

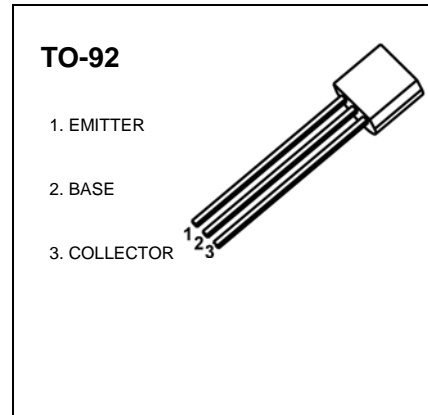


TO-92 Plastic-Encapsulate Transistors

S9014 TRANSISTOR (NPN)

FEATURES

- High Total Power Dissipation.($P_C=0.45W$)
- High h_{FE} and Good Linearity
- Complementary to S9015



MAXIMUM RATINGS ($T_a=25^\circ C$ 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 -Continuous	0.1	A
P_C	Collector Power Dissipation	0.45	W
T_J	Junction Temperature	150	$^\circ C$
T_{stg}	Storage Temperature	-55-150	$^\circ C$

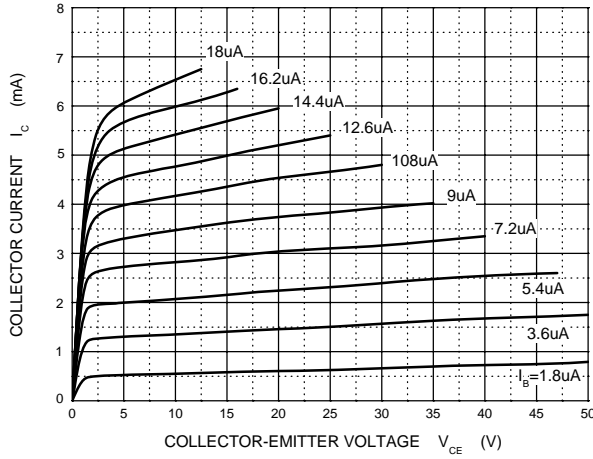
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$ unless otherwise specified)

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	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	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}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=5V, I_C=1mA$	60		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	$V_{CE}=5V, I_C=10mA$ $f=30MHz$	150			MHz

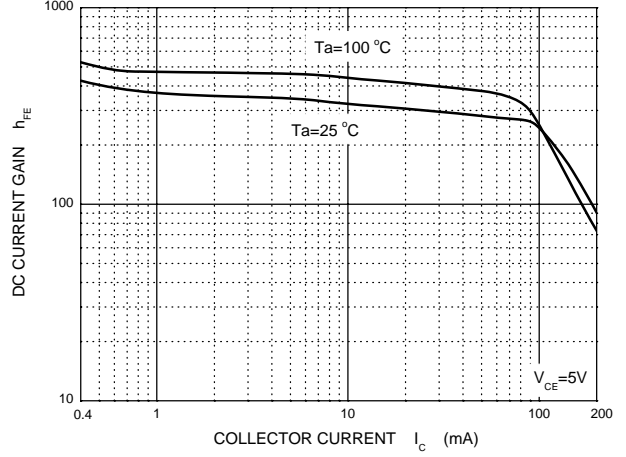
CLASSIFICATION OF $h_{FE(1)}$

Rank	A	B	C	D
Range	60-150	100-300	200-600	400-1000

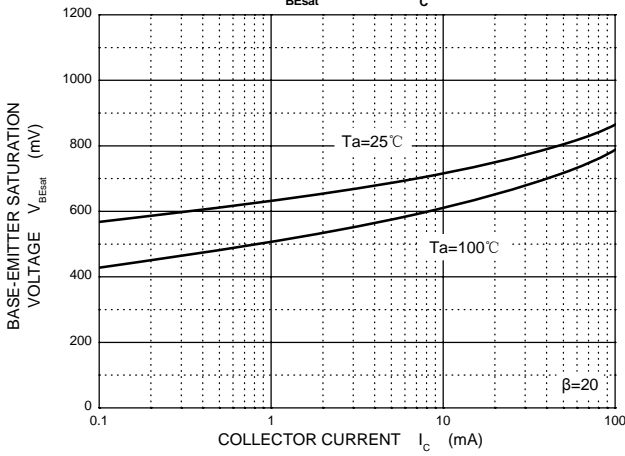
Static Characteristic



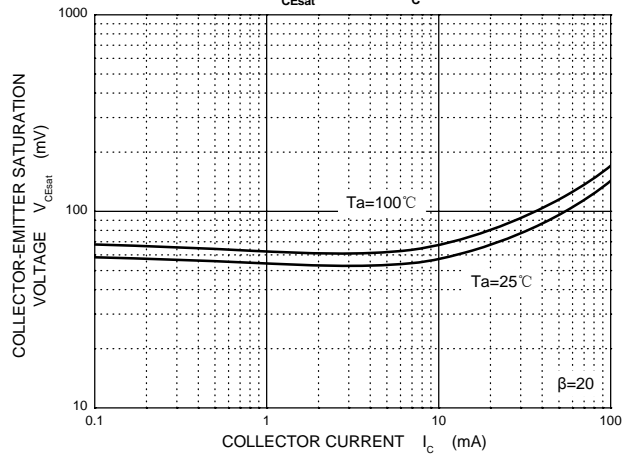
h_{FE} — I_c



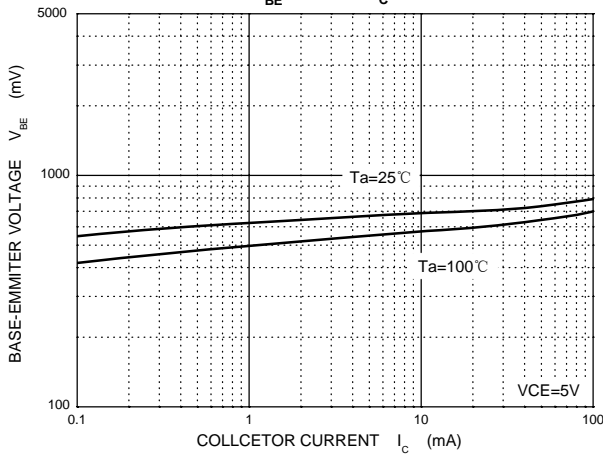
V_{BEsat} — I_c



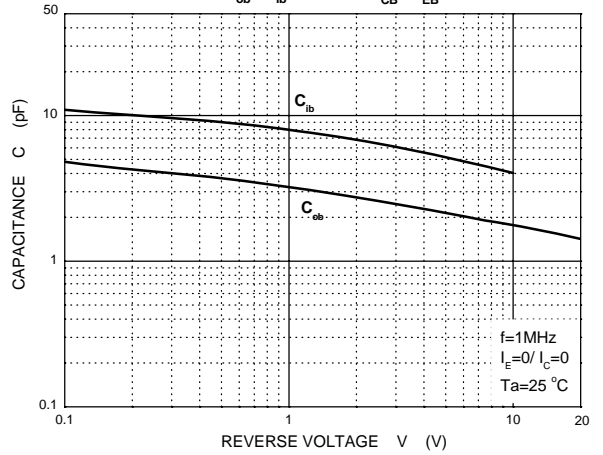
V_{CEsat} — I_c



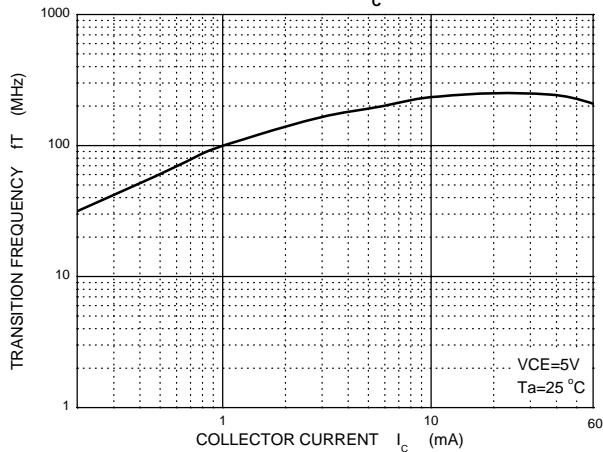
V_{BE} — I_c



C_{ob}/C_{ib} — V_{CB}/V_{EB}



f_T — I_c



P_c — T_a

