NPN Silicon Epitaxial Planar Transistor **S9016**

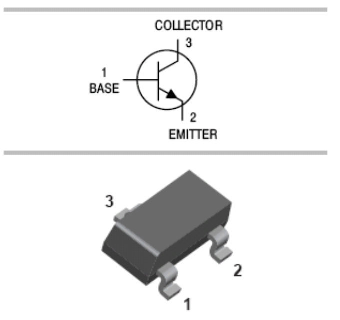
FEATURES

- Collector Current.(I_C= 25mA)
- Power dissipation.(P_C=200mW)

Pb
Lead-free

APPLICATIONS

- AM converter, FM/RM amplifier of low noise.



SOT-23

ORDERING INFORMATION

Type No.	Marking	Package Code
S9016	Y6	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{CBO}	Collector-Base Voltage	30	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	25	mA
P_C	Collector Dissipation	200	mW
$T_{j,}T_{stg}$	Junction and Storage Temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=0.1mA,I_B=0	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	4			V
Collector cut-off current	I_{CBO}	V_{CB}=30V,I_E=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	28	90	198	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B= 1mA		0.1	0.3	V
Base-emitter on voltage	$V_{BE(on)}$	V_{CE}=5V, I_C=1mA		0.72		V
Transition frequency	f_T	V_{CE}=5V, I_C= 1mA	400	620		MHz
Output capacitance	C_{ob}	V_{CB}=10V, I_E=0,f=1MHz		1.2	1.6	pF
Noise figure	NF	V_{CE}=5V,I_C=1.0, f=100MHz,R_S=50Ω		1.2	1.6	pF

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

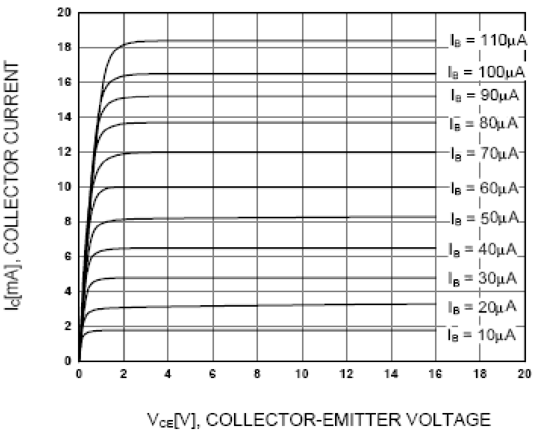

Figure 1. Static Characteristic

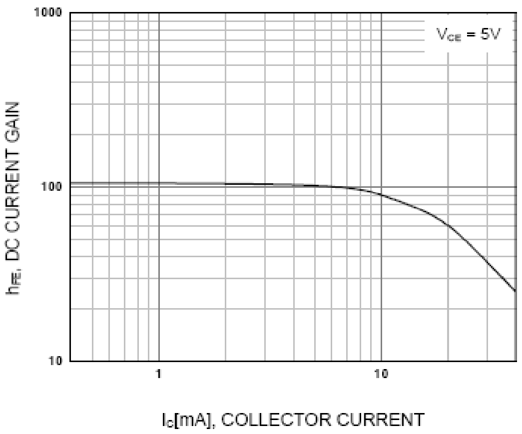

Figure 2. DC current Gain

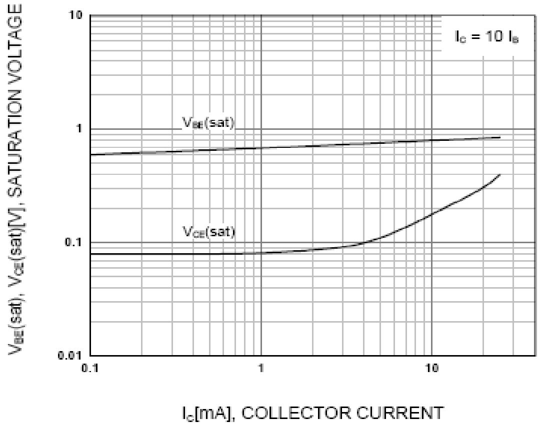

Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

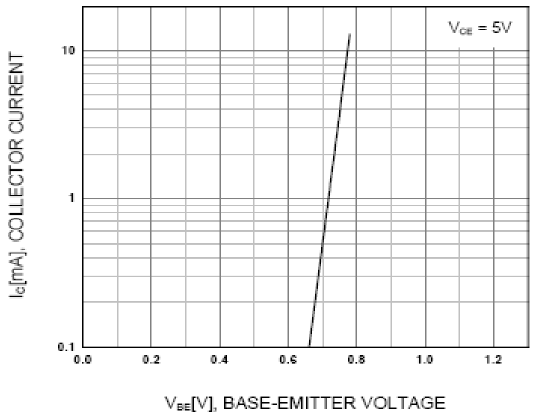

Figure 4. Base-Emitter On Voltage

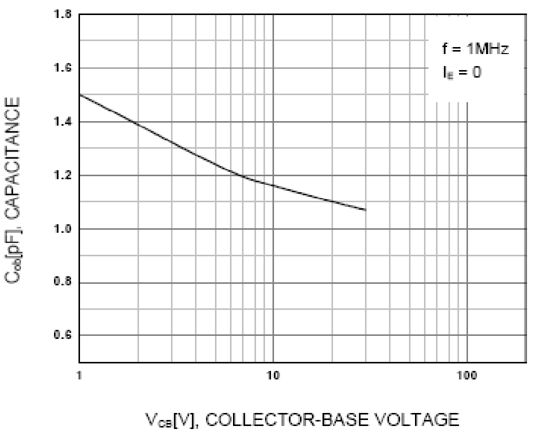

Figure 5. Collector Output Capacitance

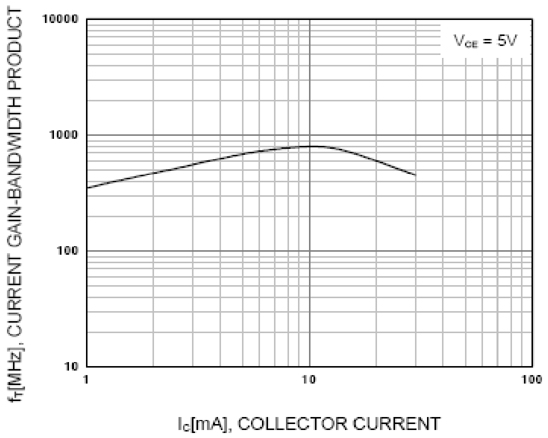

Figure 6. Current Gain Bandwidth Product

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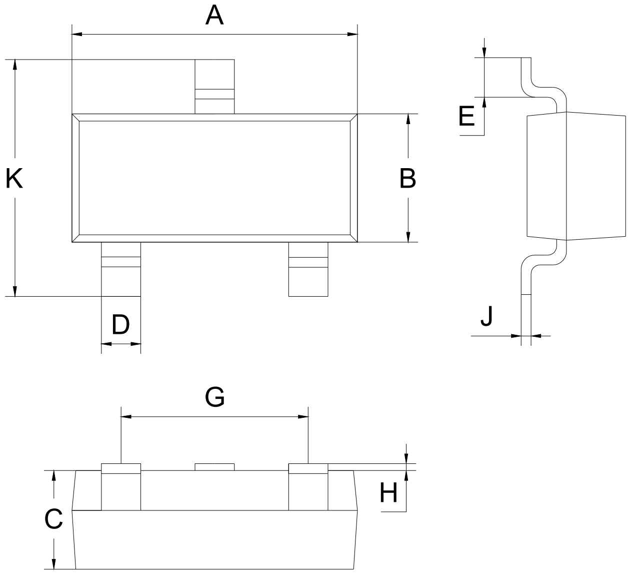
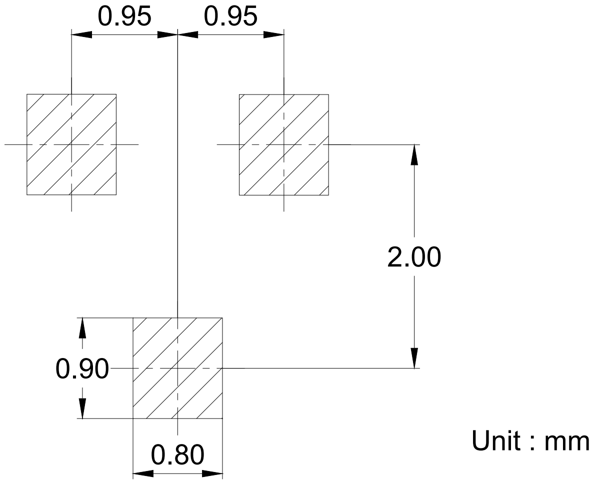
PACKAGE OUTLINE

Plastic surface mounted package SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
S9016	SOT-23	3000/Tape&Reel