BORN SEMICONDUCTOR

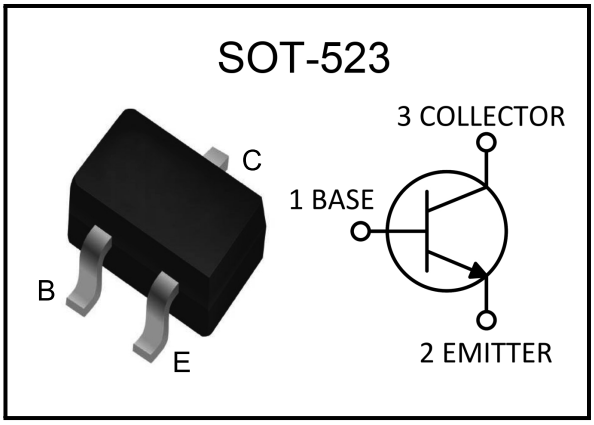
S9014T

NPN Plastic-Encapsulate Transistor

Features

- V_{CE}=45V
- I_C=100mA
- f_T=150MHZ @V_{CE}=5V, I_C=10mA,f=30MHz

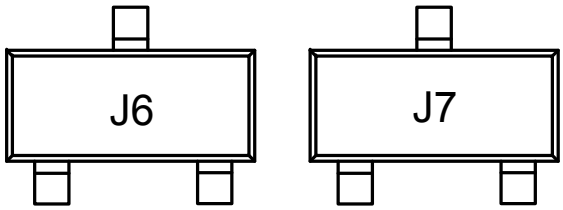
Package



Description

- Complementary to S9015T
- High DC Current Gain
- SOT-523 Plastic Package.

Marking



Ordering information

Order code	Package	Marking	H_{FE}	Base qty	Delivery mode
S9014T	SOT-523	J6	200~450	3K	Tape and reel
S9014T	SOT-523	J7	450~1000	3K	Tape and reel

Absolute Maximum Ratings @T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Unit
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	100	mA
P_C	Collector Power Dissipation	200	mW
$R_{\theta JA}$	Thermal Resistance From Junction to Ambient	625	°C/W
T_J	Junction Temperature	150	°C
T_{stg}	Storage Temperature Range	-55 to +150	°C

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Electrical Characteristics (T_A=25°C, unless otherwise specified)

Symbol	Parameter	Test condition	Min.	Typ.	Max.	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	I_C=100μA, I_E=0	50	–	–	V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	I_C=0.1mA,I_B=0	45	–	–	
$V_{(BR)EBO}$	Emitter-base breakdown voltage	I_E=100μA,I_C=0	5	–	–	
I_{CBO}	Collector cut-off current	V_{CE}= 50V,I_E=0	–	–	0.1	uA
I_{CEO}	Collector cut-off current	V_{CB}=35V,I_B=0	–	–	0.1	
I_{EBO}	Emitter cut-off current	V_{EB}=4V,I_C=0	–	–	0.1	
h_{FE}	DC current gain	V_{CE}=5V,I_C=1mA	200	–	1000	
$V_{CE(sat)}$	Collector-emitter saturation voltage	I_C=100mA,I_B=5mA	–	–	0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	I_C=100mA,I_B=5mA	–	–	1.0	
f_T	Transition frequency	V_{CE}=5V,I_C=10mA,f=30MHZ	150	–	–	MHZ

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Typical Performance Characteristics(T_J = 25 °C, unless otherwise noted)

Figure 1 : Static Characteristic

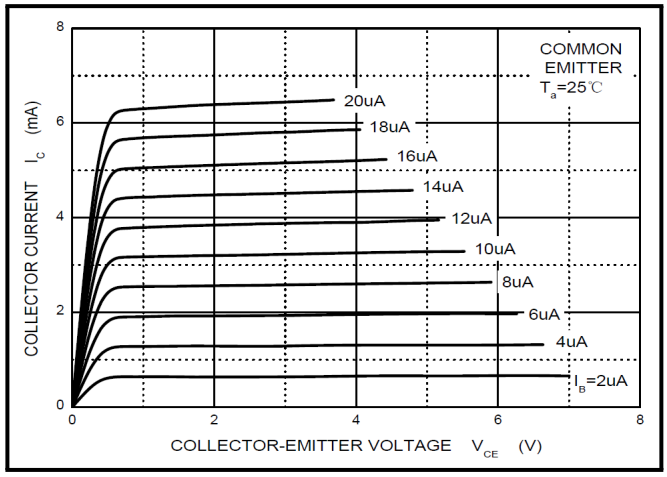


Figure 2 :h_{FE}—I_C

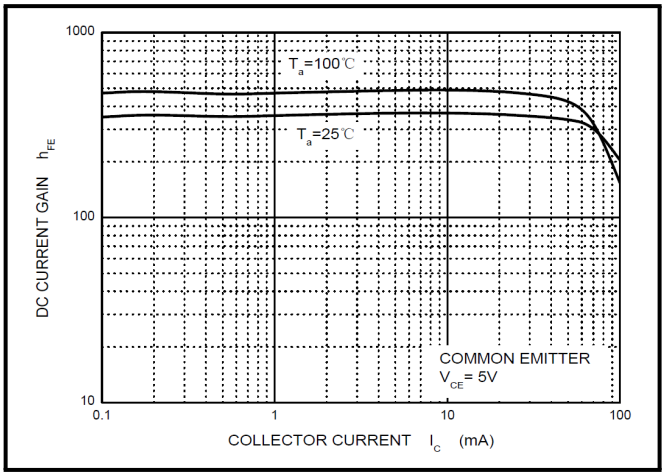


Figure 3 :$V_{CE(sat)}$—I_C

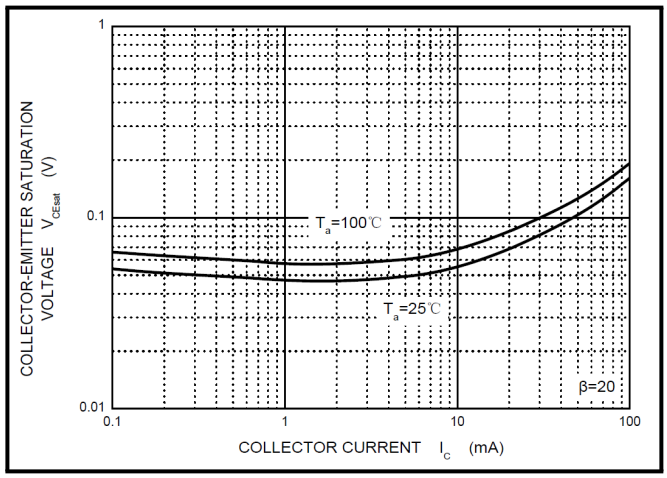


Figure 4 : $V_{BE(sat)}$— I_C

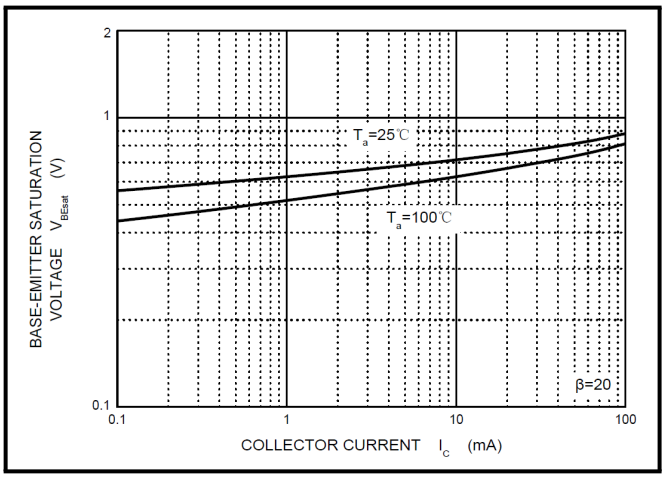


Figure 5 :I_C—V_{BE}

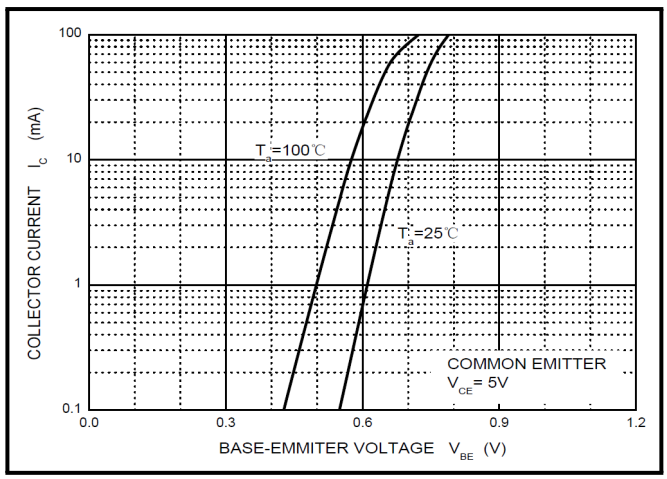
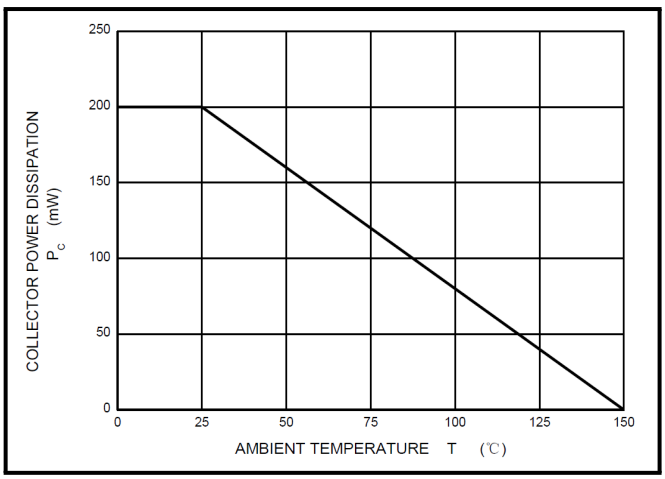


Figure 6 :P_C— T_A



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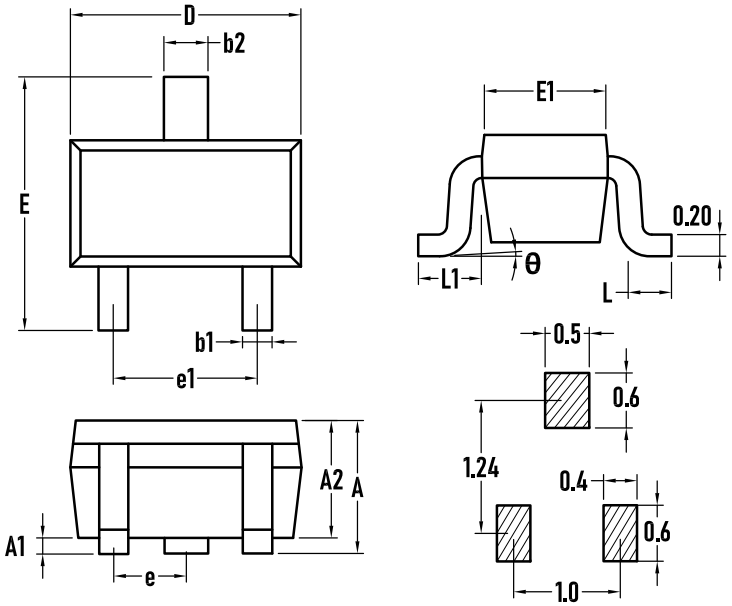
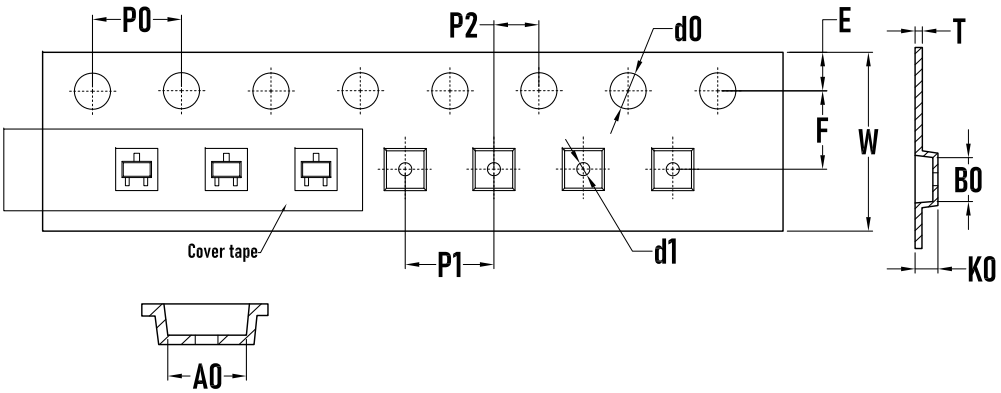
Outline Drawing – SOT-523



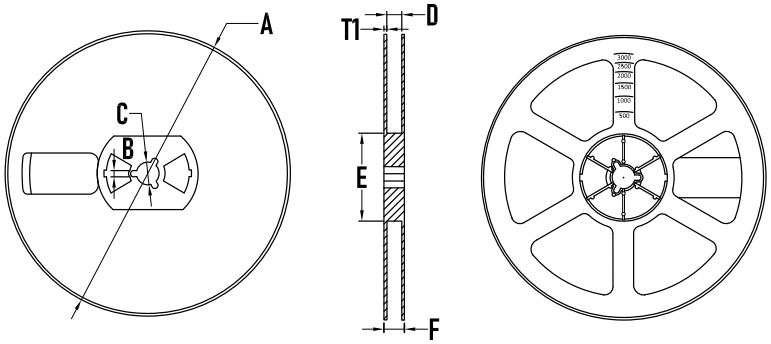
SYMBOL	MILLIMETER		
	MIN	TYP	MAX
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2	0.70	0.75	0.80
b1	0.15	0.22	0.29
b2	0.25	0.32	0.39
D	1.50	1.60	1.70
E	1.45	1.60	1.75
E1	0.70	0.80	0.90
e	0.50(TPY.)		
e1	0.90	1.00	1.10
L	0.26	0.36	0.46
L1	0.40(REF)		
θ	0°	4°	8°

Packaging Tape - SOT-523



SYMBOL	MILLIMETER
A0	1.78±0.05
B0	1.78±0.05
d0	1.50+0.10
d1	0.50±0.10
E	1.75±0.10
F	3.50±0.05
K0	0.69±0.05
P0	4.00±0.10
P1	4.00±0.10
P2	2.00±0.10
W	8.00±0.20
T	0.20±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	177.8±0.2
B	2.7±0.2
C	13.5±0.2
D	9.6±0.3
E	54.5±0.2
F	12.3±0.3
T1	1.0±0.2
Quantity	3000PCS

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