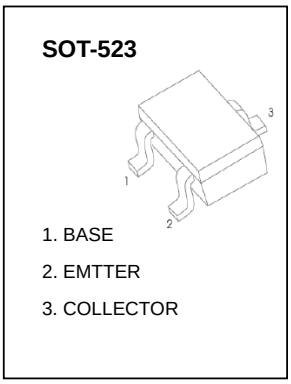
Plastic-Encapsulate Transistors

TRANSISTOR (PNP)



FEATURES

- Reduces Board Space
- High h_{FE}
- Low $V_{CE(sat)}$

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-150	mA
P_C	Collector Power Dissipation	150	mW
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=-50uA, I_E=0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1.0mA, I_B=0	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-50μA, I_C=0	-6.0			V
Collector cut-off current	I_{CBO}	V_{CB}=-60V, I_E=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}=-6V, I_C=0			-0.1	μA
DC current gain	$h_{FE}^{(1)}$	V_{CE}=-6.0V, I_C=-1.0mA	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}^{(2)}$	I_C=-50mA, I_B=-5.0mA			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}^{(2)}$	I_C=-50mA, I_B=-5.0mA			-1.2	V
Transition frequency	f_T	V_{CE}=-12V, I_C=-2.0mA,f=30MHz		140		MHz
Collector output capacitance	C_{ob}	V_{CB}=-12V, I_E=0, f=1MHz		3.5	5	pF

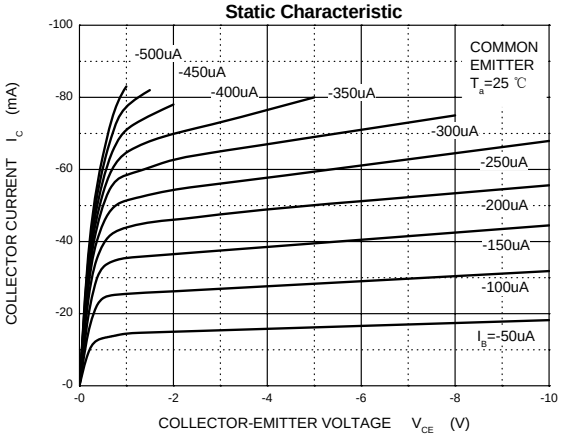
Note(1):

CLASSIFICATION OF h_{FE}

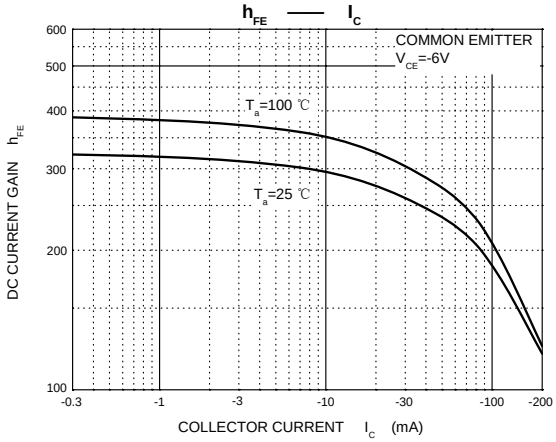
Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	FQ	FR	FS

(2).Pulse Test :Pulse Width ≤300us,D.C ≤ 2%

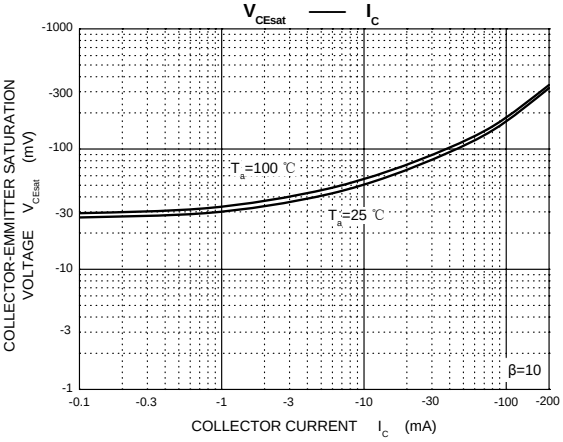
Static Characteristic



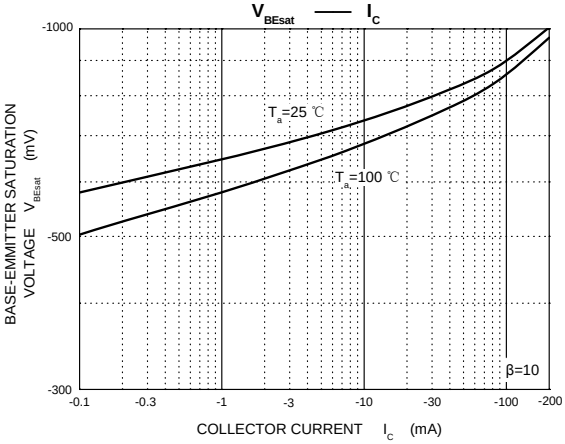
h_{FE} — I_C



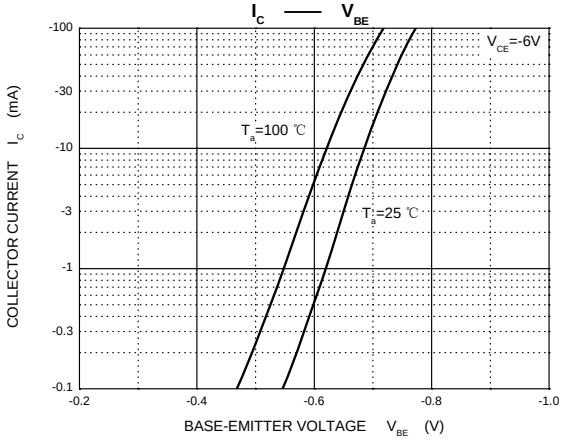
V_{CEsat} — I_C



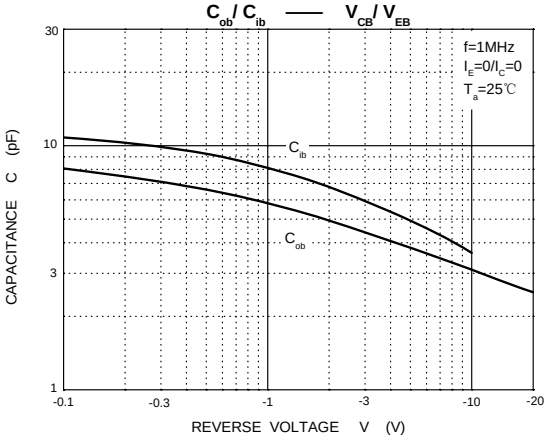
V_{BEsat} — I_C



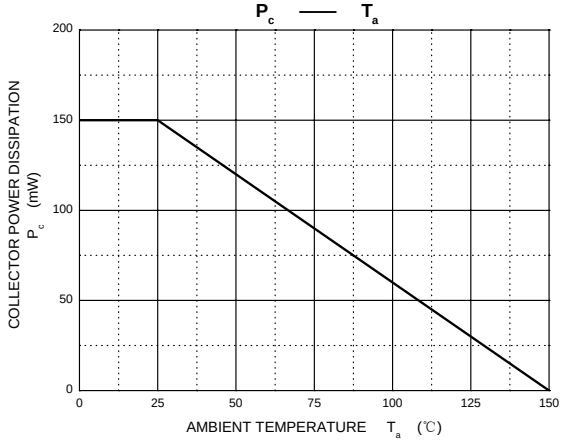
I_C — V_{BE}



C_{ob} / C_{ib} — V_{CB} / V_{EB}

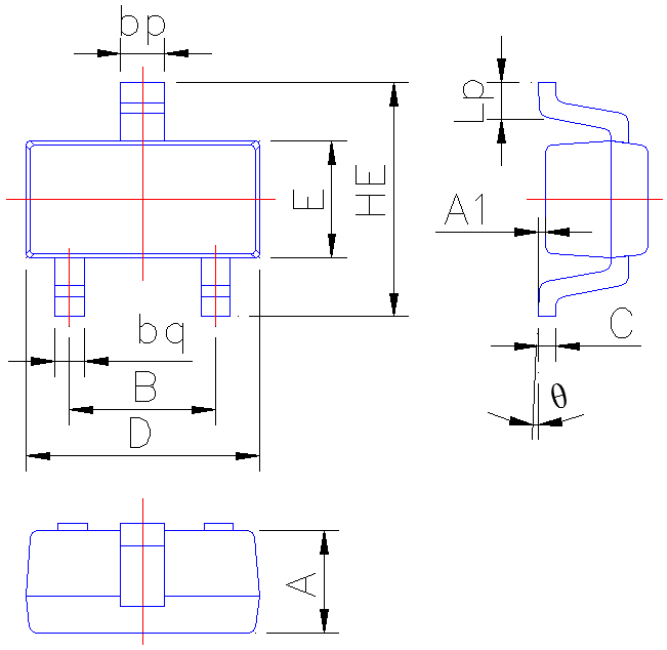


P_c — T_a



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-523**



Symbol	Dimension in Millimeters	
	Min	Max
A	0.60	0.80
A1	0.010	0.100
B	0.95	1.05
bp	0.26	0.40
bq	0.16	0.30
C	0.09	0.15
D	1.50	1.70
E	0.70	0.85
HE	1.45	1.75
Lp	0.16	0.36
θ	0°	5°