2SC2582

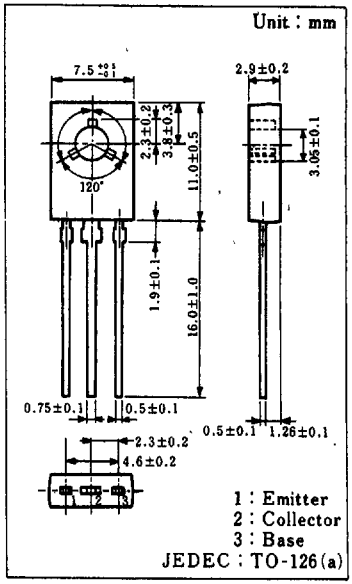
Silicon NPN Epitaxial Planar Type

AF Power Amplifier

■ Feature

- Large collector power dissipation (P_C)

■ Package Dimensions



■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	45	V
Collector-emitter voltage	V_{CEO}	35	V
Emitter-base voltage	V_{EBO}	5	V
Peak collector current	I_{CP}	1.5	A
Collector current	I_C	1	A
Collector power dissipation	P_C	1.2*1	W
		10*2	W
Junction temperature	T_j	150	℃
Storage temperature	T_{stg}	−55～+150	℃

*1 Without heat sink
*2 With a 100×100×2mm Al heat sink

■ Electrical Characteristics (Tc=25°C)

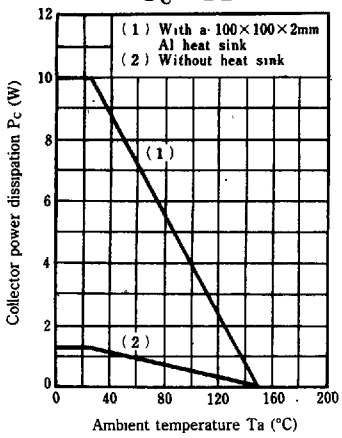
Item	Symbol	Condition	min.	typ.	max.	Unit
Collector cutoff current	I_{CBO}	V_{CB}=20V, I_E=0			0.1	μA
	I_{CEO}	V_{CE}=20V, I_B=0			100	μA
Emitter cutoff current	I_{EBO}	V_{EB}=5V, I_C=0			10	μA
Collector-base voltage	V_{CBO}	I_C=1mA, I_E=0	45			V
Collector-emitter voltage	V_{CEO}	I_C=2mA, I_B=0	35			V
DC current gain	h_{FE1}*1	V_{CE}=10V, I_C=500mA*2	85	160	340	
	h_{FE2}	V_{CE}=5V, I_C=1A*2	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA			0.5	V
Transition frequency	f_T	V_{CB}=10V, I_E=−50mA, f=200MHz		200		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz			20	pF

*2 Pulse measurement

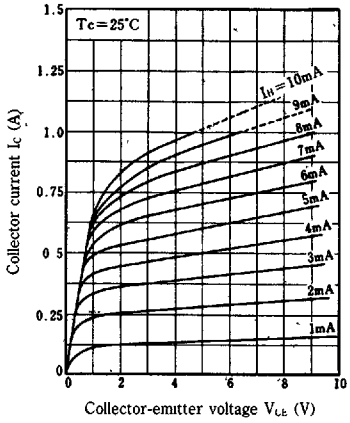
*1 h_{FE1} Classifications

Class	Q	R	S
h_{FE1}	85～170	120～240	170～340

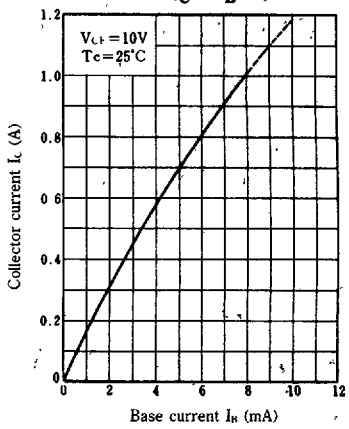
$P_C - Ta$



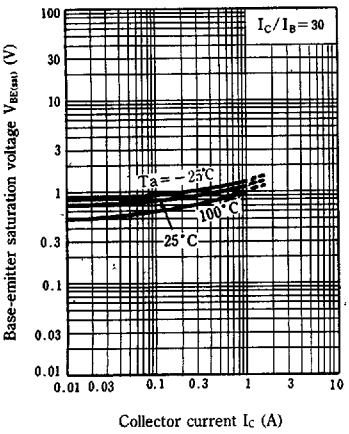
$I_C - V_{CE}$



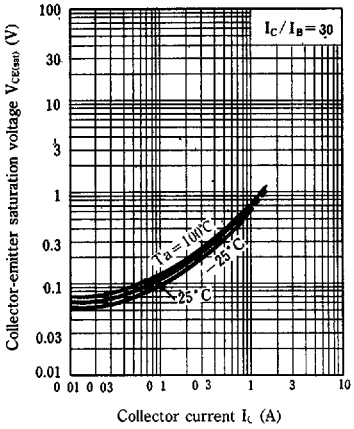
$I_C - I_B$



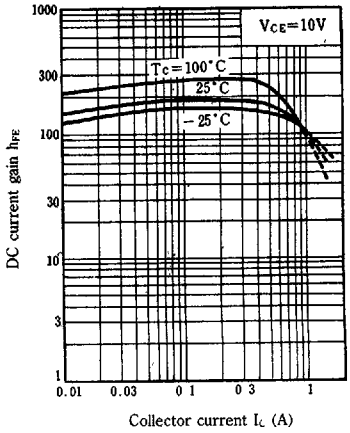
$V_{BE(sat)} - I_C$



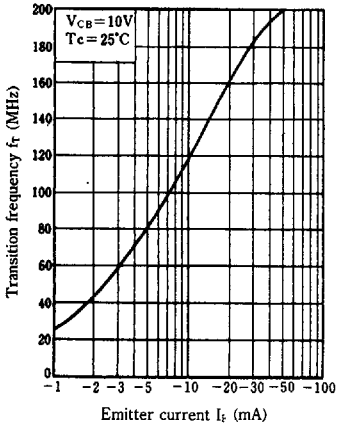
$V_{CE(sat)} - I_C$



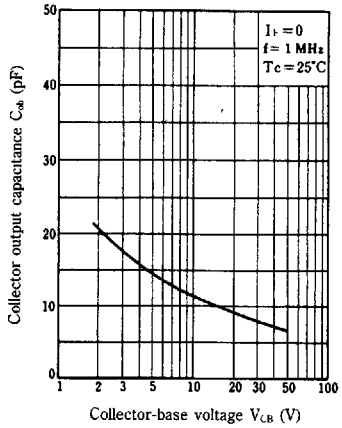
$h_{FE} - I_C$



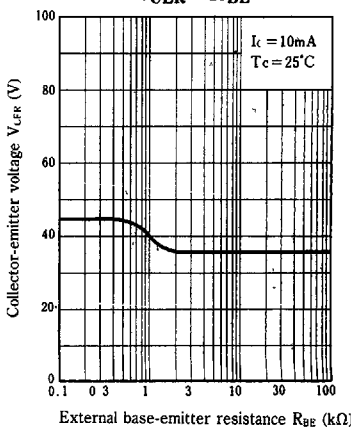
$f_T - I_E$

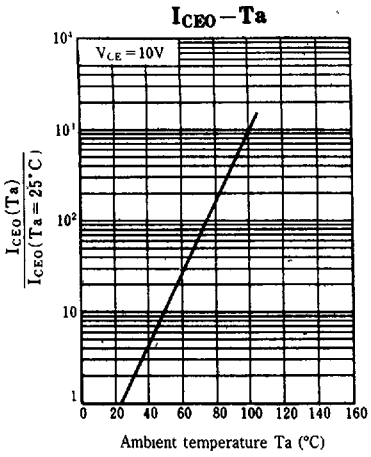


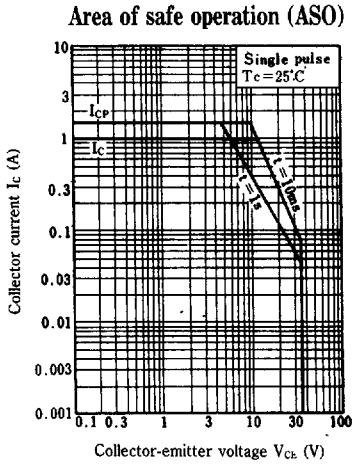
$C_{ob} - V_{CB}$



$V_{CER} - R_{BE}$




ICEO – Ta
VCE = 10V
ICEO(Ta) / ICEO(Ta = 25°C)
10³
10²
10¹
10
1
0 20 40 60 80 100 120 140 160
Ambient temperature Ta (°C)


Area of safe operation (ASO)
Single pulse
Tc = 25°C
ICP
IC
t = 1ms
t = 10μs
Collector current IC (A)
10
3
1
0.3
0.1
0.03
0.01
0.003
0.001
0.1 0.3 1 3 10 30 100
Collector-emitter voltage VCE (V)