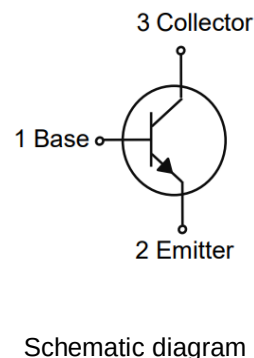
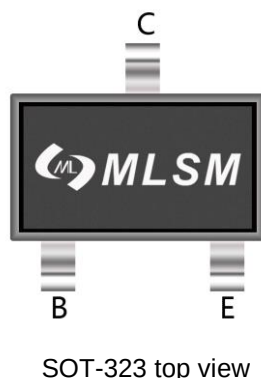
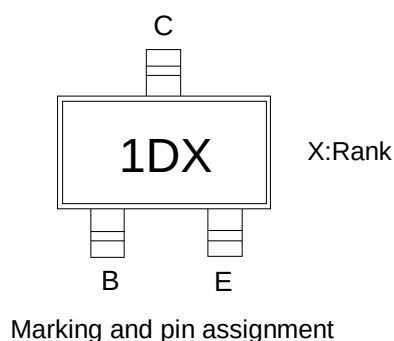


Features

- Low Noise and High Gain
- High transition frequency.

Application

- low noise amplifier at VHF, UHF and CATV band applications



Halogen-Free

Maximum Ratings(Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	11	V
V_{EBO}	Emitter-Base Voltage	3	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	200	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-50~+150	°C

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
2SC4083	SOT-323	1DN/1DP/1DQ	3,000	45,000	180,000	7"reel

Electrical Characteristics (T_J=25°C unless otherwise noted)

Symbol	Parameter	Condition	Min	Typ	Max	Unit
V _{(BR)CBO}	Collector-base breakdown voltage	I _C =100μA, I _E =0	20	--	--	V
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =1mA, I _B =0	11	--	--	V
V _{(BR)EBO}	Emitter-base breakdown voltage	I _E =10μA, I _C =0	3	--	--	V
I _{CBO}	Collector cut-off current	V _{CB} =10 V, I _E =0	--	--	0.5	μA
I _{EBO}	Emitter cut-off current	V _{EB} = 1V, I _C =0	--	--	0.5	μA
h _{FE}	DC current gain	V _{CE} =10V, I _C = 5mA	56	--	270	
V _{CE(sat)}	Collector-emitter saturation voltage	I _C =10 mA, I _B = 5mA	--	--	0.5	V
N _F	Noise Figure	V _{CE} =6V, I _C =2mA, f=0.5GHz	--	3.5	-	dB
C _{re}	Feed-Back Capacitance	V _{CE} =10V, I _E =0mA, f=1MHz	--	0.8	1.5	pF
f _T	Transition frequency	V _{CE} =10V, I _C = 10mA	1.4	3.2	--	GHz

Classification of h_{FE}

Rank	N	P	Q
Marking	1DN	1DP	1DQ
Range	56-120	82-180	120-270

Typical Operating Characteristics

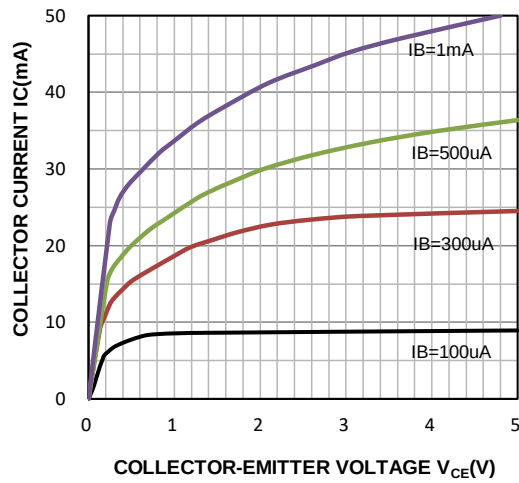


Fig.1 Typical Output Characteristics

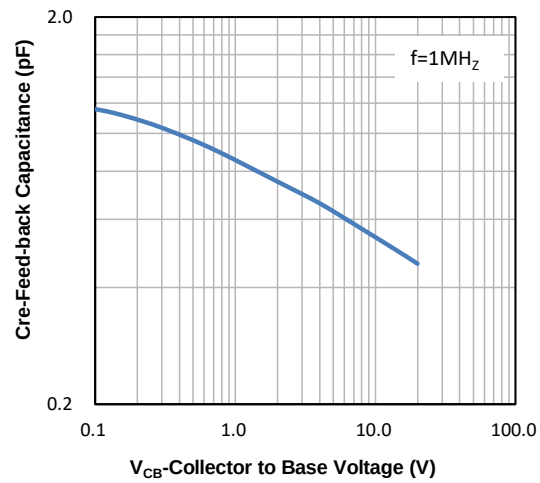


Fig.2 Capacitance VS. Reverse Bias Voltage

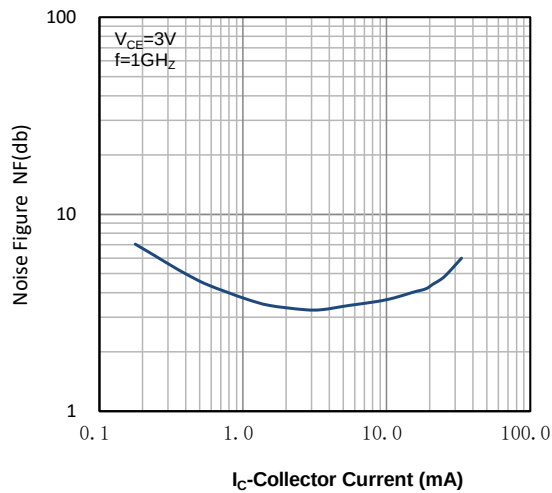


Fig.3 Noise Factor VS. Collector Current Characteristics

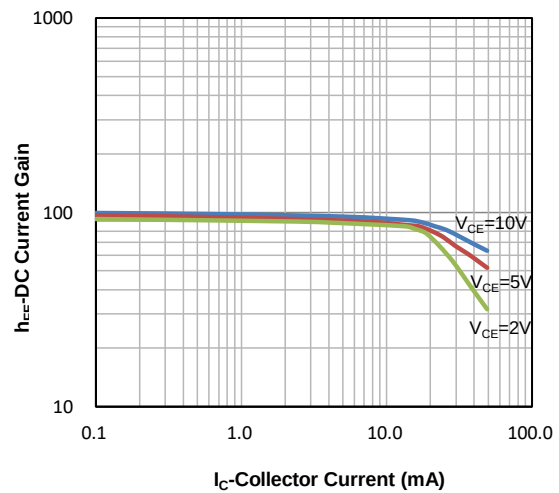


Fig.4 DC Current Gain VS. Collector Current

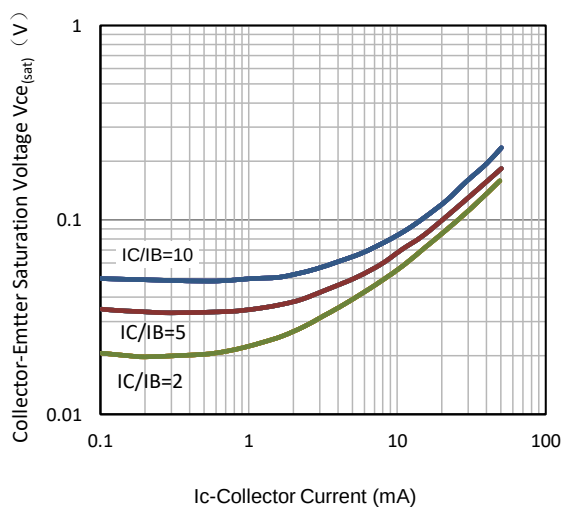
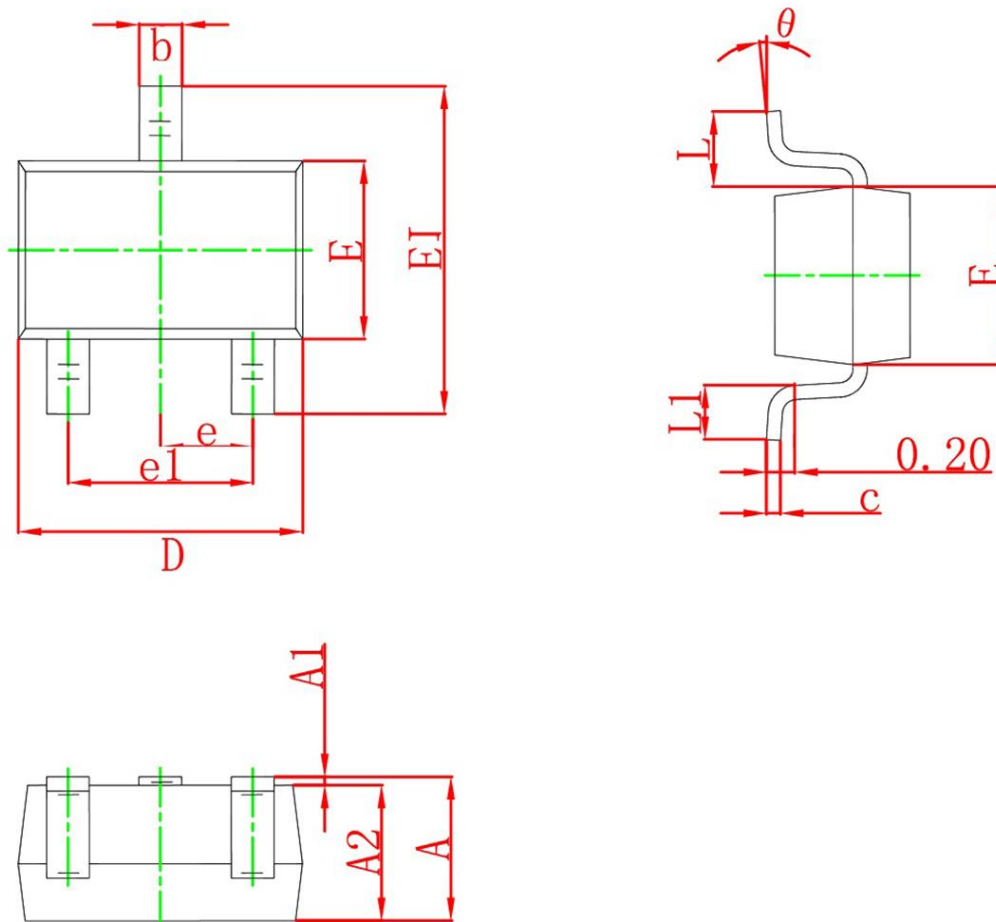


Fig.5 Collector-Emitter Saturation Voltage VS. Collector Current

SOT-323 Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650TYP		0.026TYP	
e1	1.200	1.400	0.047	0.055
L	0.525REF		0.021REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°