA, I_{B1}=3mA, -I_{B2}=1.5mA	t_{off}	-	12	18	ns
Gain Bandwidth Product					
at V_{CE}=10V, -I_E=10mA, f=100MHz	f_T	500	750	-	MHz
Output Capacitance					
at V_{CB}=5V, f=1MHz	C_{OB}	-	1.8	4	pF

*Pulsed PW≦350μs, Duty Cycle≦2%

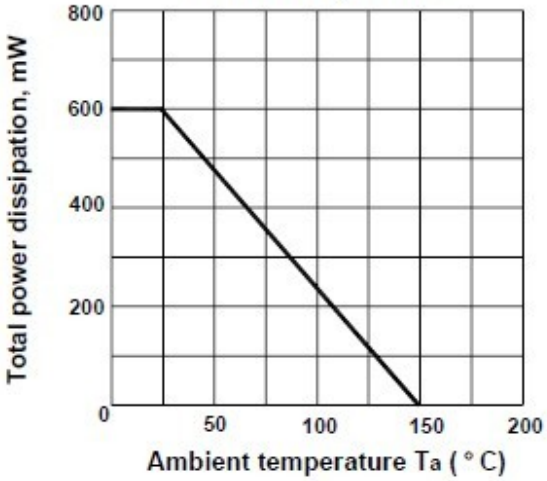
Collector current vs.
collector emitter voltage



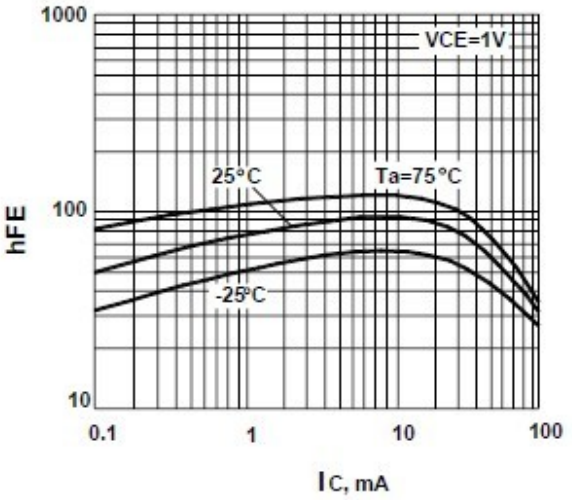
Collector current vs.
collector emitter voltage



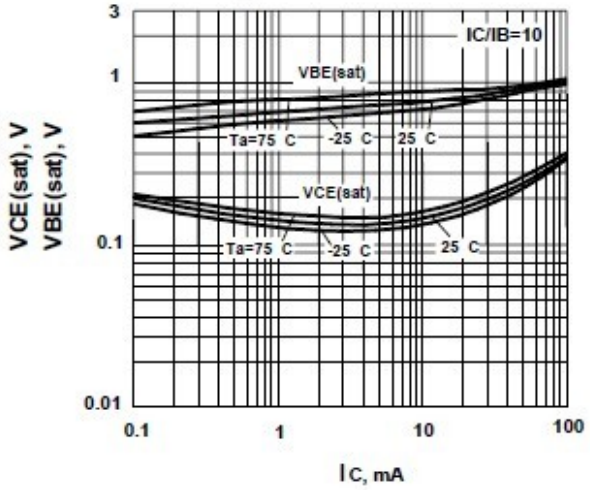
Total power dissipation vs.
ambient temperature



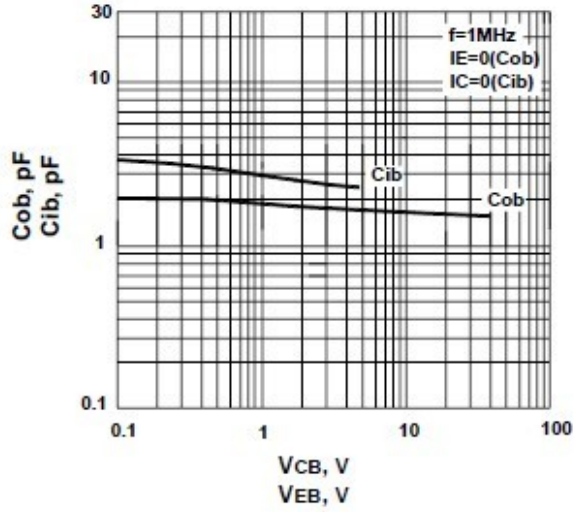
DC current gain vs. collector current



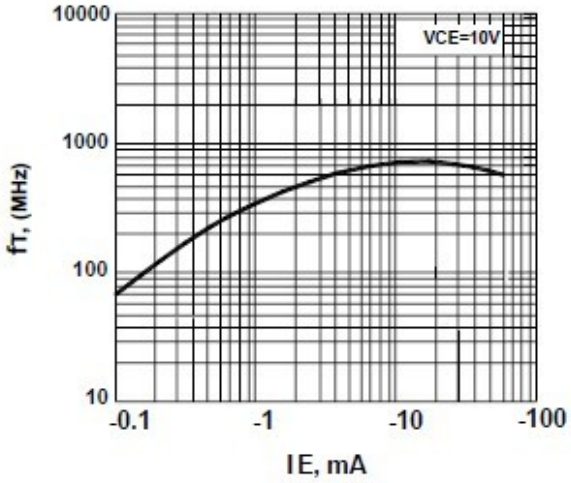
Base and collector saturation
voltage vs. collector current



Input and output capacitance
vs. reverse voltage



Gain bandwidth product
vs. emitter current



Switching time vs. collector current