

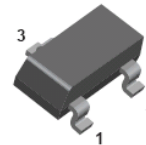
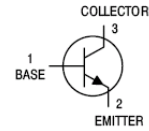
NPN Silicon Epitaxial Planar Transistor

FEATURES

- Complementary To S9015.
- Excellent H_{FE} Linearity.
- Power dissipation. ($P_C=0.2W$)

APPLICATIONS

- Per-Amplifier low level & low noise.



SOT-23

MAXIMUM RATING @ $T_a=25^{\circ}C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	100	mA
P_C	Collector Dissipation	200	mW
T_J, T_{stg}	Junction and Storage Temperature	-55~150	$^{\circ}C$

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=50V, I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE}=35V, I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=1mA$	200		1000	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=5mA$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=5mA$			1	V
Transition frequency	f_T	$V_{CE}=6V, I_C=20mA$ $f=30MHz$		150		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	L	H
Range	200-450	450-1000

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

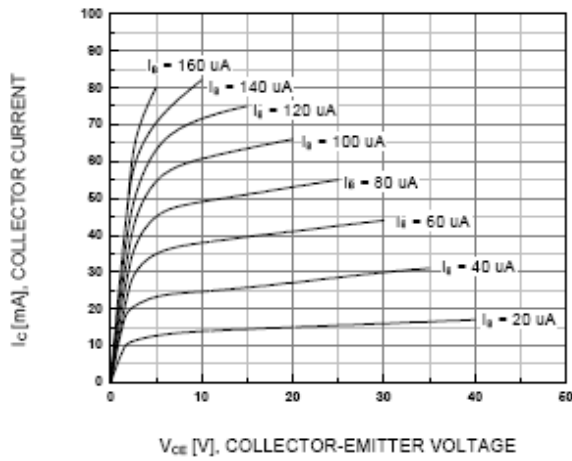


Figure 1. Static Characteristic

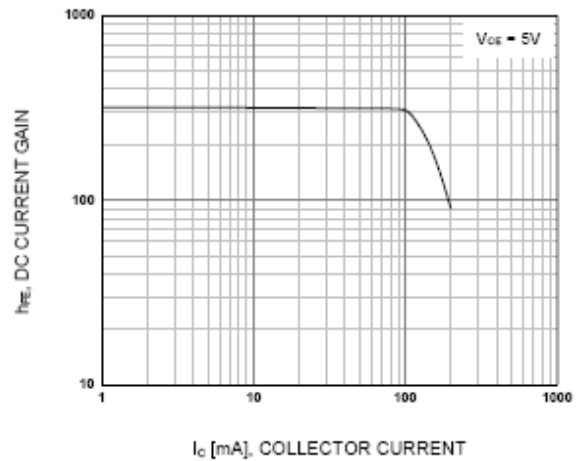


Figure 2. DC current Gain

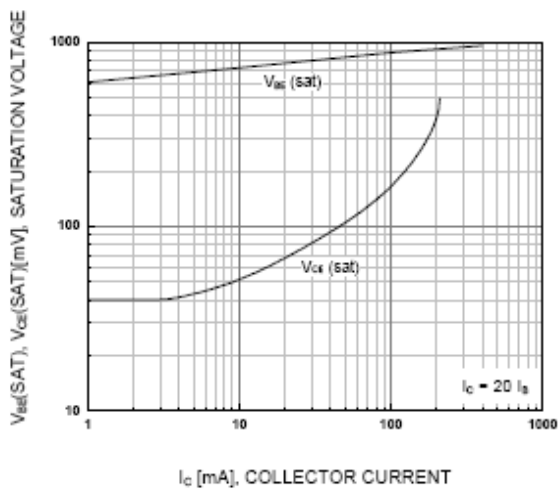


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

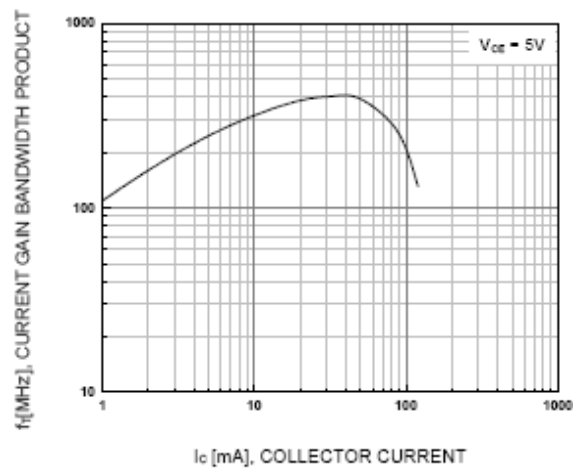
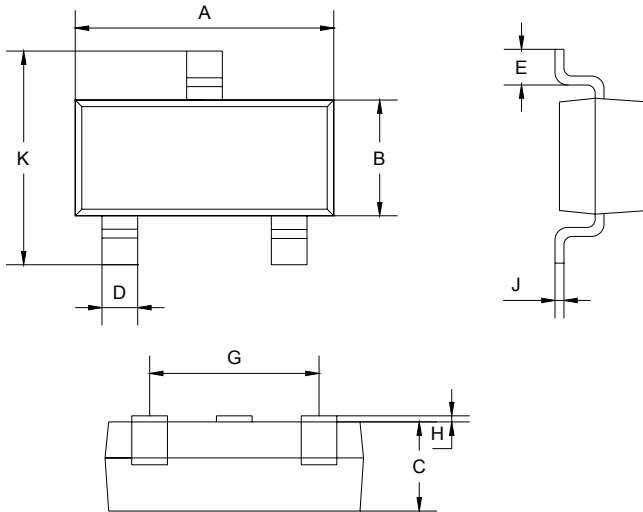


Figure 4. Current Gain Bandwidth Product

SOT-23 Package Information



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1.0Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1Typical	
K	2.35	2.45
All Dimensions in mm		