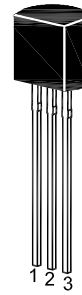


# 2SA1013

## PNP Silicon Epitaxial Planar Transistor

The transistor is subdivided into three groups, R, O and Y, according to its DC current gain.

On special request, these transistors can be manufactured in different pin configurations.



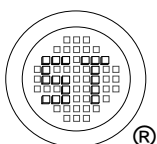
1. Emitter 2. Collector 3. Base  
TO-92 Plastic Package

### Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	160	V
Collector Emitter Voltage	$-V_{CEO}$	160	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	1	A
Base Current	$-I_B$	0.5	A
Power Dissipation	$P_{tot}$	900	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.	Max.	Unit
DC Current Gain at $-V_{CE} = 5\text{ V}$ , $-I_C = 200\text{ mA}$	Current Gain Group R O Y	$h_{FE}$ $h_{FE}$ $h_{FE}$	60 100 160	- - -
Collector Base Cutoff Current at $-V_{CB} = 150\text{ V}$	$-I_{CBO}$	-	1	$\mu\text{A}$
Emitter Base Cutoff Current at $-V_{EB} = 6\text{ V}$	$-I_{EBO}$	-	1	$\mu\text{A}$
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	$-V_{(BR)CEO}$	160	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$ , $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	1.5	V
Base Emitter On Voltage at $-I_C = 5\text{ mA}$ , $-V_{CE} = 5\text{ V}$	$-V_{BE(on)}$	0.45	0.75	V
Current Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$ , $-I_C = 200\text{ mA}$	$f_T$	15	-	MHz
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{OB}$	-	35	pF



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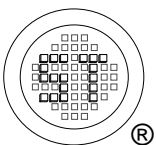
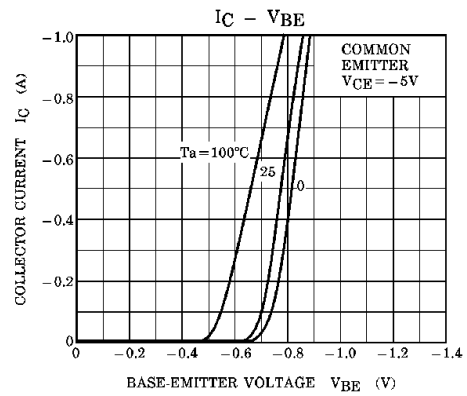
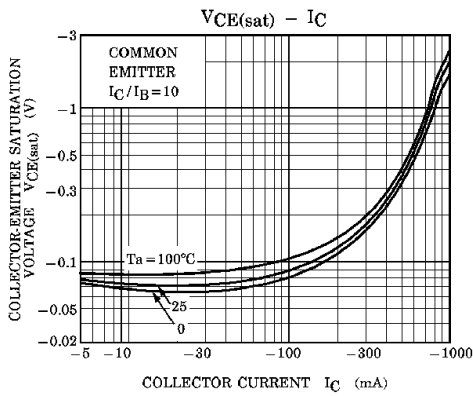
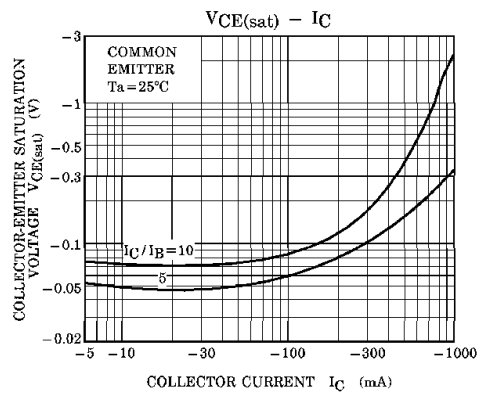
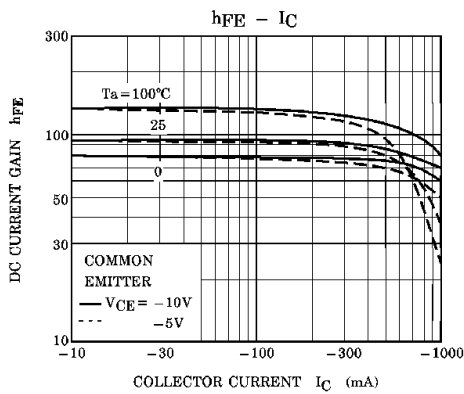
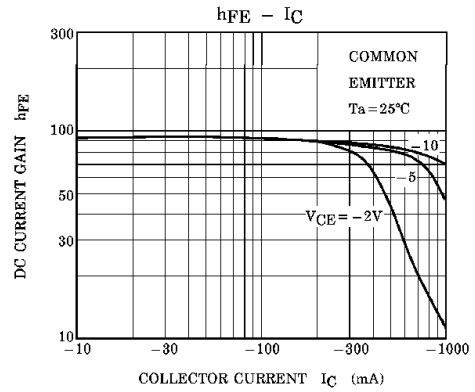
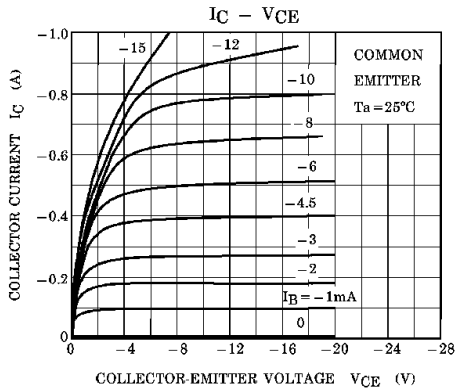
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