Elektronische Bauelemente

2SC4083

0.05A , 20V

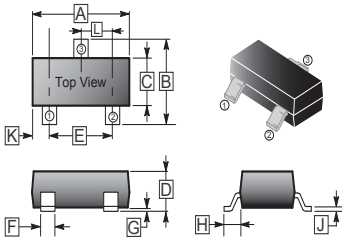
NPN Plastic-Encapsulate Transistor

RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

FEATURES

- Radio frequency amplifier.
- High transition frequency.
- High gain with low collector to base time constant.
- Low noise (NF).

SOT-323



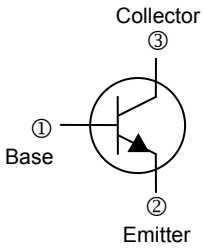
REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	1.80	2.20	G	0.100 REF.	
B	1.80	2.45	H	0.525 REF.	
C	1.15	1.35	J	0.08	0.25
D	0.80	1.10	K	-	-
E	1.20	1.40	L	0.650 TYP.	
F	0.20	0.40			

CLASSIFICATION OF h_{FE}

Product-Rank	2SC4083-N	2SC4083-P	2SC4083-Q
Range	56~120	82~180	120~270
Marking	1D		

PACKAGE INFORMATION

Package	MPQ	Leader Size
SOT-323	3K	7' inch



ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	20	V
Collector-Emitter Voltage	V_{CEO}	11	V
Emitter-Base Voltage	V_{EBO}	3	V
Collector Current	I_C	50	mA
Collector Power Dissipation	P_C	200	mW
Junction & Storage temperature	T_J, T_{STG}	150, -55~150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	20	-	-	V	I_C=10μA, I_E=0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	11	-	-	V	I_C=1mA, I_B=0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	3	-	-	V	I_E=10μA, I_C=0
Collector Cut-Off Current	I_{CBO}	-	-	0.5	μA	V_{CB}=10V, I_E=0
Emitter Cut-off Current	I_{EBO}	-	-	0.5	μA	V_{EB}=2V, I_C=0
DC Current Gain	h_{FE}	56	-	270		V_{CE}=10V, I_C=5mA
Collector-Base Saturation Voltage	$V_{CE(sat)}$	-	-	0.5	V	I_C=10mA, I_B=5mA
Transition Frequency	f_T	-	1.2	-	GHz	V_{CE}=10V, I_C=10mA, f=500MHz
Collector Output Capacitance	C_{ob}	-	-	1.5	pF	V_{CB}=10V, I_E=0, f=1MHz
Collector-Base Time Constant	C_C, r_{bb}	-	-	12	pS	V_{CB}=10V, I_C=10mA, f=31.8MHz
Noise Figure	NF	-	3.5	-	dB	V_{CE}=6V, I_C=2mA, f=500MHz, Rg=50Ω

CHARACTERISTIC CURVES

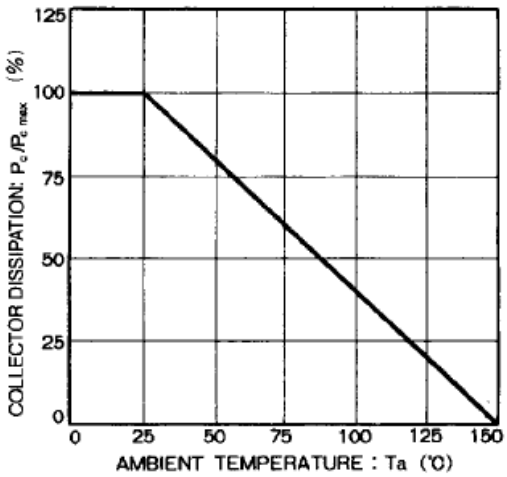


Figure 1

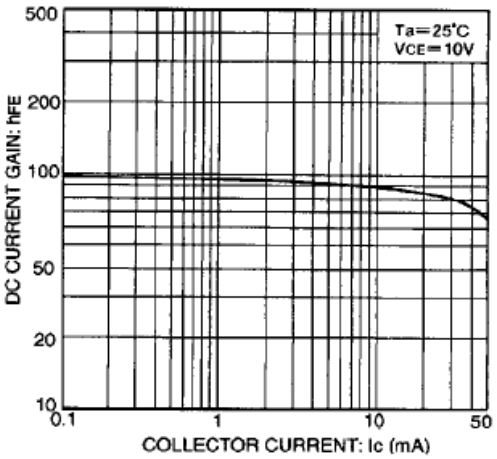


Figure 2

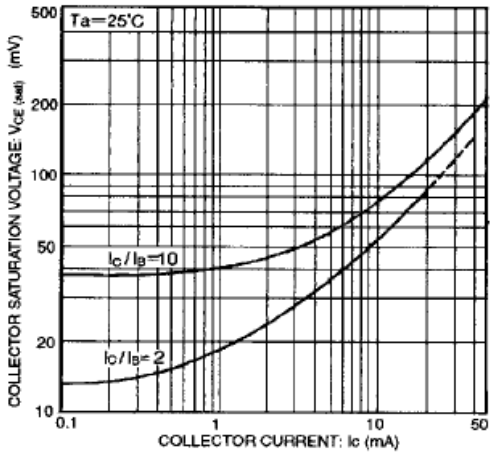


Figure 3

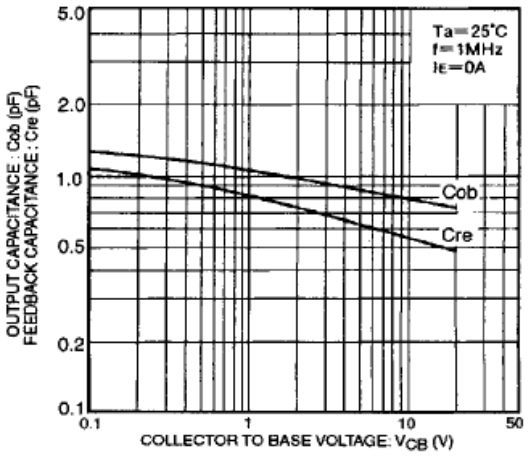


Figure 4

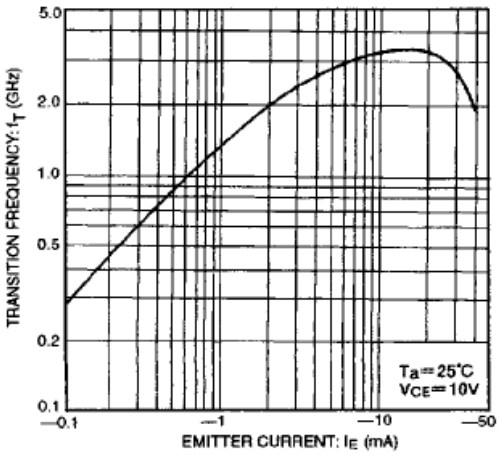


Figure 5

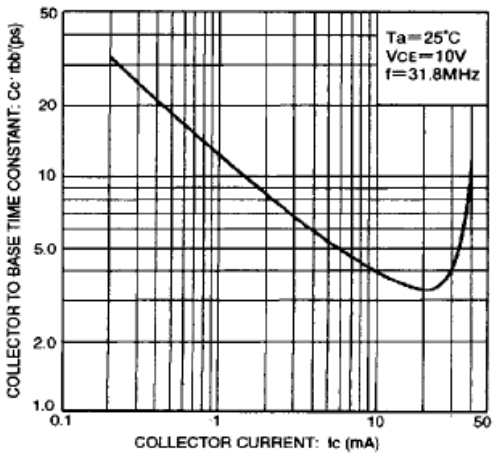


Figure 6

CHARACTERISTIC CURVES

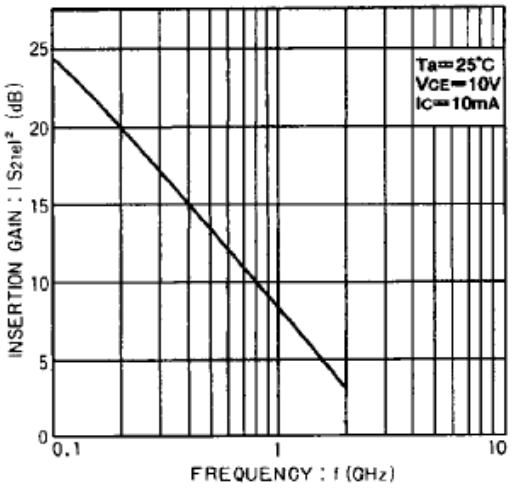


Figure 7

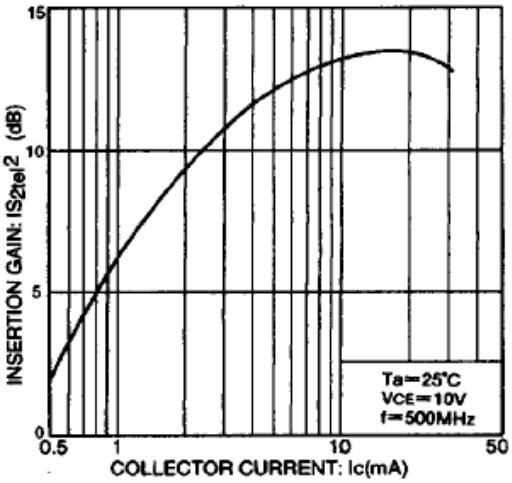


Figure 8

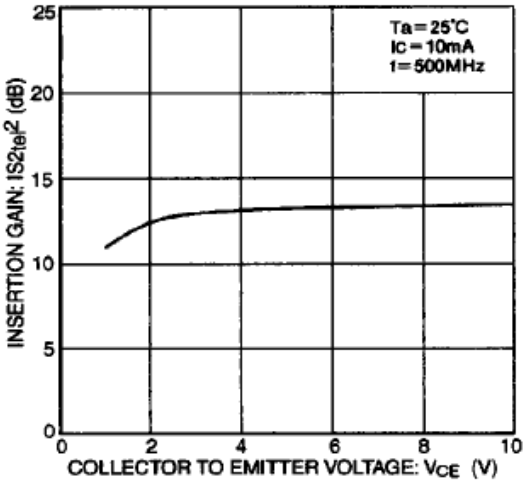


Figure 9

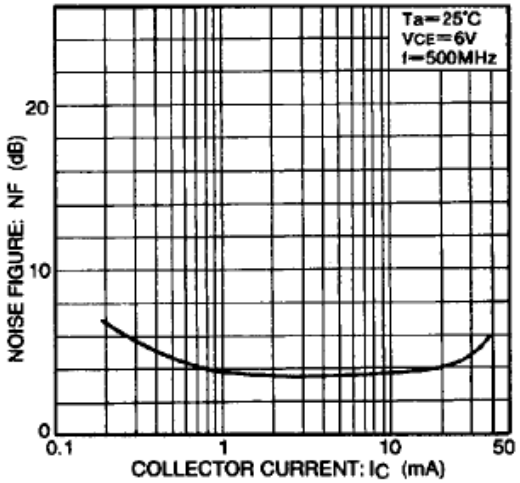


Figure 10

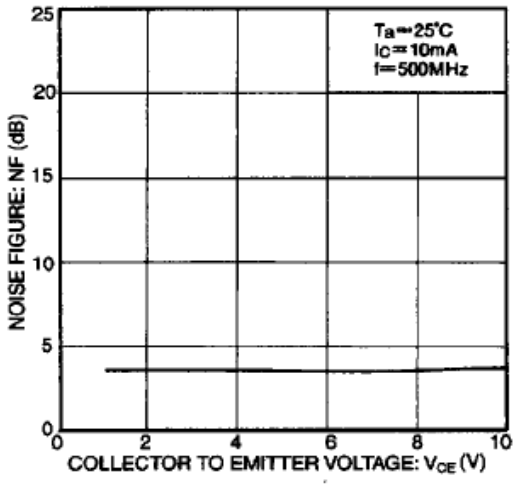


Figure 11