

ST 2SC380

NPN Silicon Epitaxial Planar Transistor

High frequency amplifier application
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.



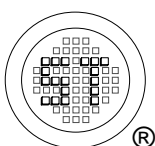
1. Emitter 2. Collector 3. Base
TO-92 Plastic Package
Weight approx. 0.19g

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
Emitter Current	$-I_E$	50	mA
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_S	-55 to +125	$^\circ\text{C}$

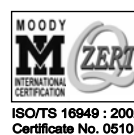
Characteristics at $T_{amb} = 25\text{ }^\circ\text{C}$

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	μA
Emitter Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	0.1	μA
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
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$	f_T	100	-	400	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	1.4	2	3.2	pF
Collector Base Time Constant at $V_{CE} = 10\text{ V}$, $-I_E = 1\text{ mA}$, $f = 30\text{ MHz}$	$C_c, f_{bb'}$	10	-	50	ps
Power Gain at $V_{CC} = 6\text{ V}$, $f = 10.7\text{ MHz}$, $-I_E = 1\text{ mA}$	G_{pe}	27	29	33	dB



SEMTECH ELECTRONICS LTD.

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Certificate No. 7116

ISO 9001:2000
Certificate No. 050698

Dated : 06/05/2006

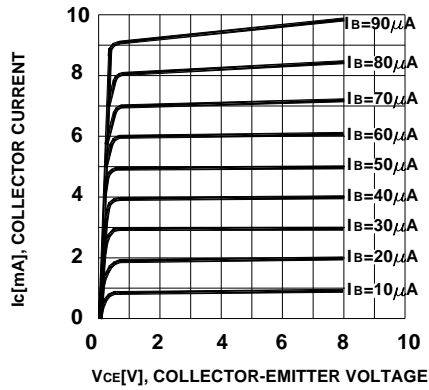


Figure 1. Static Characteristic

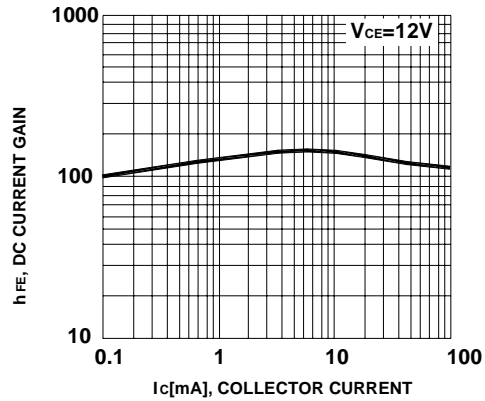


Figure 2. DC Current Gain

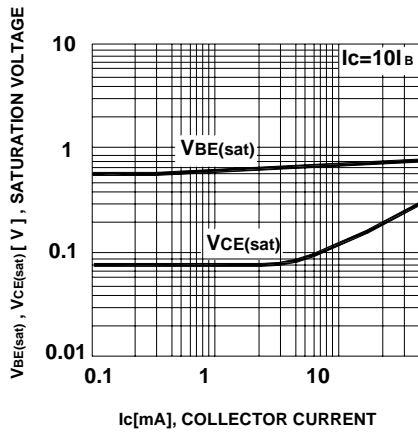


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

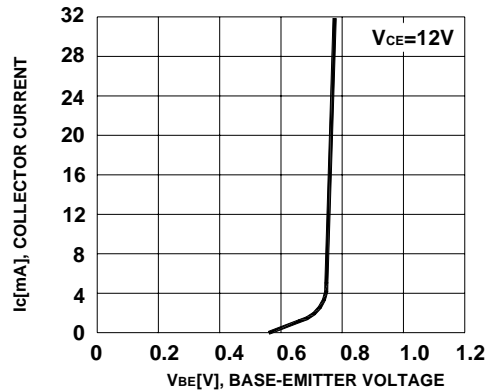


Figure 4. Base-Emitter On Voltage

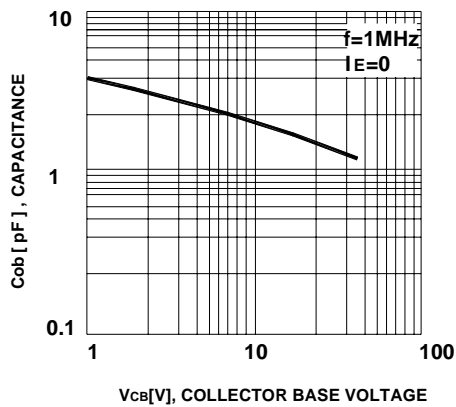


Figure 5. Collector Output Capacitance

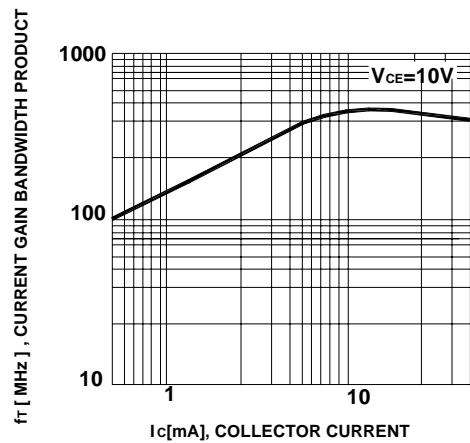
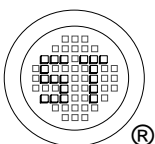


Figure 6. Current Gain Bandwidth Product



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