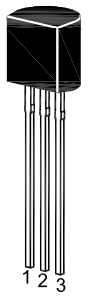
ST 2SC2901

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. Base 3. Collector
TO-92 Plastic Package

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 (10 µs pulse)	I_{CP}	500	mA
Power Dissipation	P_{tot}	600	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} = 1 V, I_C = 10 mA	Current Gain Group	L	h_{FE}	40	-	120	-
		K	h_{FE}	100	-	200	-
Collector Base Cutoff Current at V_{CB} = 20 V			I_{CBO}	-	-	0.1	µA
Emitter Base Cutoff Current at V_{EB} = 3 V			I_{EBO}	-	-	0.1	µA
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA			$V_{CE(sat)}$	-	0.15	0.25	V
Base Emitter Saturation Voltage at I_C = 10 mA, I_B = 1 mA			$V_{BE(sat)}$	-	0.8	0.85	V
Turn-on Time at V_{CC} = 3 V, I_C = 10 mA, I_{B1} = 3 mA, $-V_{BE}$ = 1.5 V			t_{on}	-	8	12	ns
Storage Time at I_C = 10 mA, I_{B1} = $-I_{B2}$ = 10 mA			t_{stg}	-	6	13	ns
Turn-off Time at V_{CC} = 3 V, I_C = 10 mA, I_{B1} = 3 mA, $-I_{B2}$ = 1.5 mA			t_{off}	-	12	18	ns
Gain Bandwidth Product at V_{CE} = 10 V, $-I_E$ = 10 mA, f = 100 MHz			f_T	500	750	-	MHz
Output Capacitance at V_{CB} = 5 V, f = 1 MHz			C_{ob}	-	1.8	4	pF

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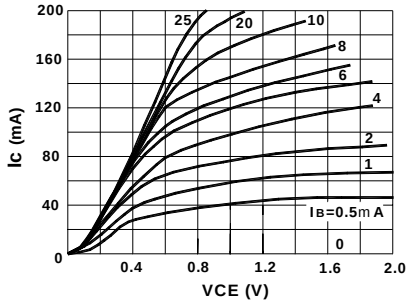
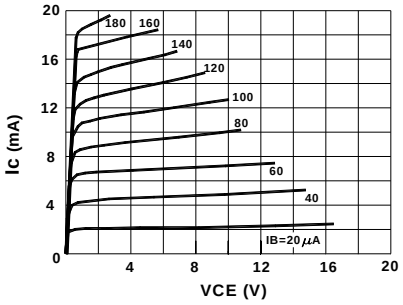
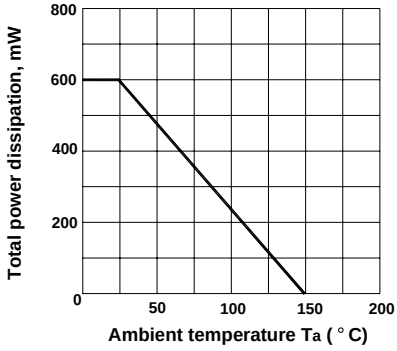
Collector current vs. collector emitter voltage



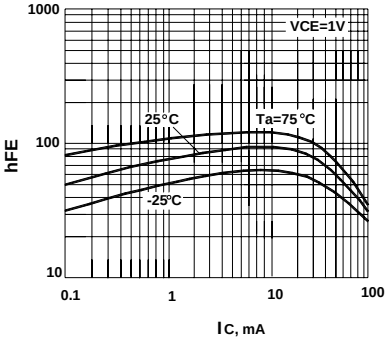
Collector current vs. collector emitter voltage



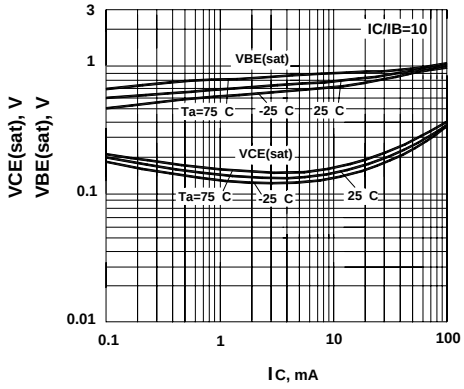
Total power dissipation vs. ambient temperature



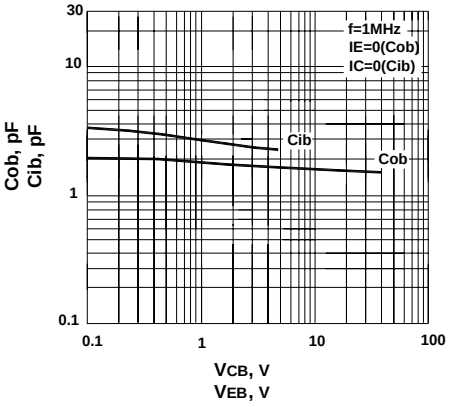
DC current gain vs. collector current



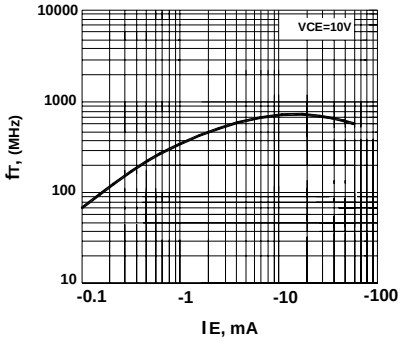
Base and collector saturation voltage vs. collector current



Input and output capacitance vs. reverse voltage



Gain bandwidth product vs. emitter current



Switching time vs. collector current