

2SB1316F5

Transistor, PNP, Darlington pair

Features

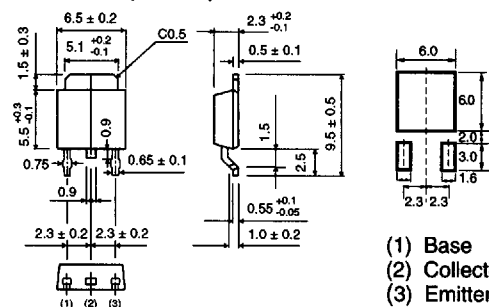
- available in CPT F5 (SC-63) package
- package marking: B1316★□, where ★ is h_{FE} code and □ is lot number
- Darlington connection provides high dc current gain (h_{FE})
- damper diode is incorporated

Applications

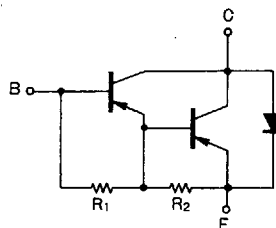
- low frequency power amplifier

Dimensions (Units : mm)

2SB1316F5 (CPT F5)



Equivalent circuit



$R_1 = 3.5 \text{ k}\Omega$
 $R_2 = 300 \Omega$
 B : Base
 C : Collector
 E : Emitter

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

Parameter	Symbol	Limits	Unit	Conditions
Collector-to-base voltage	V_{CBO}	-100	V	
Collector-to-emitter voltage	V_{CEO}	-100	V	
Emitter-to-base voltage	V_{EBO}	-8	V	
Collector current	I_C	-2	A	DC
		-3		Single pulse, $P_W = 100 \text{ ms}$
Collector dissipation	P_C	1.0	W	$T_a = 25^\circ\text{C}$
		10		$T_C = 25^\circ\text{C}$
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}	-100			V	$I_C = -50 \mu\text{A}$
Collector-to-emitter breakdown voltage	BV_{CEO}	-100			V	$I_C = -5 \text{ mA}$
Collector cutoff current	I_{CBO}			-10	μA	$V_{CB} = -100 \text{ V}, I_E = 0 \text{ A}$
Emitter cutoff current	I_{EBO}			-3	mA	$V_{EB} = -7 \text{ V}, I_E = 0 \text{ A}$
DC current gain	h_{FE}	1 k		10 k		$V_{CE} = -2 \text{ V}, I_C = -1 \text{ A}$, single pulse
Collector-to-emitter saturation voltage	$V_{CE(sat)}$			-1.5	V	$I_C/I_B = -1 \text{ A}/-1 \text{ mA}$, single pulse
Output capacitance	C_{ob}		35		pF	$V_{CB} = -10 \text{ V}, I_E = 0 \text{ A}, f = 1 \text{ MHz}$

Electrical characteristic curves

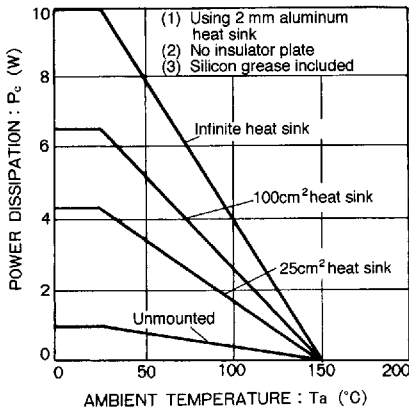


Figure 1

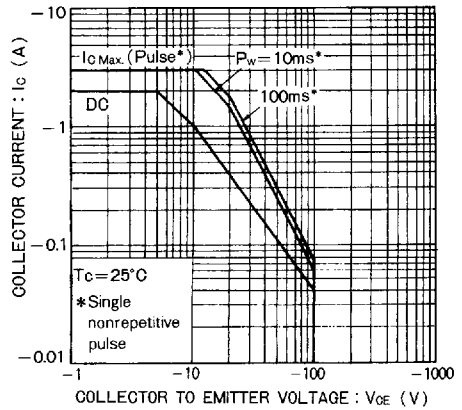


Figure 2

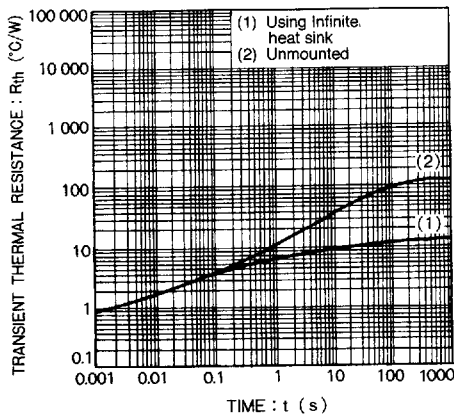


Figure 3

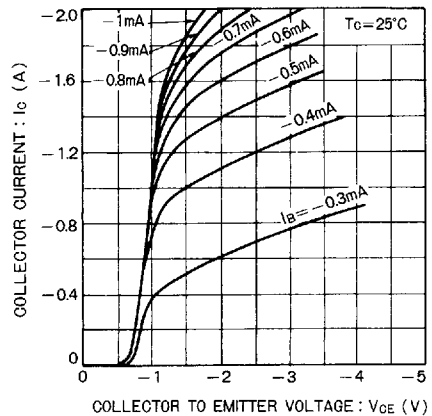


Figure 4

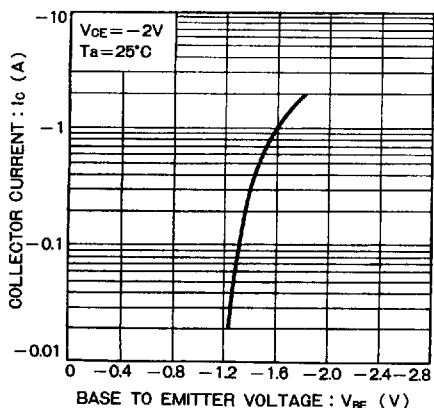


Figure 5

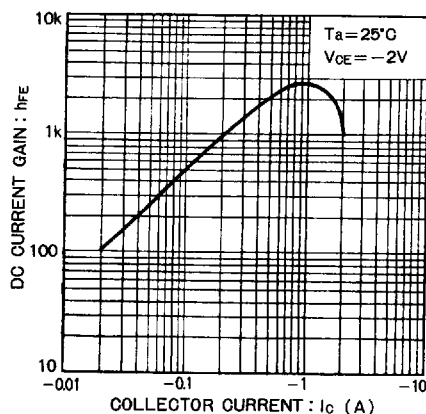


Figure 6

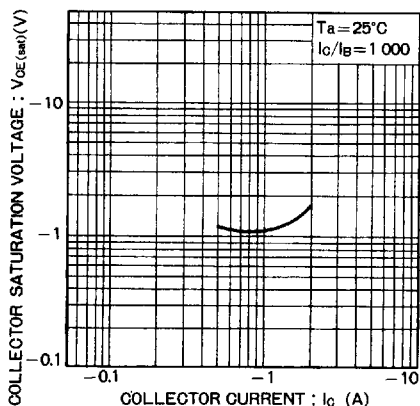


Figure 7

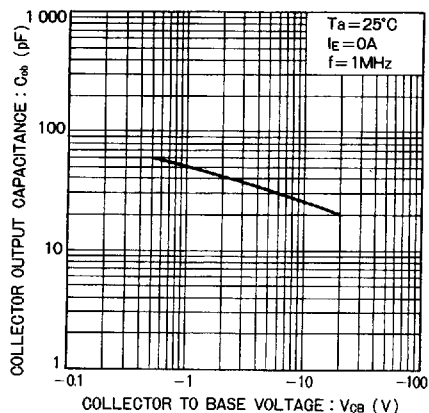


Figure 8

Ordering information

Package	Tape
Code	TL
Basic order quantity	2500
2SB1316F5, $h_{FE} = 1k \sim 10k$	★
★ = Standard, ☆ = Semi-standard, * = Special order	