M28S TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- Excellent h_{FE} Linearity
- High DC Current Gain

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1	A
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	℃

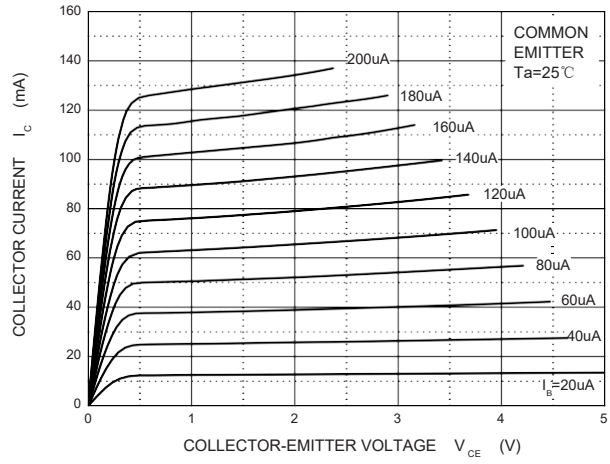
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=0.1mA, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=35V, I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=20V, I_B=0			5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=1mA	290			
	$h_{FE(2)}$	V_{CE}=1V, I_C=100mA	300		1000	
	$h_{FE(3)}$	V_{CE}=1V, I_C=300mA	300			
	$h_{FE(4)}$	V_{CE}=1V, I_C=500mA	300			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=600mA, I_B=20mA			0.55	V
Transition frequency	f_T	V_{CE}=10V,I_E=50mA, f=1MHz	100			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		9		pF

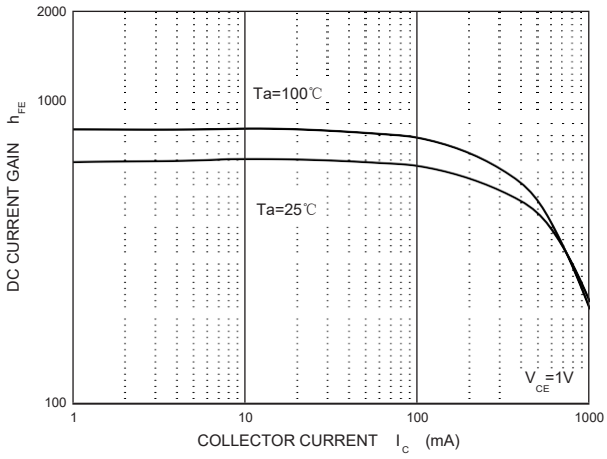
CLASSIFICATION OF $h_{FE(2)}$

RANK	B	C	D
RANGE	300 – 550	500 – 700	650 – 1000
MARKING	28S		

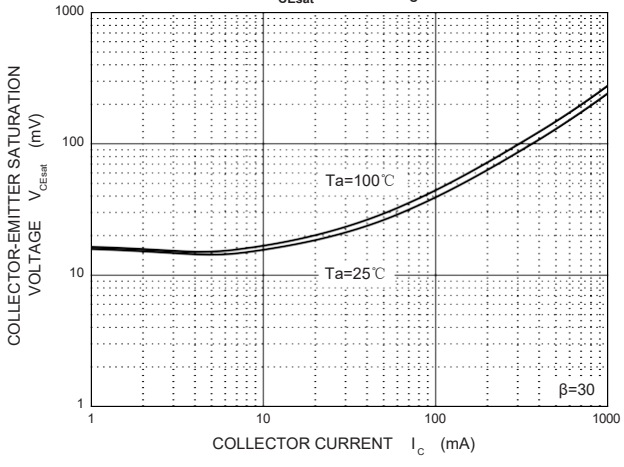
Static Characteristic



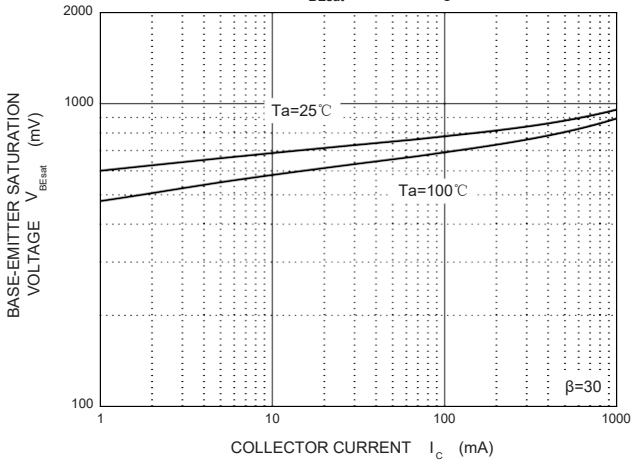
h_{FE} —— I_C



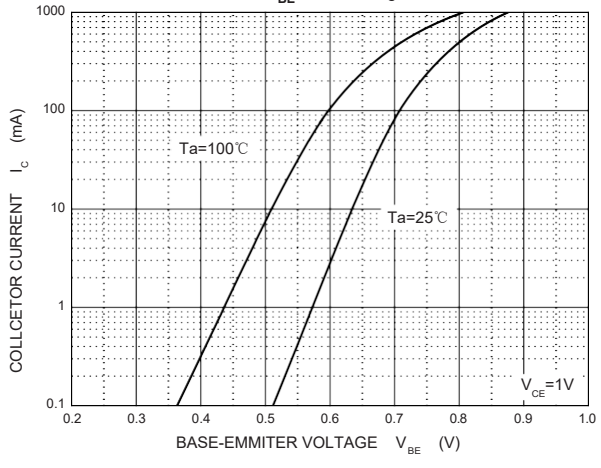
V_{CEsat} —— I_C



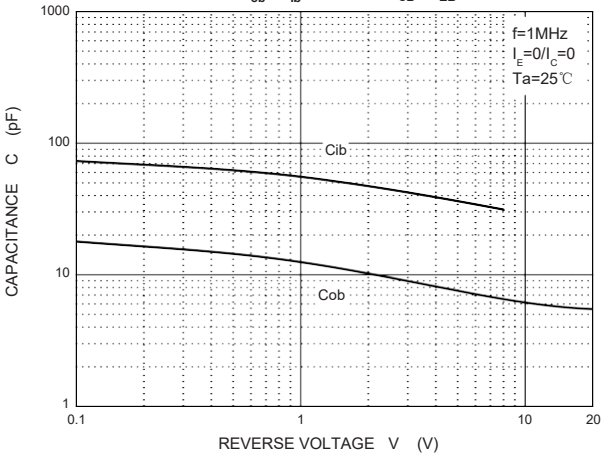
V_{BEsat} —— I_C



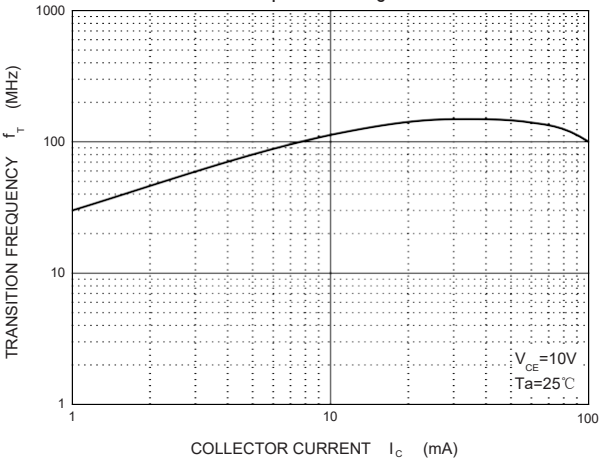
V_{BE} —— I_C



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



f_T —— I_C



P_C —— T_a