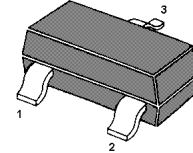


NPN Silicon Epitaxial Planar Transistor

High frequency amplifier transistor.



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}	40	V
Collector Emitter Voltage	V_{CEO}	25	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	50	mA
Power Dissipation	P_{tot}	200	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.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 6\text{ V}$, $I_C = 1\text{ mA}$	h_{FE}	82	-	180	-
Collector Base Cutoff Current at $V_{CB} = 24\text{ V}$	I_{CBO}	-	-	0.5	μA
Emitter Base Cutoff Current at $V_{EB} = 3\text{ V}$	I_{EBO}	-	-	0.5	μA
Collector Base Breakdown Voltage at $I_C = 50\text{ }\mu\text{A}$	$V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	25	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\text{ }\mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$, $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Gain Bandwidth Product at $V_{CE} = 6\text{ V}$, $-I_E = 1\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	300	-	MHz
Output Capacitance at $V_{CB} = 6\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	1.3	2.2	pF



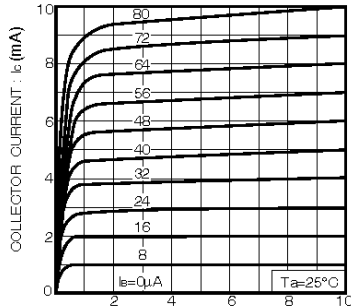
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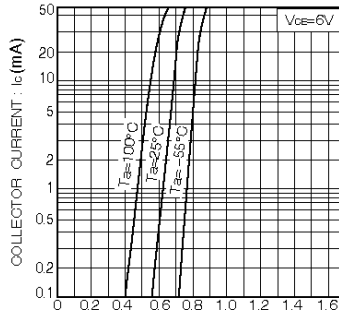


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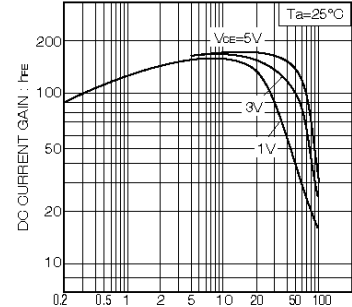
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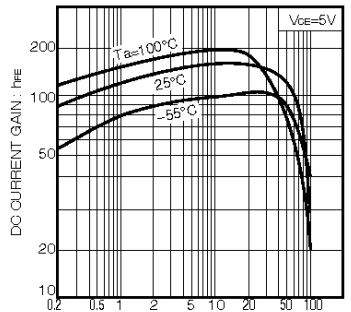
Collector to Emitter Voltage : V_{ce} (V)
Ground emitter output characteristics



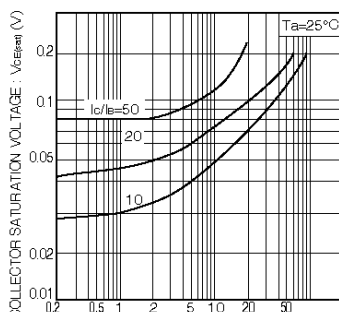
Base to Emitter Voltage : V_{be} (V)
Ground emitter propagation characteristics



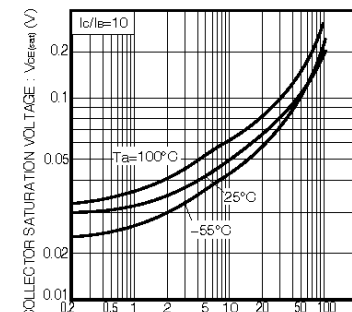
Collector Current : I_c (mA)
DC current gain vs. collector current (I)



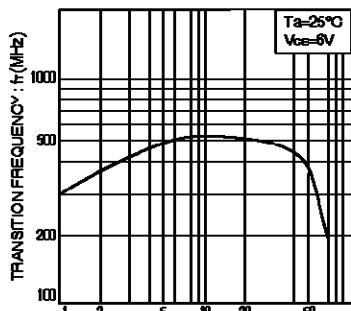
Collector Current : I_c (mA)
DC current gain vs. collector current (II)



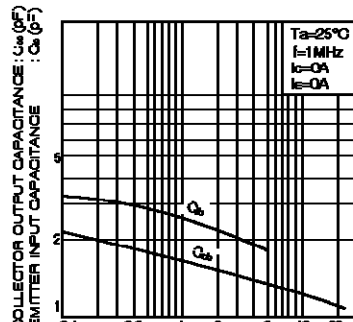
Collector Current : I_c (mA)
Collector-emitter saturation voltage vs. collector current (I)



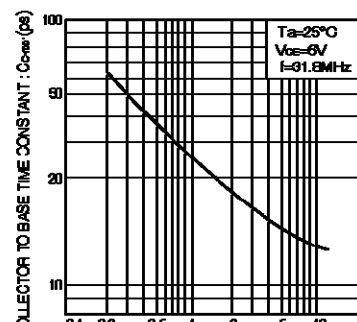
Collector Current : I_c (mA)
Collector-emitter saturation voltage vs. collector current (II)



Emitter Current : I_e (mA)
Gain bandwidth product vs. emitter current



Collector to Base Voltage : V_{cb} (V)
Emitter to Base Voltage : V_{eb} (V)
Capacitance vs. voltage



Emitter Current : I_e (mA)
Collector to base time constant vs. emitter current



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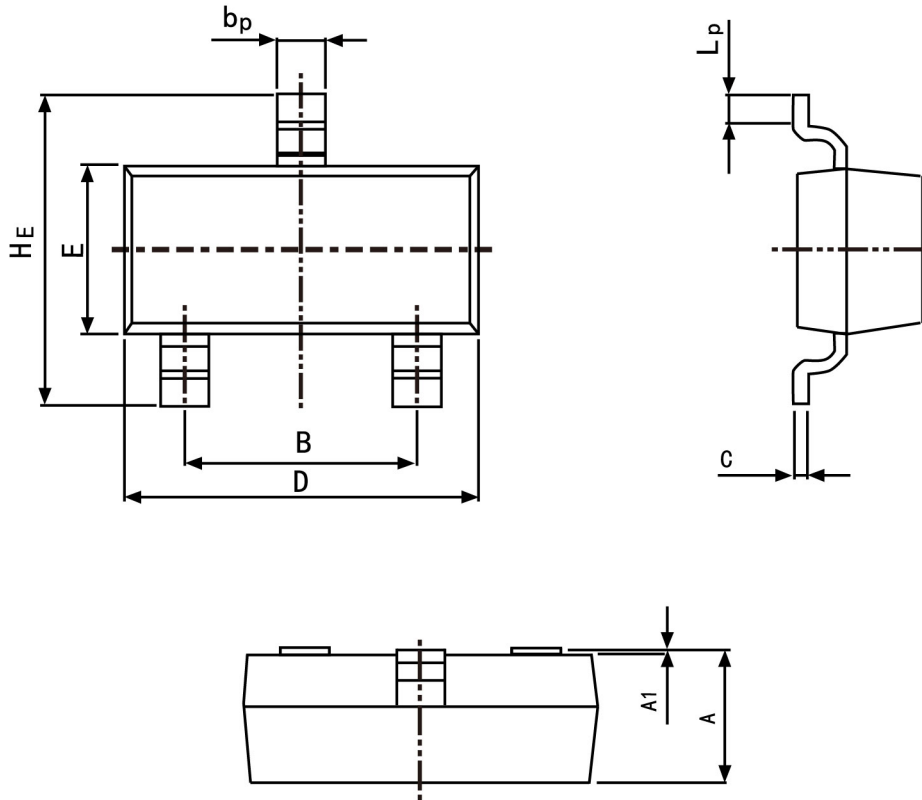
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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50