BD136 / BD138 / BD140 TRANSISTOR (PNP)

TO-126

1.EMITTER
2.COLLECTOR
3.BASE

FEATURES

- High Current
- Complement To BD135, BD137 And BD139

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
BD136	TO-126	Bulk	200pcs/Bag
BD138	TO-126	Bulk	200pcs/Bag
BD140	TO-126	Bulk	200pcs/Bag
BD136-TU	TO-126	Tube	60pcs/Tube
BD138-TU	TO-126	Tube	60pcs/Tube
BD140-TU	TO-126	Tube	60pcs/Tube

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter		Value	Unit
V_{CBO}	Collector-Base Voltage	BD136	-45	V
		BD138	-60	
		BD140	-80	
V_{CEO}	Collector-Emitter Voltage	BD136	-45	V
		BD138	-60	
		BD140	-80	
V_{EBO}	Emitter-Base Voltage		-5	V
I_C	Collector Current		-1.5	A
P_C	Collector Power Dissipation		1.25	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient		100	℃/W
T_J,T_{stg}	Junction Temperature		-55~+150	℃

T_a=25℃ unless otherwise specified

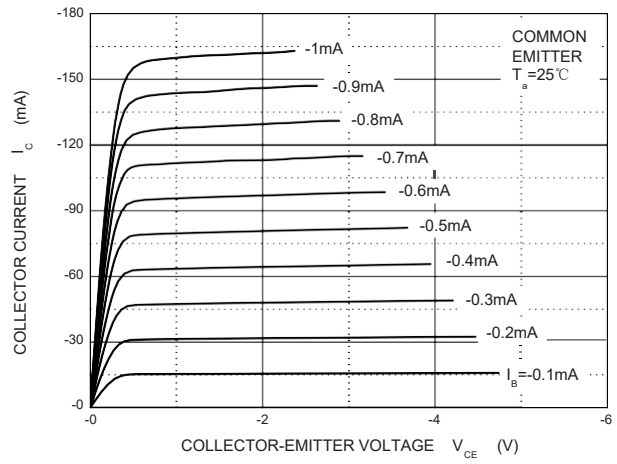
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -0.1mA,I_E=0				
BD136			-45			V
BD138			-60			
BD140			-80			
Collector-emitter sustaining voltage	$V_{CEO(SUS)}$*	I_C=-0.03A,I_B=0				
BD136			-45			V
BD138			-60			
BD140			-80			
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-0.1mA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-30V,I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-10	μA
DC current gain	$h_{FE(1)}$*	V_{CE}=-2V, I_C=-150mA	40		250	
	$h_{FE(2)}$*	V_{CE}=-2V, I_C=-5mA	25			
	$h_{FE(3)}$*	V_{CE}=-2V, I_C=-500mA	25			
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=-500mA,I_B=-50mA			-0.5	V
Base-emitter voltage	V_{BE}*	V_{CE}=-2V, I_C=-500mA			-1	V

*Pulse test: pulse width ≤350μs, duty cycle≤ 2.0%.

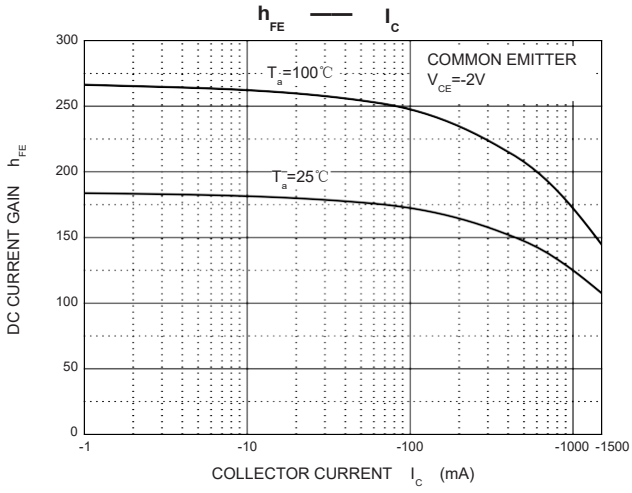
CLASSIFICATION OF $h_{FE(1)}$

RANK	6	10	16
RANGE	40-100	63-160	100-250

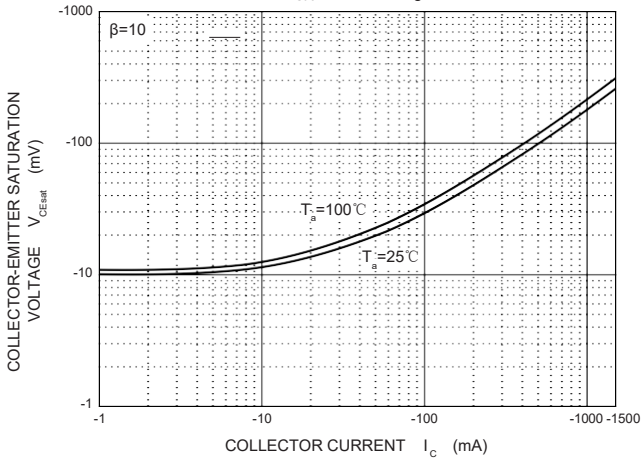
Static Characteristic



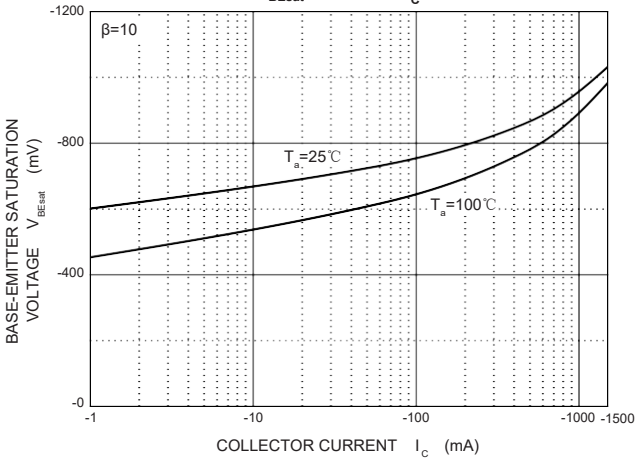
h_{FE} —— I_C



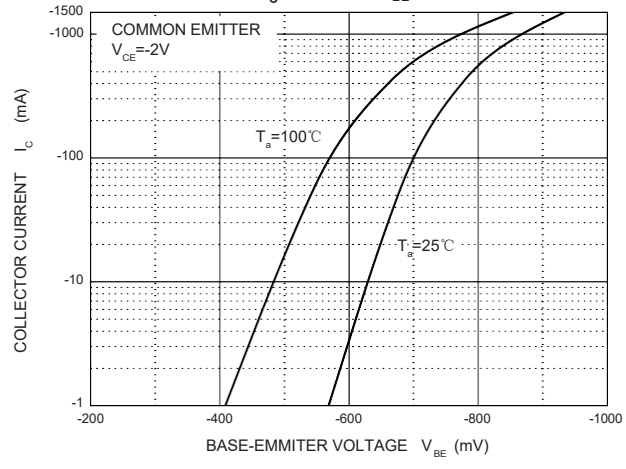
V_{CEsat} —— I_C



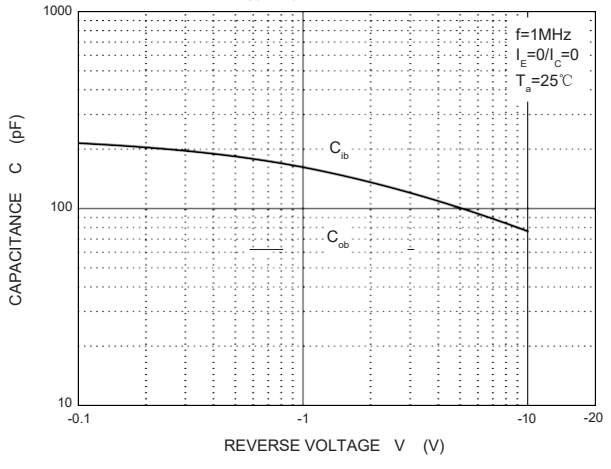
V_{BEsat} —— I_C



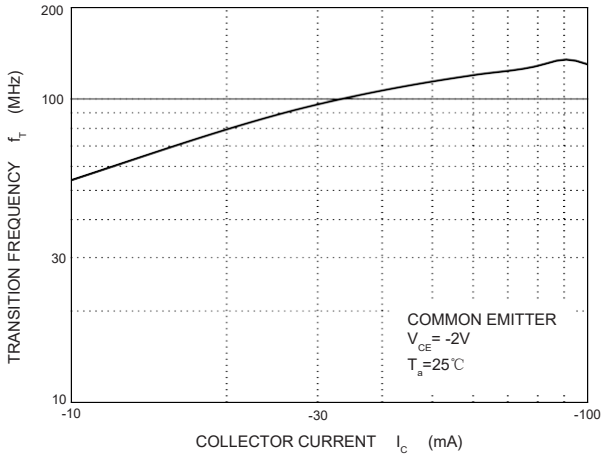
I_C —— V_{BE}



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



f_T —— I_C



P_C —— T_a