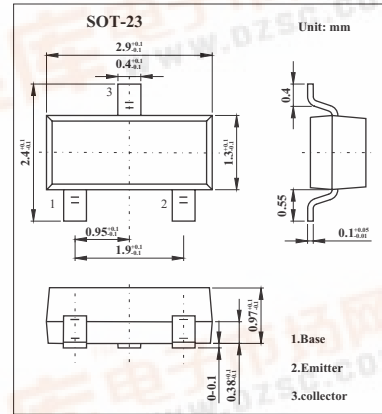


SMD Type Transistors

NPN Silicon Epitaxial Transistor
2SC1654

■ Features

- High DC current gain.hFE=130 typ.(VCE=3.0V,Ic=15mA)
- High voltage VCEO : 160V



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	180	V
Collector-emitter voltage	V _{CEO}	160	V
Emitter-base voltage	V _{EB0}	5	V
Collector current	I _c	50	mA
power dissipation	P _D	150	mW
Junction temperature	T _j	125	°C
Storage temperature	T _{stg}	-55 to +125	°C

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	I _{CBO}	V _{CB} = 130V, I _E =0			0.1	μ A
Emitter cutoff current	I _{EBO}	V _{EB} = 5V, I _C =0			0.1	μ A
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 _r	V _{CE} = 10V , I _E = -10mA		120		MHz

* Pulse test: tp ≤ 350 μs; d ≤ 0.02.

■ hFE Classification

Marking	N5	N6	N7
hFE	90~180	135~270	200~400



2SC1654

■ Typical Characteristics

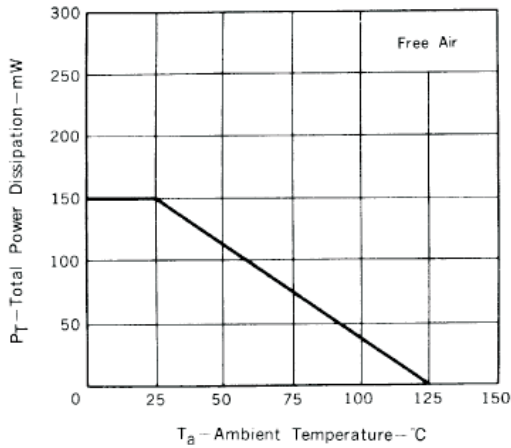


Fig.1 Total Power Dissipation vs. Ambient Temperature

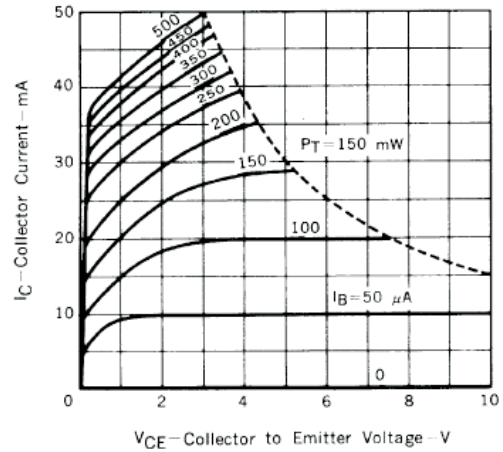


Fig.2 Collector Current vs. Collector to Emitter Voltage

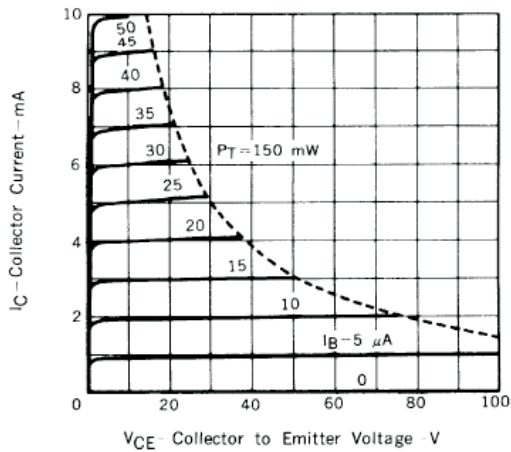


Fig.3 Collector Current vs. Base to Emitter Voltage

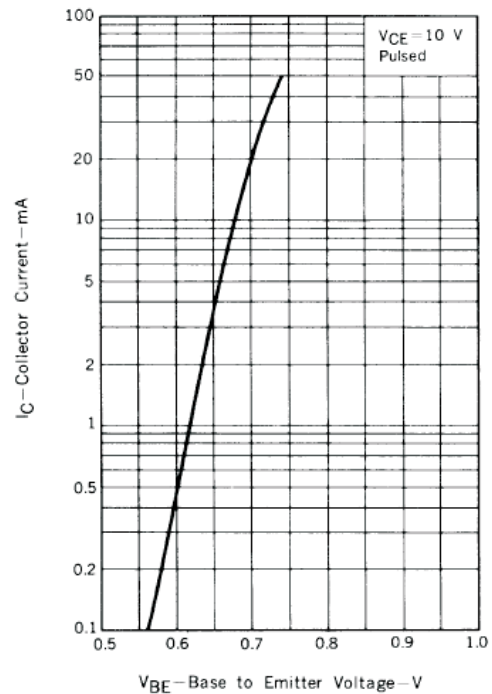


Fig.4 Collector Current vs. Collector to Emitter Voltage

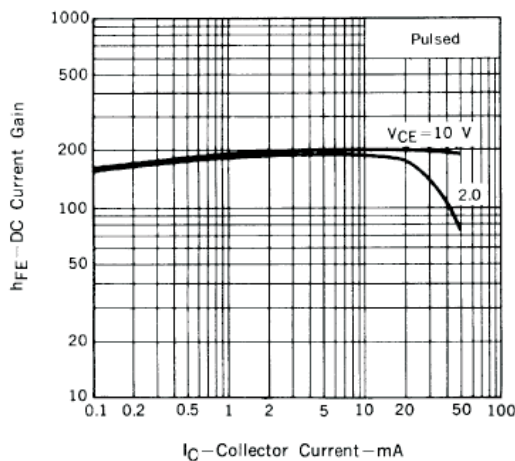


Fig.5 DC Current Gain vs. Collector Current

2SC1654

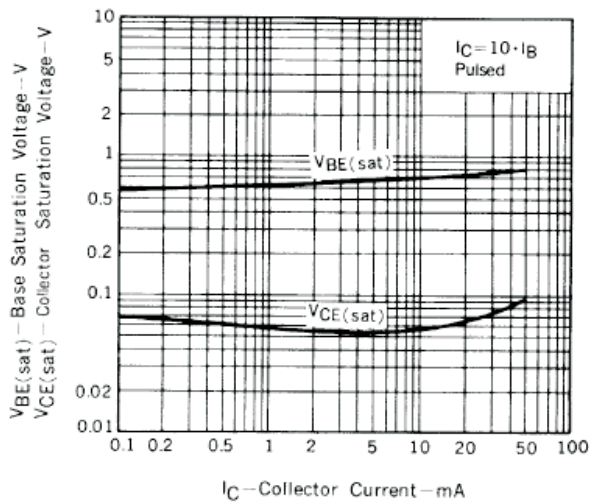


Fig.6 Base And Collector Saturation Voltage vs. Collector Current

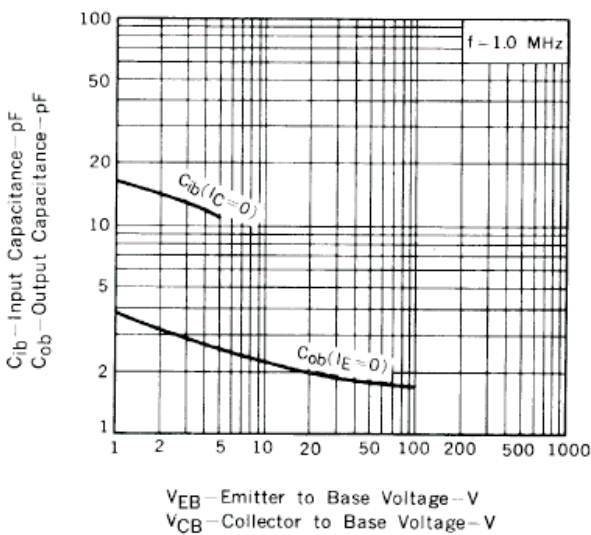
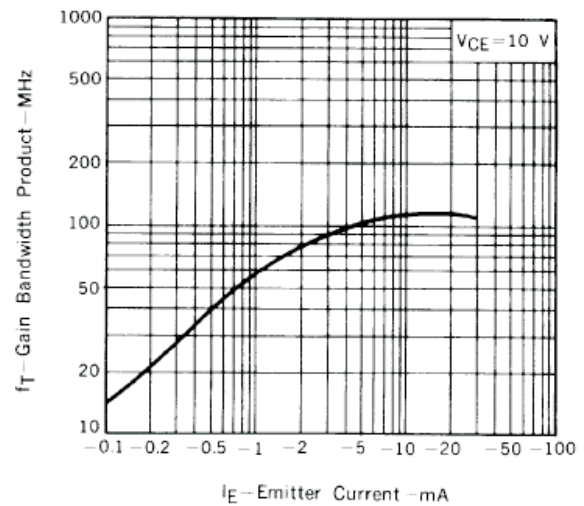


Fig.8 Input And Output Capacitance vs. Reverse Voltage