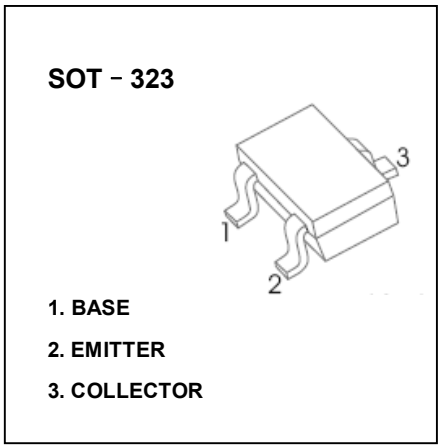
TAIGITON

2SC4177

SOT-323 Plastic-Encapsulate Transistors

TRANSISTOR (NPN)



FEATURES

- High DC Current Gain
- Complementary to 2SA1611
- High Voltage

APPLICATIONS

- General Purpose Amplification

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	5	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-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	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0			100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			100	nA
DC current gain	h_{FE}*	V_{CE}=6V, I_C=1mA	90		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA			1	V
Base-emitter voltage	V_{BE}	V_{CE}=6V, I_C=1mA	0.55		0.68	V
Transition frequency	f_T	V_{CE}=6V, I_C=10mA		250		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		3		pF

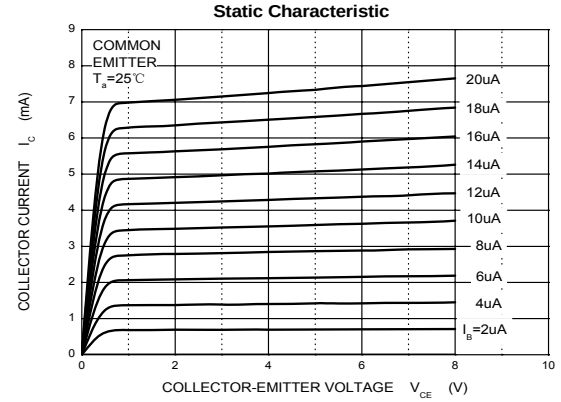
*Pulse test: pulse width ≤350μs, duty cycle≤ 2.0%.

CLASSIFICATION OF h_{FE}

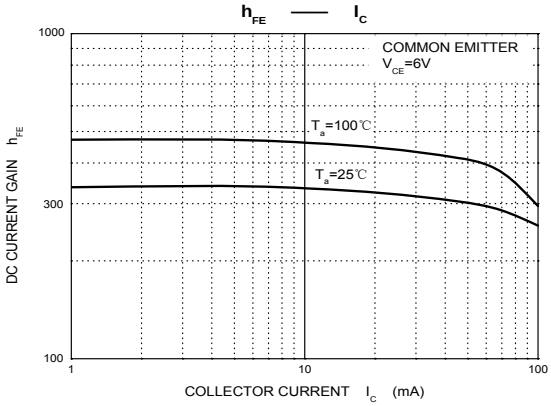
RANK	L4	L5	L6	L7
RANGE	90－180	135－270	200－400	300－600
MARKING	L4	L5	L6	L7

Typical Characterisitics 2SC4177

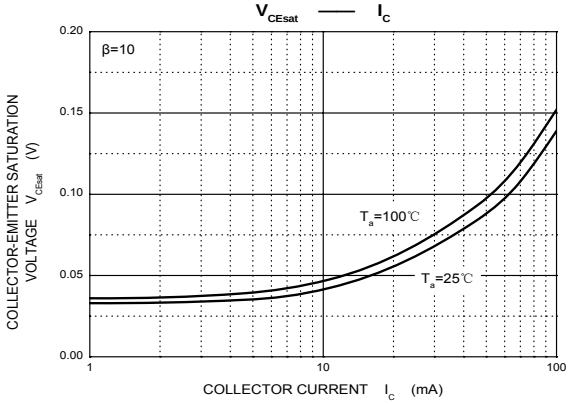
Static Characteristic



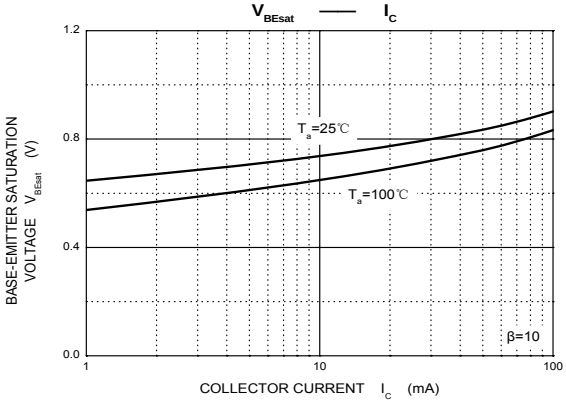
hFE —— IC



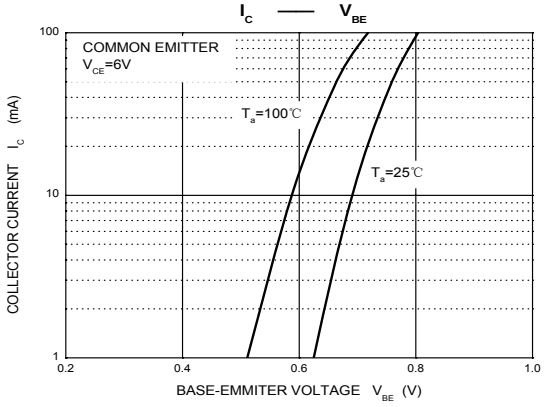
VCEsat —— IC



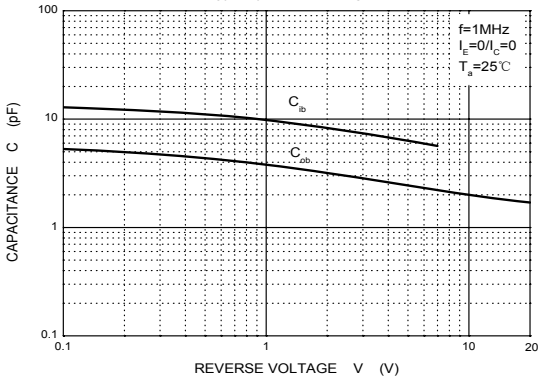
VBEsat —— IC



IC —— VBE



Cob/ Cib —— VCB/ VEB



PC —— Ta