

2SB1335A

Transistor, PNP

Features

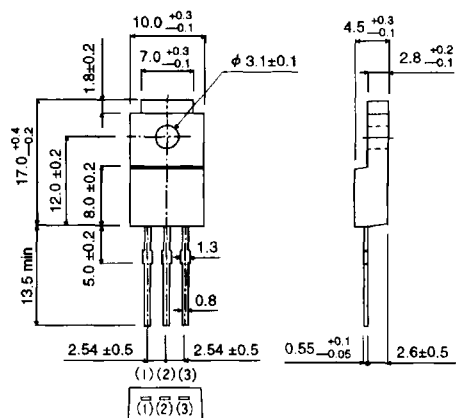
- available in TO-220 FP (SC-67) package
- low collector saturation voltage, typically $V_{CE(sat)} = -0.5\text{ V}$ at $I_C/I_B = -3\text{ A}/-0.3\text{ A}$
- excellent current-to-gain characteristics
- large collector power dissipation, $P_C = 30\text{ W}$ at $T_C = 25^\circ\text{C}$
- wide safe operating area (SOA)
- easily insulated from the heat sink as the fin is molded

Applications

- power amplifier

Dimensions (Units : mm)

2SB1335A (TO-220 FP)



Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

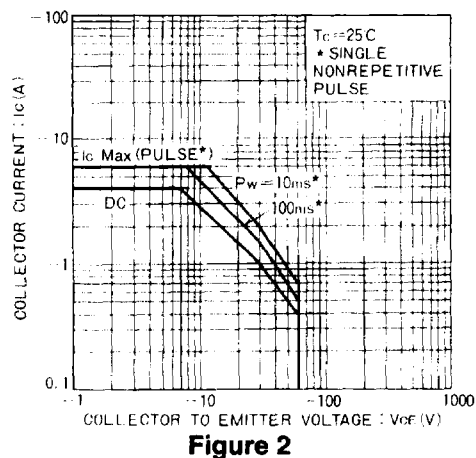
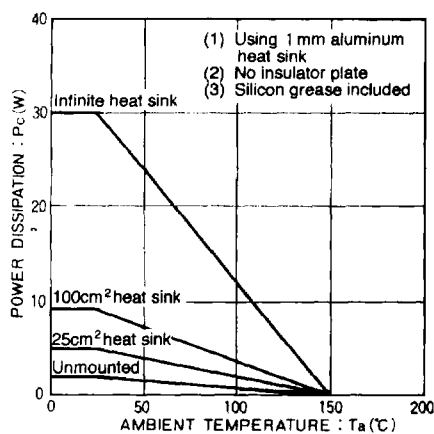
Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	-80	V	
Collector-to-emitter voltage	V_{CEO}	-80	V	
Emitter-to-base voltage	V_{EBO}	-5	V	
Collector current	I_C	-4	A	Continuous (dc)
		-6	A	Single pulse, $P_W = 100\text{ ms}$
Collector dissipation	P_C	2	W	$T_a = 25^\circ\text{C}$
		30	W	$T_C = 25^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$	
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$	

Electrical characteristics (unless otherwise noted, $T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	-80			V	$I_C = -50\ \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	-80			V	$I_C = -1\ \text{mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	-5			V	$I_E = -50\ \mu\text{A}$
Collector cutoff current	I_{CBO}			-10	μA	$V_{CB} = -80\ \text{V}$
Emitter cutoff current	I_{EBO}			-10	μA	$V_{EB} = -4\ \text{V}$
DC current gain	h_{FE}	60		320		$V_{CE} = -5\ \text{V}$, $I_C = -1\ \text{A}$, single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		-0.5	-1.5	V	$I_C/I_B = -3\ \text{A}/-0.3\ \text{A}$, single pulse
Base-to-emitter saturation voltage	$V_{BE(sat)}$			-1.5	V	$I_C/I_B = -3\ \text{A}/-0.3\ \text{A}$, single pulse
Transition frequency	f_T		12		MHz	$V_{CE} = -5\ \text{V}$, $I_E = 0.5\ \text{A}$, $f = 5\ \text{MHz}$, single pulse
Output capacitance	C_{ob}		100		pF	$V_{CB} = -10\ \text{V}$, $I_E = 0\ \text{A}$, $f = 1\ \text{MHz}$

 h_{FE} rankings

Item	D	E	F
h_{FE}	60 ~ 120	100 ~ 200	160 ~ 320

Electrical characteristic curves


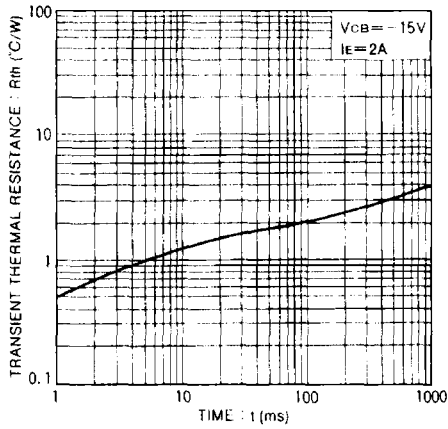


Figure 3

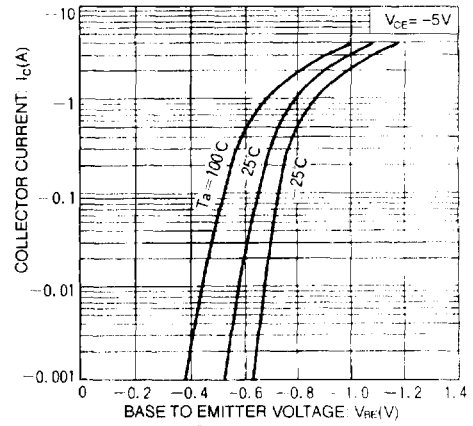


Figure 4

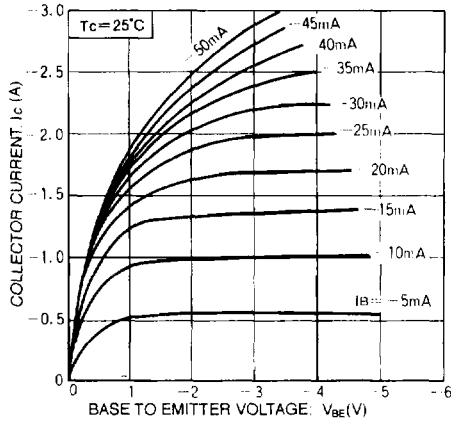


Figure 5

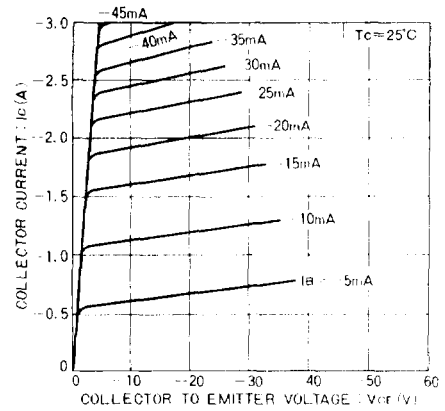


Figure 6

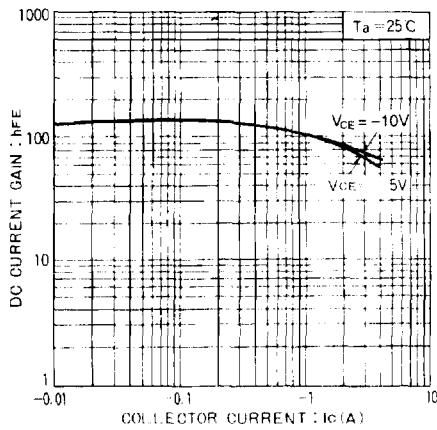


Figure 7

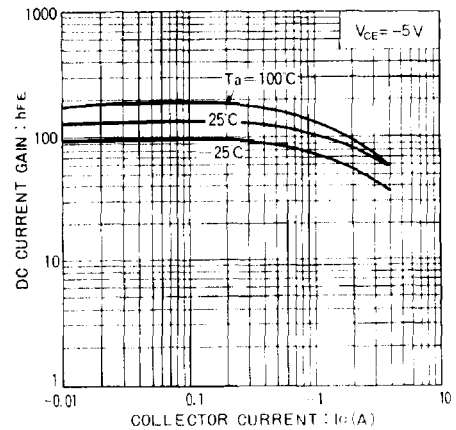


Figure 8

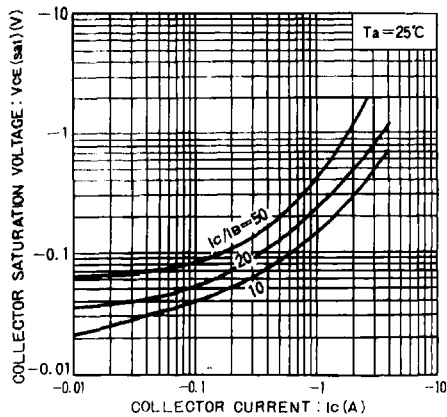


Figure 9

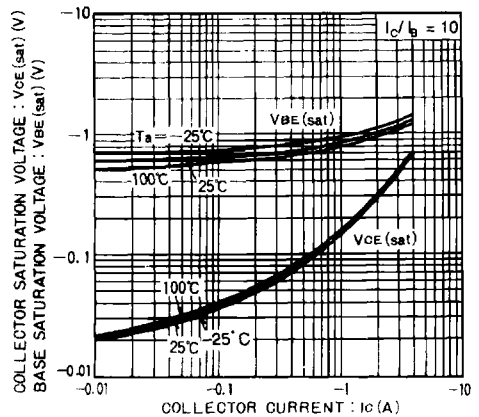


Figure 10

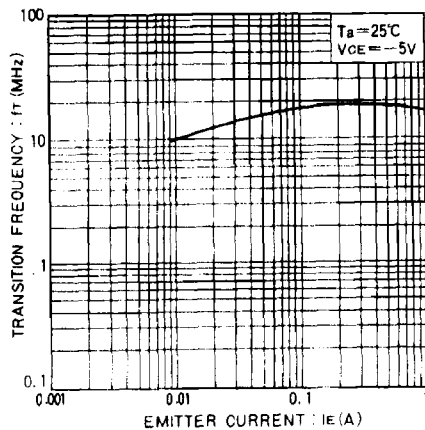


Figure 11

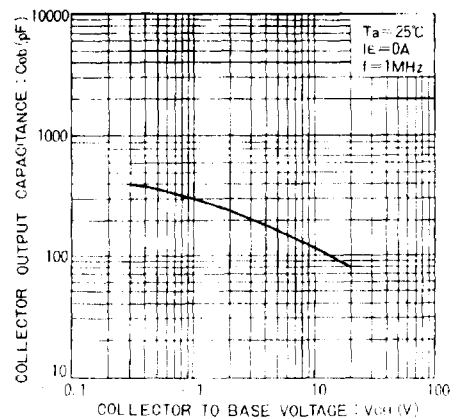


Figure 12

Ordering information

Package	Bulk
Code	
Basic order quantity	500
2SB1335A	★
★ = Standard, ☆ = Semi-standard, * = Special order	