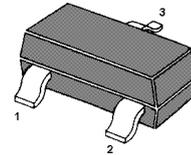


## NPN Silicon Epitaxial Planar Transistor

for high frequency amplifier applications

for FM IF, OSC stage and AM CONV. IF stage

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



1.Base 2.Emitter 3.Collector  
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	35	V
Collector Emitter Voltage	$V_{CEO}$	30	V
Emitter Base Voltage	$V_{EBO}$	4	V
Collector Current	$I_C$	50	mA
Base Current	$I_B$	10	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to +125	$^\circ\text{C}$

### Characteristics at $T_{amb} = 25\text{ }^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 12\text{ V}$ , $I_C = 2\text{ mA}$ Current Gain Group	R	$h_{FE}$	40	-	80	-
	O	$h_{FE}$	70	-	140	-
	Y	$h_{FE}$	120	-	240	-
Collector Cutoff Current at $V_{CB} = 35\text{ V}$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$	
Emitter Cutoff Current at $V_{EB} = 4\text{ V}$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$	
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.4	V	
Base Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 1\text{ mA}$	$V_{BE(sat)}$	-	-	1	V	
Current Gain Bandwidth Product at $V_{CE} = 10\text{ V}$ , $I_C = 1\text{ mA}$	$f_T$	100	-	400	MHz	
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	2	3.2	pF	
Power Gain at $V_{CE} = 6\text{ V}$ , $-I_E = 1\text{ mA}$ , $f = 10.7\text{ MHz}$	$G_{pe}$	27	30	33	dB	

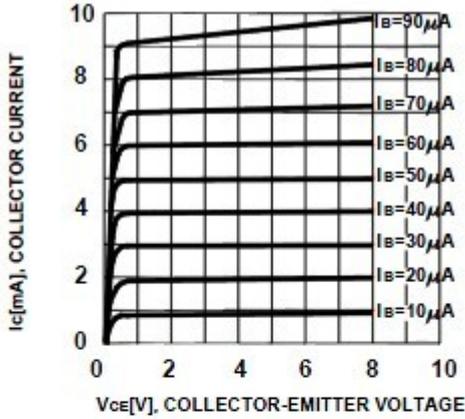


Figure 1. Static Characteristic

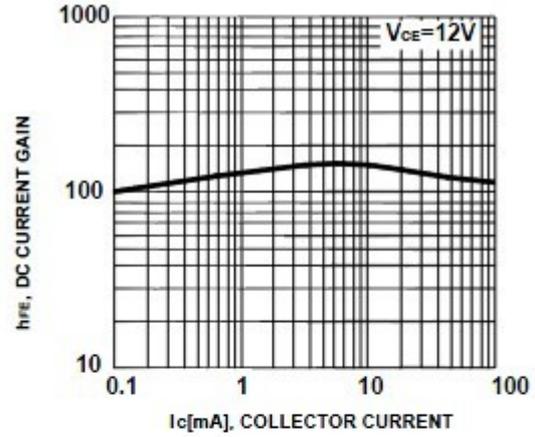


Figure 2. DC Current Gain

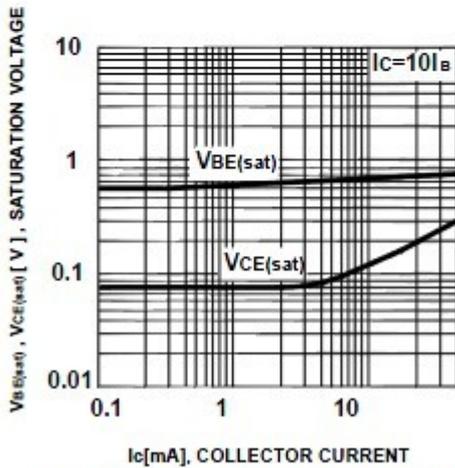


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

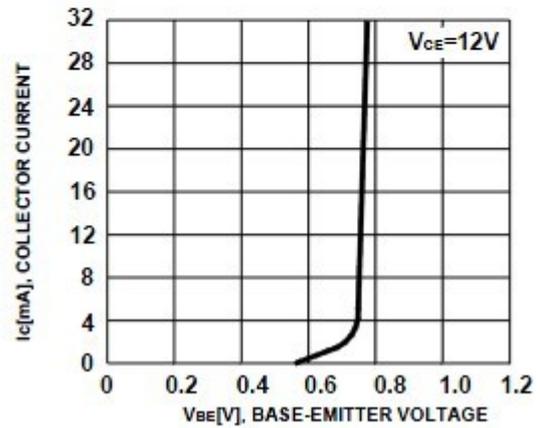


Figure 4. Base-Emitter On Voltage

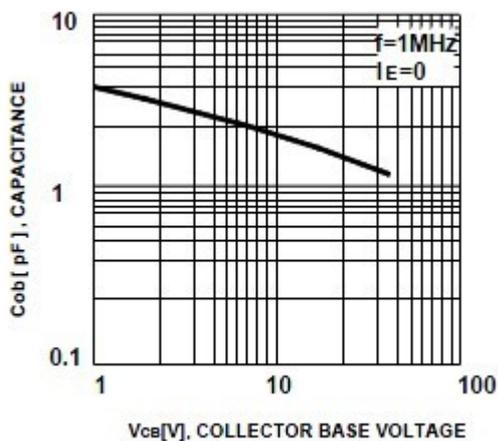


Figure 5. Collector Output Capacitance

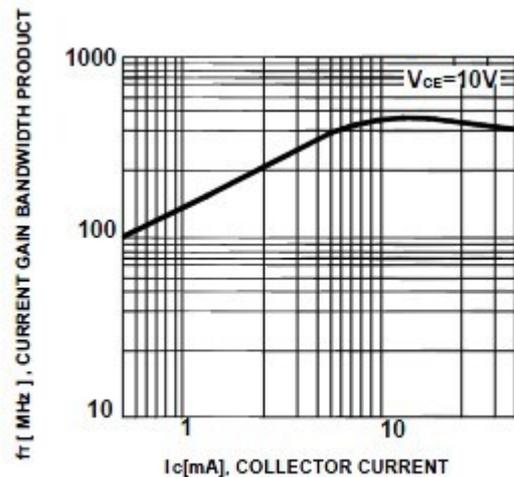


Figure 6. Current Gain Bandwidth Product