S9014 TRANSISTOR (NPN)

1.BASE

2.COLLECTOR

3.EMITTER

SOT-23-3

FEATURES

- **Complementary to S9015**

MAXIMUM RATINGS (T_a=25℃ 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	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

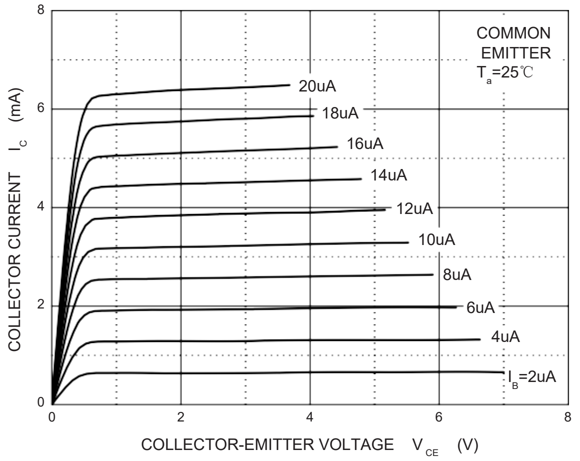
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA, I_E=0	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=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=50 V , I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=35V , I_B=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=100 mA, I_B= 5mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100 mA, I_B= 5mA			1	V
Transition frequency	f_T	V_{CE}=5V, I_C= 10mA f=30MHz	150			MHz

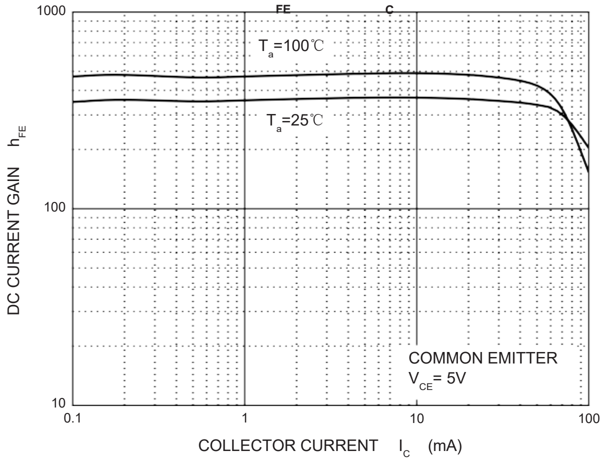
CLASSIFICATION OF h_{FE}

Rank	L	H
Range	200-450	450-1000

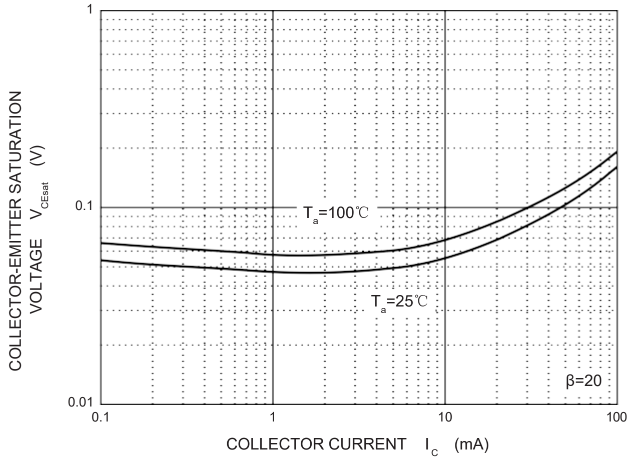
Static Characteristic



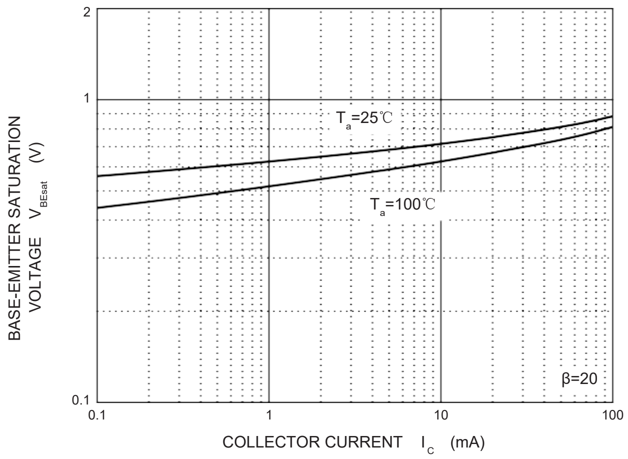
h_{FE} — I_C



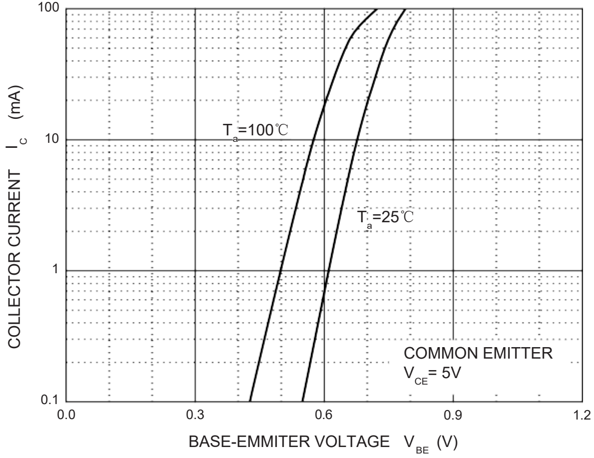
V_{CEsat} — I_C



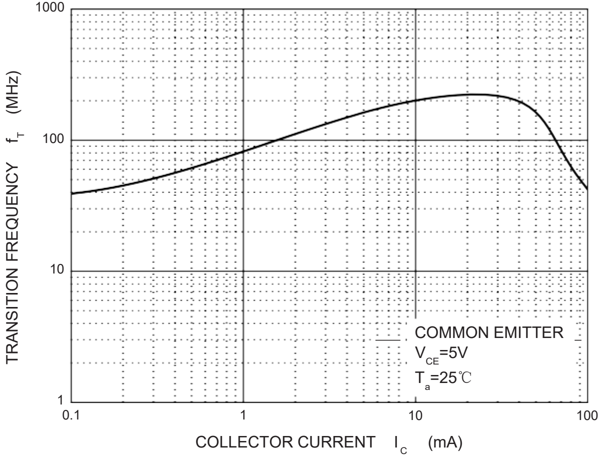
V_{BEsat} — I_C



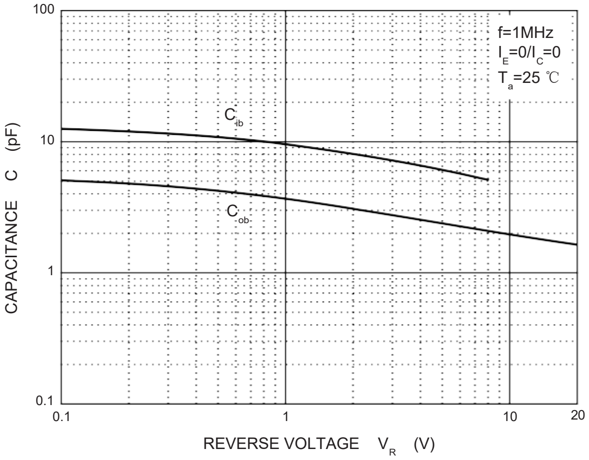
I_C — V_{BE}



f_T — I_C



C_{ob}/ C_{ib} — V_{CB}/ V_{EB}



P_C — T_a