

2SC4137

Transistor, NPN

Features

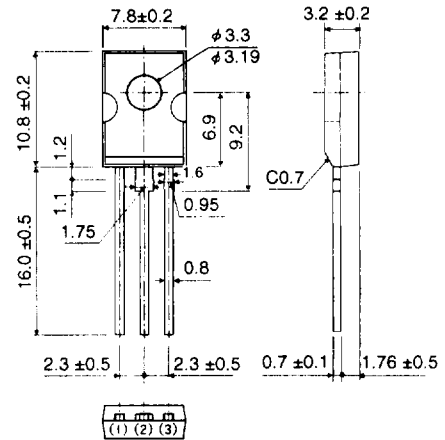
- available in TO-126FP package
- high dc current gain (h_{FE})
- low collector saturation voltage, typically $V_{CE(sat)} = 0.2$ V at $I_C/I_B = 50$ mA/5 mA

Applications

- high gain amplifier

Dimensions (Units : mm)

2SC4137 (TO-126FP)



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

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

Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	25	V	
Collector-to-emitter voltage	V_{CEO}	20	V	
Emitter-to-base voltage	V_{EBO}	6	V	
Collector current	I_C	100	mA	Continuous (dc)
		200	mA	Single pulse, $P_W = 10$ ms
Collector dissipation	P_C	1	W	$T_a = 25^\circ\text{C}$
		4	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}	25			V	$I_C = 10 \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	20			V	$I_C = 1 \text{ mA}$
Emitter-to-base breakdown voltage	BV_{EBO}	6			V	$I_E = 10 \mu\text{A}$
Collector cutoff current	I_{CBO}			0.5	μA	$V_{CB} = 15 \text{ V}$
Emitter cutoff current	I_{EBO}			0.5	μA	$V_{EB} = 6 \text{ V}$
DC current gain	h_{FE}	560		2700		$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$
Collector-to-emitter saturation voltage	$V_{CE(sat)}$		0.2	0.7	V	$I_C/I_B = 50 \text{ mA}/5 \text{ mA}$
Transition frequency	f_T		400		MHz	$V_{CE} = 10 \text{ V}, I_E = -10 \text{ mA}, f = 100 \text{ MHz}$
Output capacitance	C_{ob}		3.0		pF	$V_{CB} = 10 \text{ V}, I_E = 0 \text{ A}, f = 1 \text{ MHz}$

h_{FE} rankings

Item	U	V	W
h_{FE}	560 ~ 1200	820 ~ 1800	1200 ~ 2700

Electrical characteristic curves

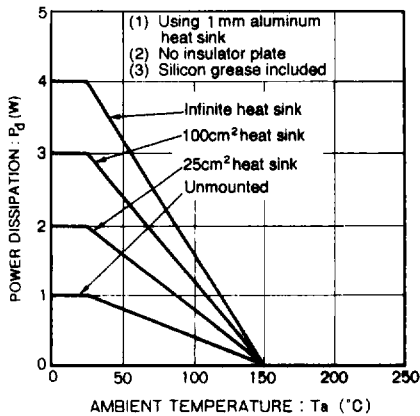


Figure 1

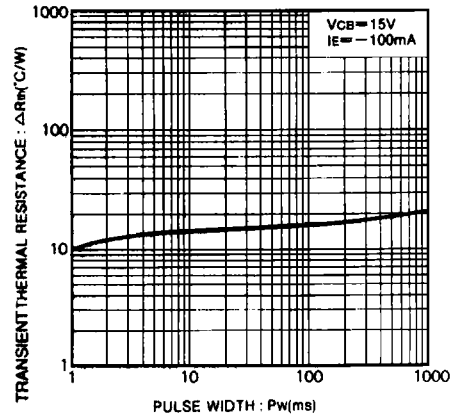


Figure 2

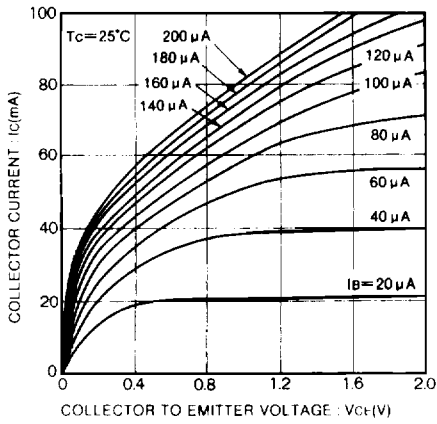


Figure 3

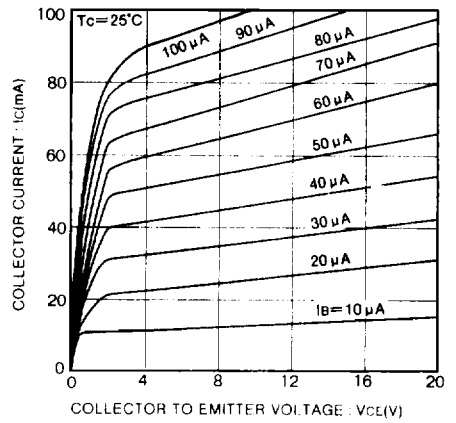


Figure 4

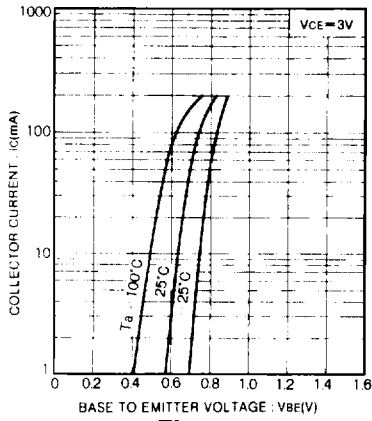


Figure 5

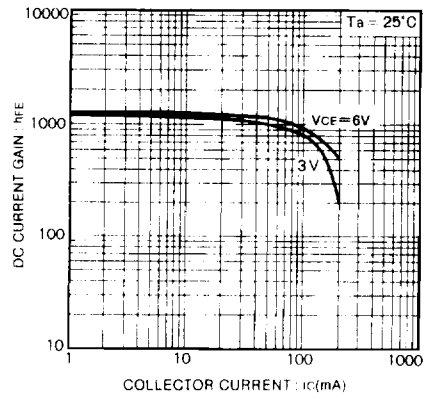


Figure 6

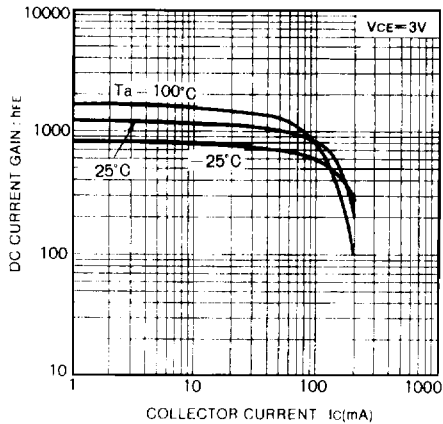


Figure 7

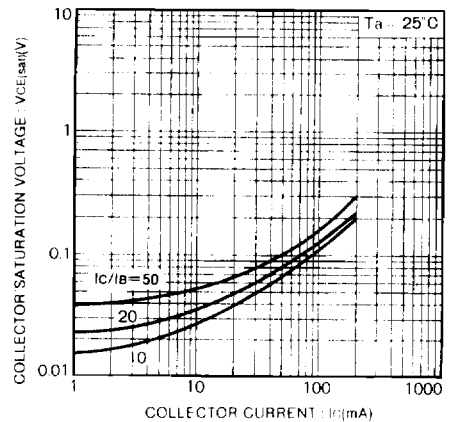


Figure 8

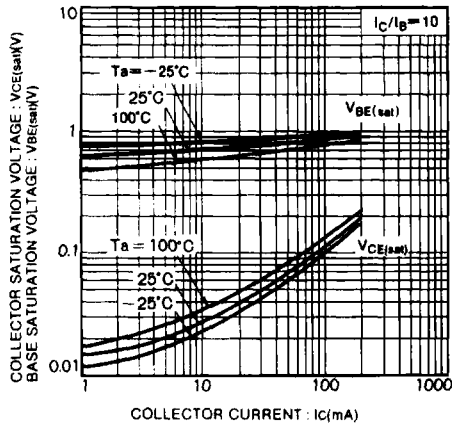


Figure 9

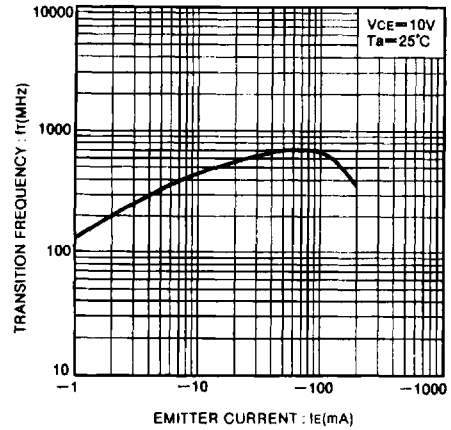


Figure 10

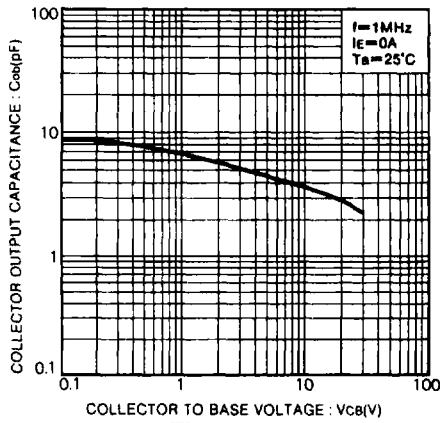


Figure 11

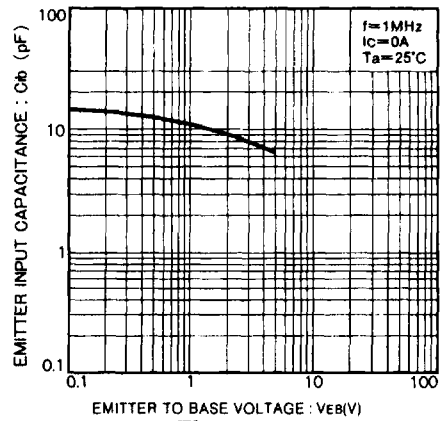


Figure 12

Ordering information

Package	Bulk
Code	
Basic order quantity	500
2SC4137	★
★ = Standard, ☆ = Semi-standard, * = Special order	