2SB1290 Transistor, PNP

Features

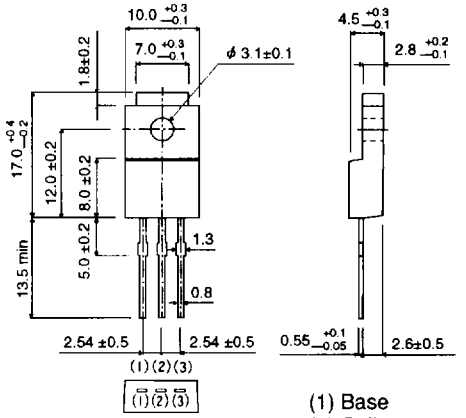
- available in TO-220 FP (SC-67) package
- low collector saturation voltage, typically $V_{CE(sat)} = -0.3$ V at $I_C/I_B = -4$ A/-0.4 A
- excellent current-to-gain characteristics
- large collector power dissipation, $P_C = 30$ W at $T_C = 25°C$)
- wide safe operating area (SOA)
- complementary pair with 2SD1833
- easily insulated from the heat sink as the fin is molded

Applications

- power amplifier

Dimensions (Units : mm)

2SB1290 (TO-220 FP)



(1) Base
(2) Collector
(3) Emitter

Absolute maximum ratings ($T_a = 25°C$)

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	−7	A	Continuous (dc)
		−10	A	Single pulse, $P_W = 100$ ms
Collector dissipation	P_C	2	W	$T_a = 25°C$
		30	W	$T_C = 25°C$
Junction temperature	T_j	150	°C	
Storage temperature	T_{stg}	−55 ~ +150	°C	

Electrical characteristics (unless otherwise noted, T_a = 25°C)

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	BV_{CBO}	−80			V	I_C = −50 μA
Collector-to-emitter breakdown voltage	BV_{CEO}	−80			V	I_C = −1 mA
Emitter-to-base breakdown voltage	BV_{EBO}	−5			V	I_E = −50 μA
Collector cutoff current	I_{CBO}			−10	μA	V_{CB} = −80 V
Emitter cutoff current	I_{EBO}			−10	μA	V_{EB} = −4 V
DC current gain	h_{FE}	60		320		V_{CE} = −5 V, I_C = −1 A, single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		−0.3	−1	V	I_C/I_B = −4 A/−0.4 A, single pulse
Base-to-emitter saturation voltage	$V_{BE(sat)}$			−1.5	V	I_C/I_B = −4 A/−0.4 A single pulse
Transition frequency	f_T		12		MHz	V_{CE} = −5 V, I_E = 0.5 A, f = 5 MHz, single pulse
Output capacitance	C_{ob}		200		pF	V_{CB} = −10 V, I_E = 0 A, f = 1 MHz

h_{FE} rankings

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

Electrical characteristic curves

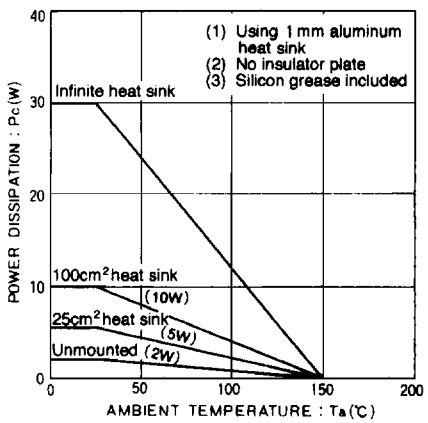


Figure 1

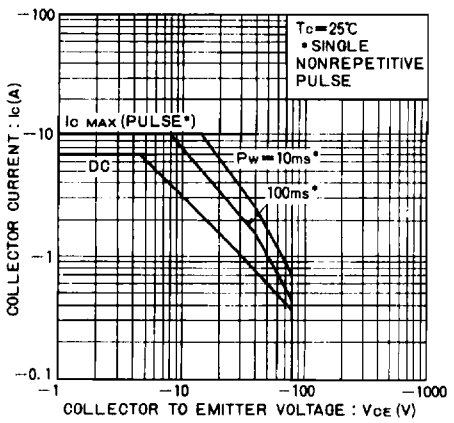


Figure 2

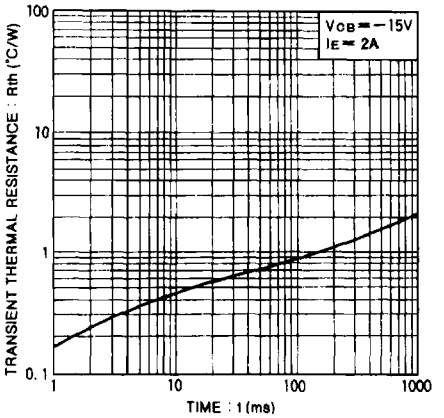


Figure 3

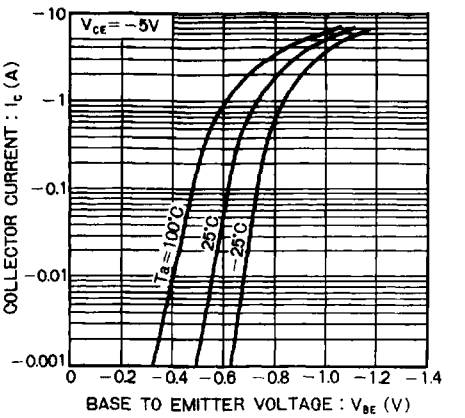


Figure 4

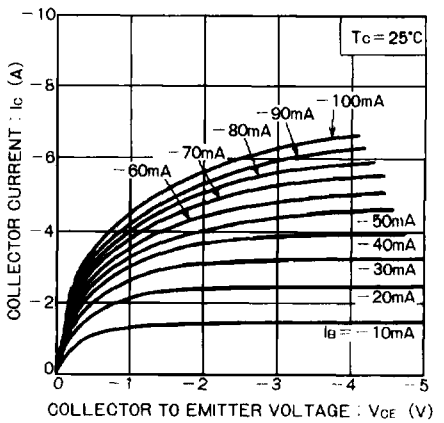


Figure 5

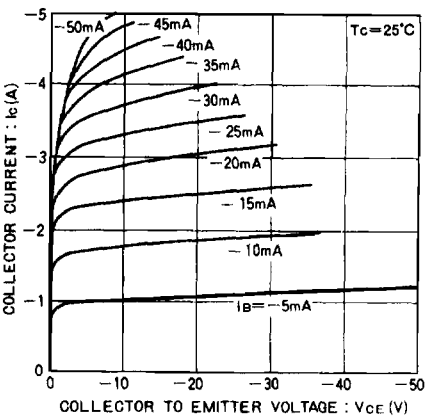


Figure 6

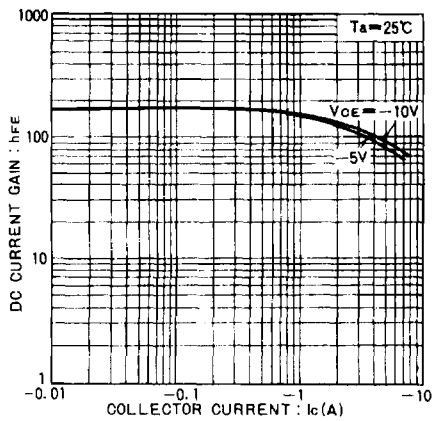


Figure 7

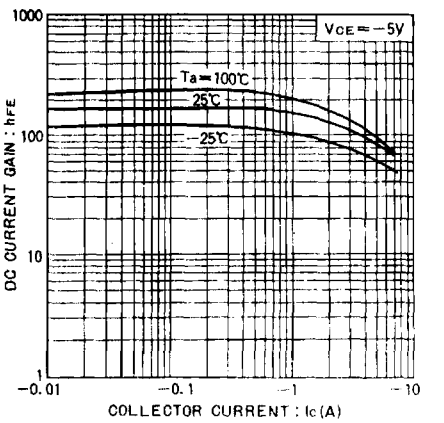


Figure 8

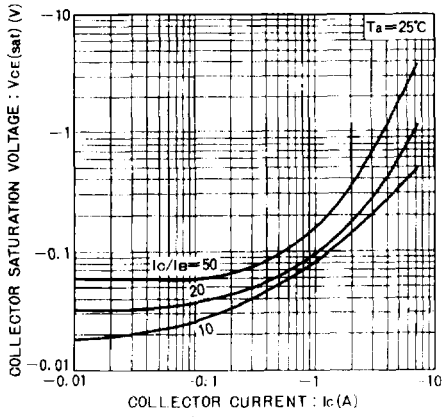


Figure 9

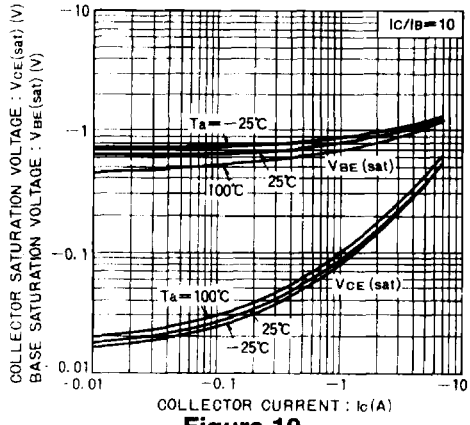


Figure 10

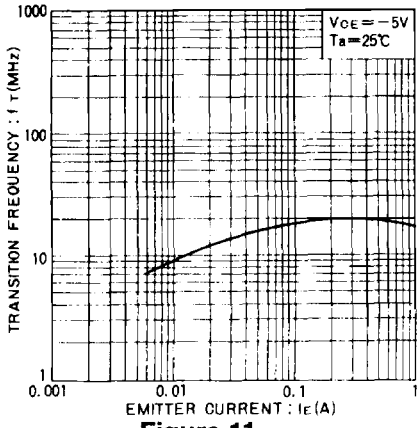


Figure 11

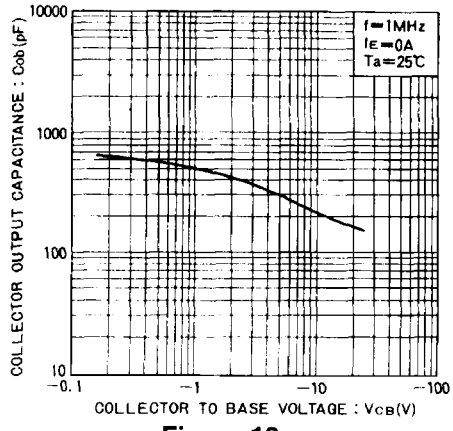


Figure 12

Ordering information

Package	Bulk
Code	
Basic order quantity	500
2SB1290	★
★ = Standard, ☆ = Semi-standard, ✳ = Special order	