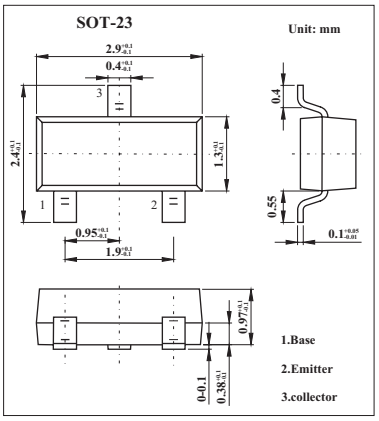
NPN Silicon Epitaxial Transistor
2SC1653



■ Features

- High DC current gain.h_{FE}=130 typ.(V_{CE}=3.0V,I_C=15mA)
- High voltage V_{CEO} : 130V

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	150	V
Collector-emitter voltage	V_{CEO}	130	V
Emitter-base voltage	V_{EBO}	5	V
Collector current	I_C	50	mA
power dissipation	P_D	150	mW
Junction temperature	T_j	125	℃
Storage temperature	T_{stg}	-55 to +125	℃

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 130V, I_E=0			0.1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5V, I_C=0			0.1	μA
DC current gain *	h_{FE}	V_{CE} =3V , I_C = 15mA	90	200	400	
		V_{CE} =3V , I_C = 1mA	70	180		
Collector-emitter saturation voltage *	$V_{CE(sat)}$	I_C = 50mA , I_B = 5mA		0.1	0.3	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	I_C = 50mA , I_B = 5mA		0.73	1.0	V
Output capacitance	C_{ob}	V_{CB} = 10V , I_E = 0 , f = 1.0MHz		2.3		pF
Transiston frequency	f_T	V_{CE} = 10V , I_E = -10mA		120		MHz

* Pulse test: tp ⩽ 350 μs; d ⩽ 0.02.

■ h_{FE} Classification

Marking	N2	N3	N4
hFE	90～180	135～270	200～400

2SC1653

■ Typical Characteristics

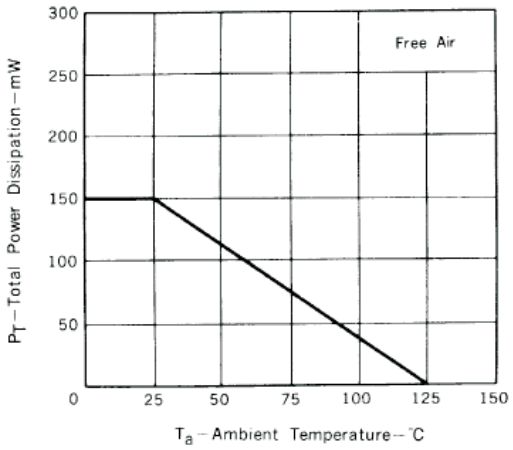


Fig.1 Total Power Dissipation vs. Ambient Temperature

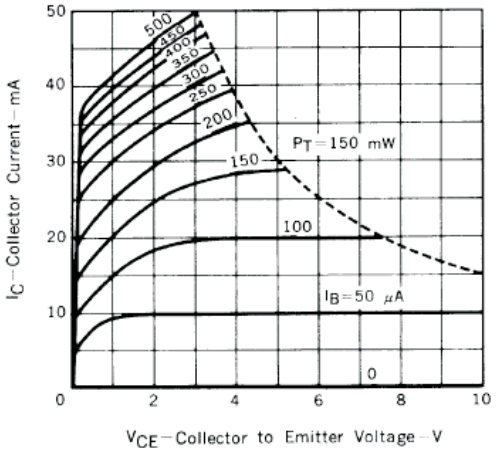


Fig.2 Collector Current vs. Collector to Emitter Voltage

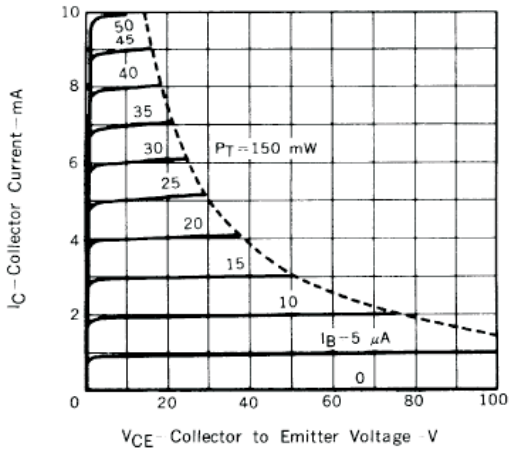


Fig.3 Collector Current vs. Base to Emitter Voltage

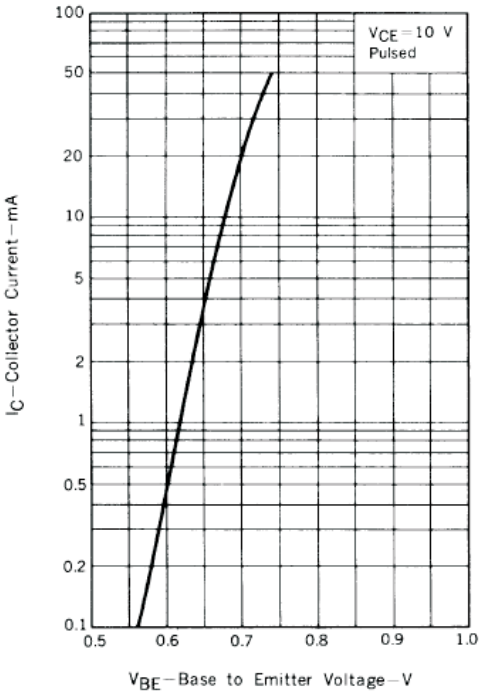


Fig.4 Collector Current vs. Collector to Emitter Voltage

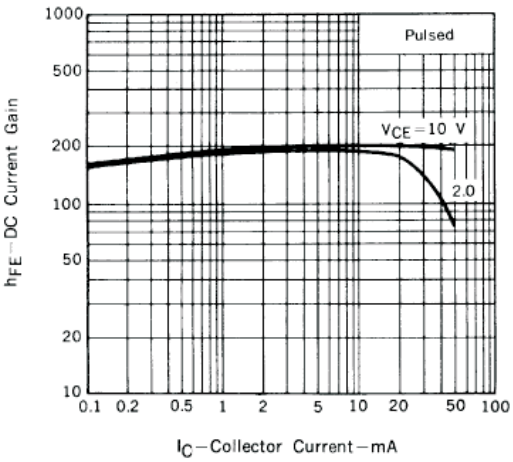


Fig.5 DC Current Gain vs. Collector Current

2SC1653

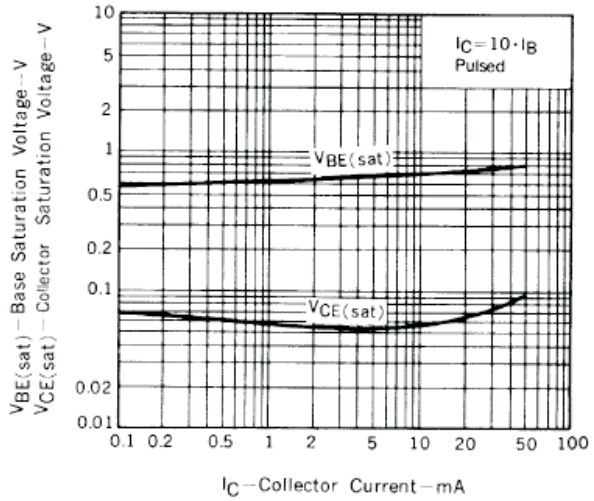


Fig.6 Base And Collector Saturation Voltage vs. Collector Current

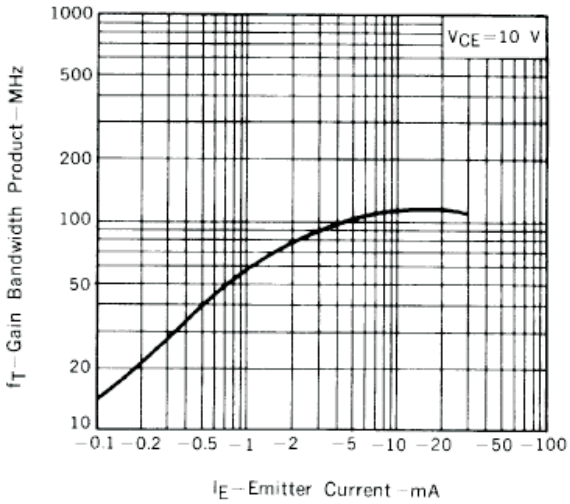


Fig.7 Gain Bandwidth Product vs. Emitter Current

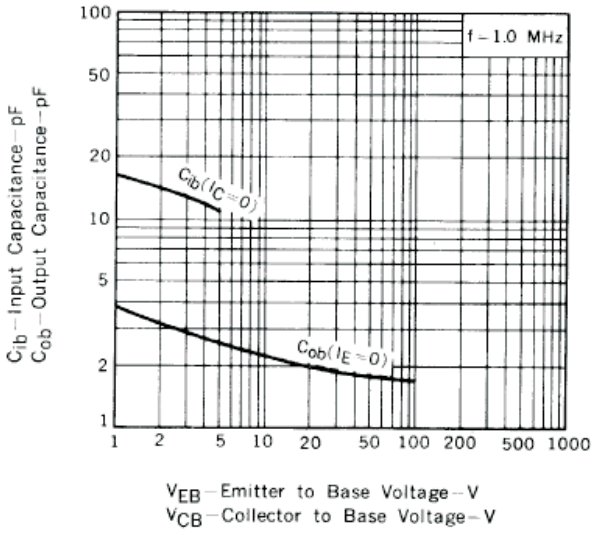


Fig.8 Input And Output Capacitance vs. Reverse Voltage