

●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	−40	V
Collector-emitter voltage	V _{CE0}	−32	V
Emitter-base voltage	V _{EB0}	−5	V
Collector current	I _C	−1	A (DC)
		−2	A (Pulse) ※1
Collector power dissipation	P _C	0.5	W ※2
		2	
		0.3	
		1	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	−55~+150	°C

※1 Single pulse, Pw=100ms

※2 When mounted on a 40×40×0.7 mm ceramic board.

※3 Printed circuit board, 1.7 mm thick, collector copper plating 100mm² or larger.

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	−40			V	I _C = −50 μA
Collector-emitter breakdown voltage	BV _{CE0}	−32			V	I _C = −1 mA
Emitter-base breakdown voltage	BV _{EB0}	−5	—	—	V	I _C = −50 μA
Collector cutoff current	I _{CBO}	—	—	−0.5	μA	V _{CE} = −20V
Emitter cutoff current	I _{ES0}	—		−0.5	μA	V _{EE} = −4V
Collector-emitter saturation voltage	V _{CE(sat)}	—	−0.2	−0.5	V	I _C /I _E = −500mA/−50mA ※
DC current transfer ratio	h _{FE}	82	—	390	—	V _{CE} = −3V, I _C = −0.1A ※
		120		390		
Transition frequency	f _T	—	150	—	MHz	V _{CE} = −5V, I _E = 50mA, f = 30MHz
Output capacitance	C _{ob}	—	20	30	pF	V _{CE} = −10V, I _E = 0A, f = 1MHz

※ Measured using pulse current

●Packaging specifications and h_{FE}

Type	h _{FE}	Package	Taping		
		Code Basic ordering unit (pieces)	T100 1000	TP 5000	TU2 2500
2SB1132	PQR		○	—	—
2SA1515S	QR		—	○	—
2SB1237	PQR		—	—	○

h_{FE} values are classified as follows :

Item	P	Q	R
h _{FE}	82~180	120~270	180~390

●Electrical characteristic curves

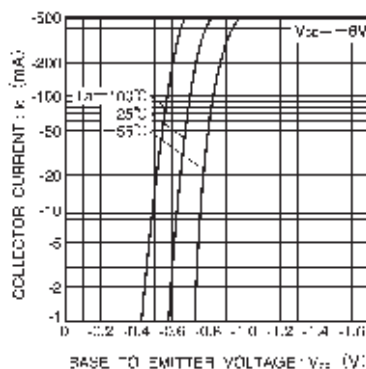


Fig.1 Grounded emitter propagation characteristics

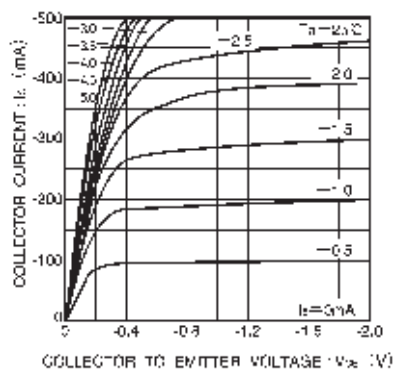


Fig.2 Grounded emitter output characteristics

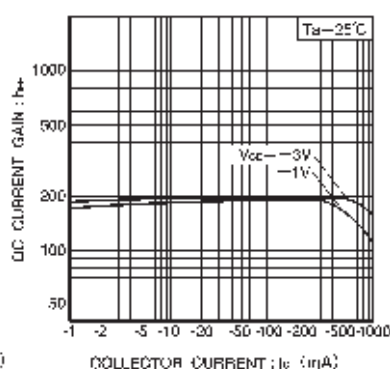
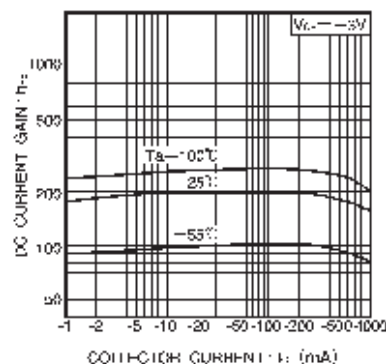
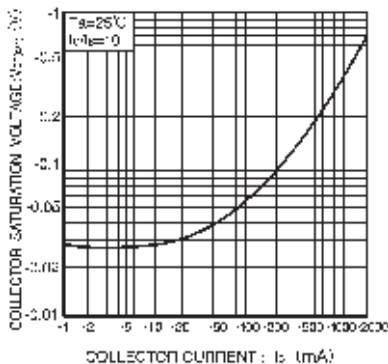
Fig.3 DC current gain vs. collector current (I_c)Fig.4 DC current gain vs. collector current (I_c)

Fig.5 Collector-emitter saturation voltage vs. collector current

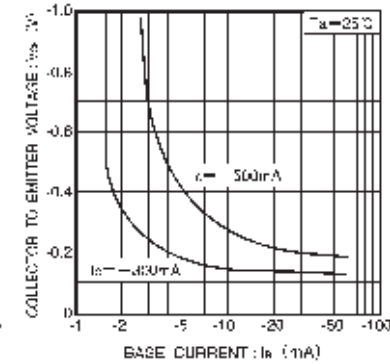


Fig.6 Collector-emitter saturation voltage vs. base current

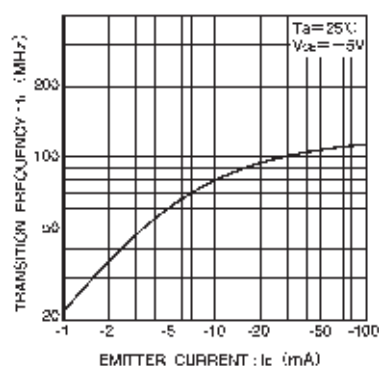


Fig.7 Gain bandwidth product vs. emitter current

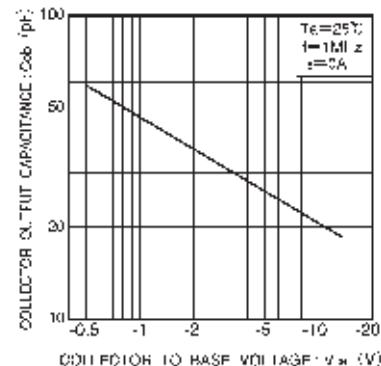


Fig.8 Collector output capacitance vs. collector-base voltage

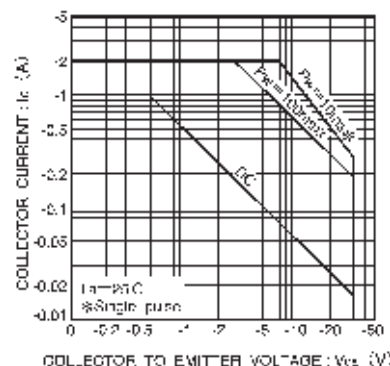


Fig.9 Safe operation area (2SB1132)

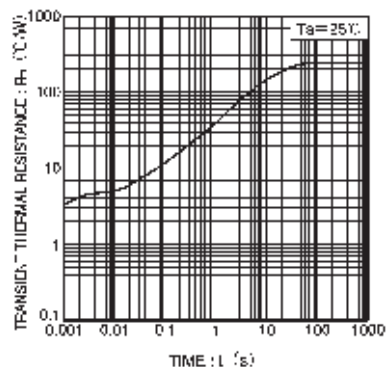


Fig. 10 Transient thermal resistance
(2SB1132)

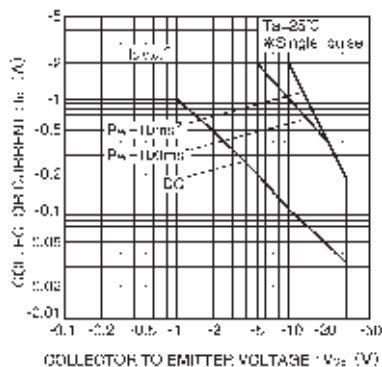


Fig. 11 Safe operation area
(2SB1237)

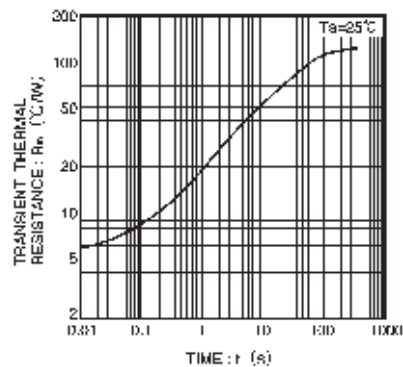


Fig. 12 Transient thermal resistance
(2SB1237)