

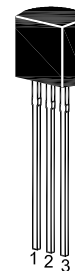
# ST 2SC930

## NPN Silicon Epitaxial Planar Transistor

for FM RF amp, mixer, osc, converter and IF amplifier.

The transistor is subdivided into four groups C, D, E and F, 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	$V_{CBO}$	30	V
Collector Emitter Voltage	$V_{CEO}$	20	V
Emitter Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	30	mA
Power Dissipation	$P_{tot}$	250	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 $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$ Group	Current Gain C	$h_{FE}$	40	-	80	-
	D	$h_{FE}$	60	-	120	-
	E	$h_{FE}$	100	-	200	-
	F	$h_{FE}$	160	-	320	-
Collector Base Cutoff Current at $V_{CB} = 10\text{ V}$	$I_{CBO}$	-	-	1	$\mu\text{A}$	
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	-	1	$\mu\text{A}$	
Gain Bandwidth Product at $V_{CE} = 6\text{ V}$ , $I_C = 1\text{ mA}$	$f_T$	170	300	-	MHz	
Reverse Transfer Capacitance at $V_{CB} = 6\text{ V}$ , $f = 1\text{ MHz}$	$C_{re}$	1	1.3	1.8	pF	
Base to Collector Time Constant at $V_{CB} = 6\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 31.9\text{ MHz}$	$R_{bb} \cdot C_c$	-	20	36	ps	
Noise Figure at $V_{CB} = 6\text{ V}$ , $I_C = 1\text{ mA}$ , $f = 100\text{ MHz}$	NF	-	4	-	dB	
Turn-on Time at $V_{IN} = +12\text{ V}$ , $V_{BE} = -3\text{ V}$ , appointed circuit	$t_{on}$	-	30	-	ns	
Turn-off Time at $V_{IN} = -12\text{ V}$ , $V_{BE} = +3\text{ V}$ , appointed circuit	$t_{off}$	-	30	-	ns	