

# 2SB1357

## Transistor, PNP

### Features

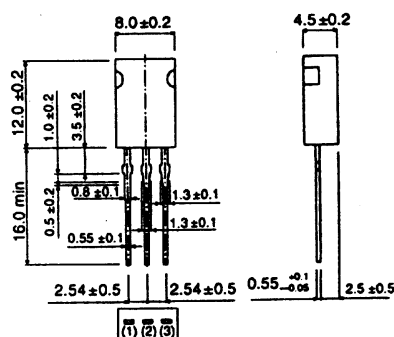
- available in HRT package
- low collector saturation voltage, typically  $V_{CE(sat)} = -0.5 \text{ V}$  at  $I_C/I_B = -2 \text{ A}/-0.2 \text{ A}$
- wide safe operating area (SOA)

### Applications

- power amplifier

### Dimensions (Units : mm)

#### 2SB1357 (HRT)



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

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

Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	$V_{CBO}$	-60	V	
Collector-to-emitter voltage	$V_{CEO}$	-50	V	
Emitter-to-base voltage	$V_{EBO}$	-5	V	
Collector current	$I_C$	-3	A	Continuous (dc)
		-4.5	A	Single pulse, $P_W = 100 \text{ ms}$
Collector dissipation	$P_C$	1.8	W	
Junction temperature	$T_j$	150	$^\circ\text{C}$	
Storage temperature	$T_{stg}$	-55 ~ +150	$^\circ\text{C}$	

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## 2SB1357 Transistor, PNP, 2SB series

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

Parameter	Symbol	Min	Typical	Max	Unit	Conditions
Collector-to-base breakdown voltage	$BV_{CBO}$	-60			V	$I_C = -50\ \mu\text{A}$
Collector-to-emitter breakdown voltage	$BV_{CEO}$	-50			V	$I_C = -1\ \text{mA}$
Emitter-to-base breakdown voltage	$BV_{EBO}$	-5				$I_E = -50\ \mu\text{A}$
Collector cutoff current	$I_{CBO}$			-1.0	$\mu\text{A}$	$V_{CB} = -40\ \text{V}$
Emitter cutoff current	$I_{EBO}$			-1.0	$\mu\text{A}$	$V_{EB} = -4\ \text{V}$
DC current gain	$h_{FE}$	60		320		$V_{CE} = -3\ \text{V}$ , $I_C = -0.5\ \text{A}$ , single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		-0.5	-1.0	V	$I_C/I_B = -2\ \text{A}/-0.2\ \text{A}$ , single pulse
Base-to-emitter saturation voltage	$V_{BE(sat)}$			-1.5	V	$I_C/I_B = -2\ \text{A}/-0.2\ \text{A}$ , single pulse
Transition frequency	$f_T$		70		MHz	$V_{CE} = -5\ \text{V}$ , $I_E = 0.5\ \text{A}$ , $f = 30\ \text{MHz}$
Output capacitance	$C_{ob}$		50		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

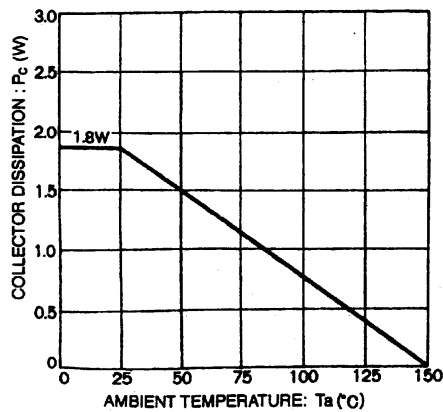


Figure 1

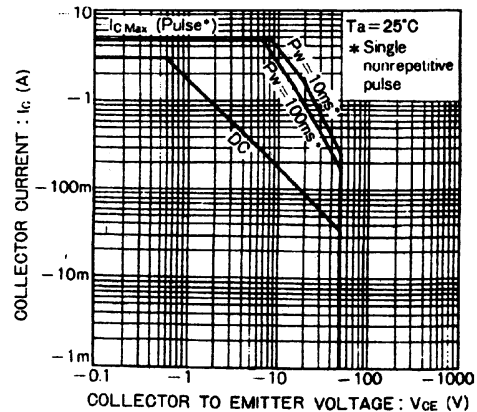
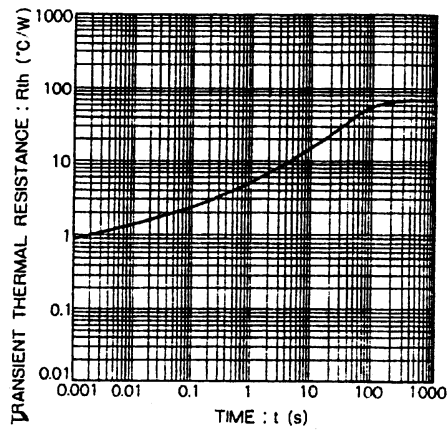
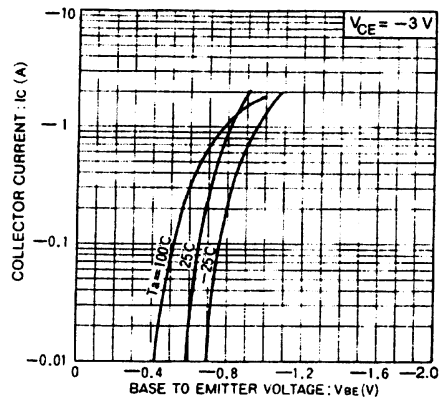


Figure 2

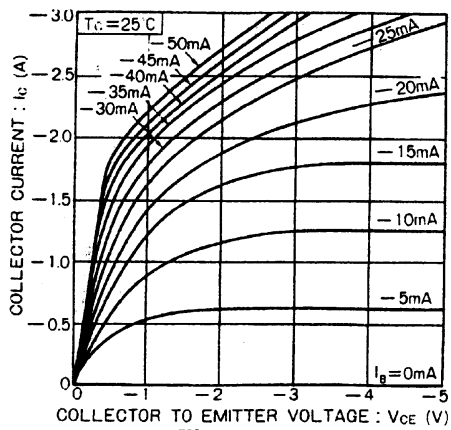
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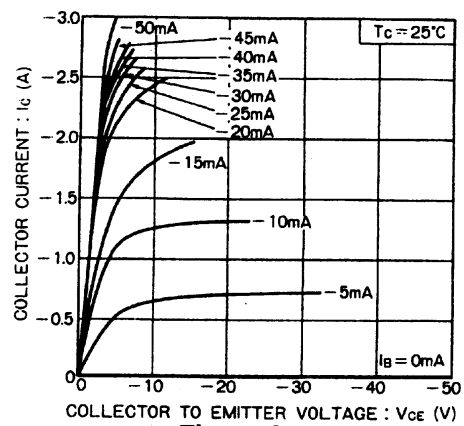
**Figure 3**



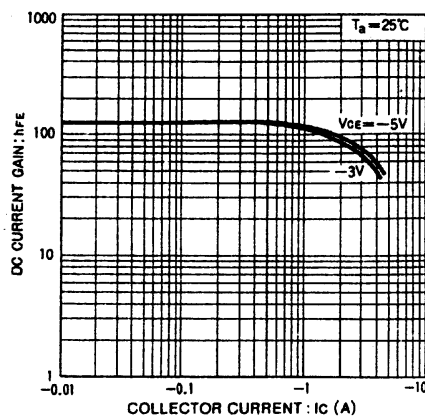
**Figure 4**



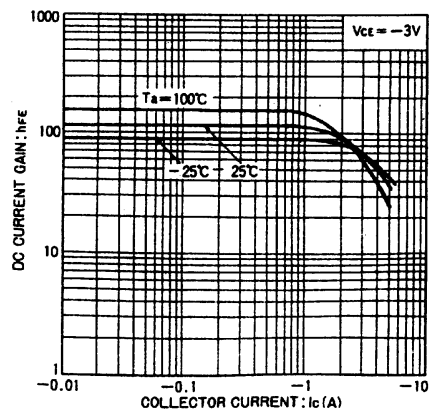
**Figure 5**



**Figure 6**



**Figure 7**



**Figure 8**

## 2SB1357 Transistor, PNP, 2SB series

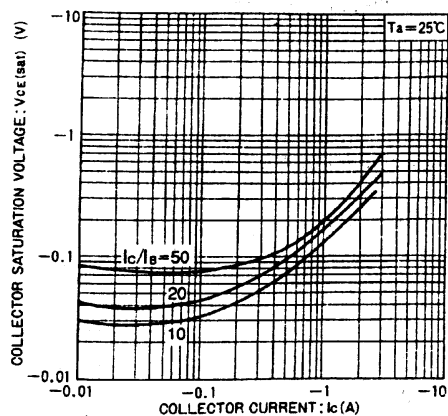


Figure 9

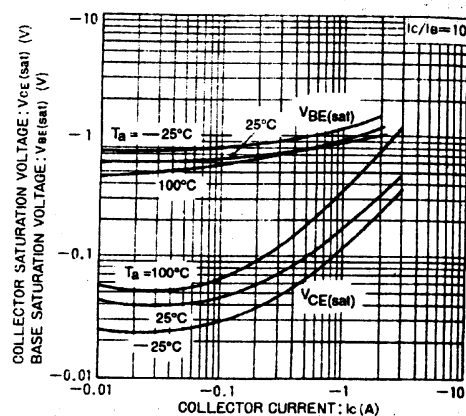


Figure 10

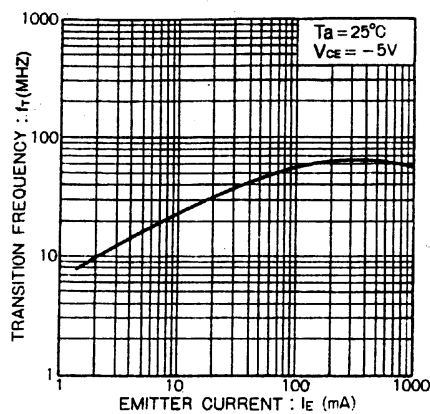


Figure 11

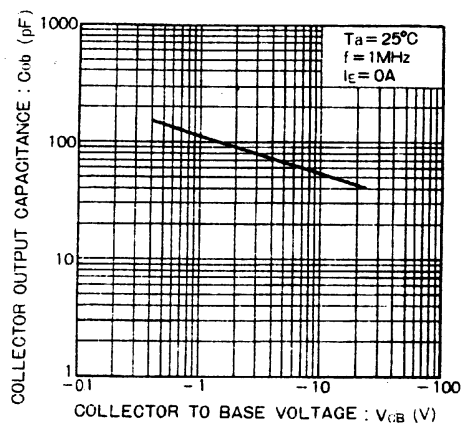


Figure 12

### Ordering information

Package	Tape
Code	T114
Basic order quantity	1 000
2SB1357	★
★ = Standard, ☆ = Semi-standard, * = Special order	

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