

2SD1376(K)

Silicon NPN Epitaxial

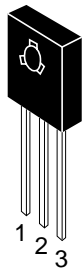
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Application

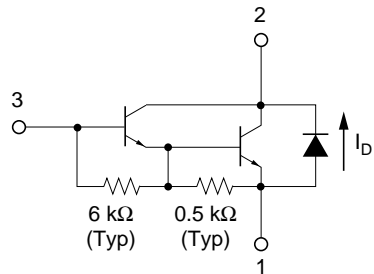
Low frequency power amplifier complementary pair with 2SB1012(K)

Outline

TO-126 MOD



- 1. Emitter
- 2. Collector
- 3. Base



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V_{CEO}	120	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	1.5	A
Collector peak current	$I_{C(\text{peak})}$	3.0	A
Collector power dissipation	P_C^{*1}	20	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C
C to E diode forward current	I_D^{*1}	1.5	A

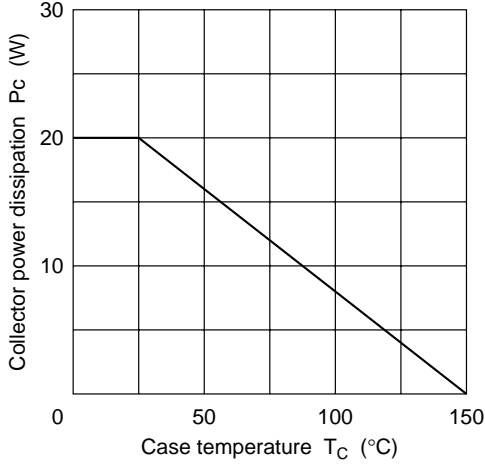
Note: 1. Value at $T_C = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

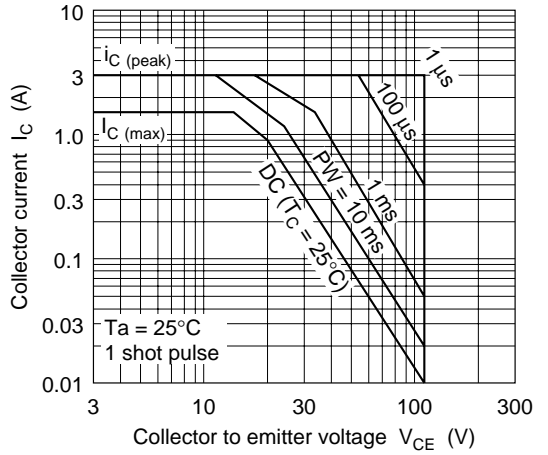
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	120	—	—	V	$I_C = 10 \text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	100	μA	$V_{CB} = 120 \text{ V}$, $I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 100 \text{ V}$, $R_{BE} = \infty$
DC current transfer ratio	h_{FE}	2000	—	30000		$V_{CE} = 3 \text{ V}$, $I_C = 1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(\text{sat})1}$	—	—	1.5	V	$I_C = 1 \text{ A}$, $I_B = 1 \text{ mA}^{*1}$
	$V_{CE(\text{sat})2}$	—	—	2.0	V	$I_C = 1.5 \text{ A}$, $I_B = 1.5 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(\text{sat})1}$	—	—	2.0	V	$I_C = 1 \text{ A}$, $I_B = 1 \text{ mA}^{*1}$
	$V_{BE(\text{sat})2}$	—	—	2.5	V	$I_C = 1.5 \text{ A}$, $I_B = 1.5 \text{ mA}^{*1}$
C to E diode forward voltage	V_D	—	—	3.0	V	$I_D = 1.5 \text{ A}^{*1}$
Turn on time	Ton	—	0.5	—	μs	$I_C = 1 \text{ A}$, $I_{B1} = -I_{B2} = 1 \text{ mA}$
Turn off time	Toff	—	2.0	—	μs	

Note: 1. Pulse test.

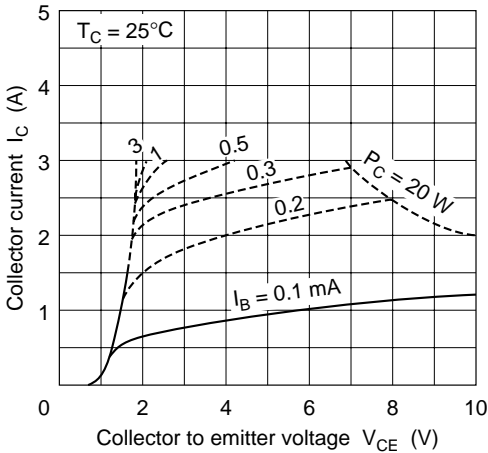
Maximum Collector Dissipation Curve



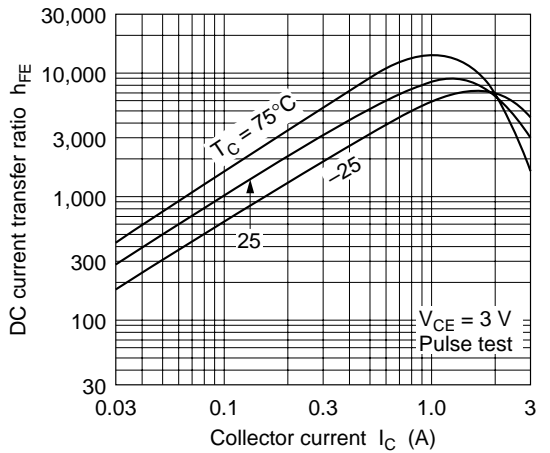
Area of Safe Operation

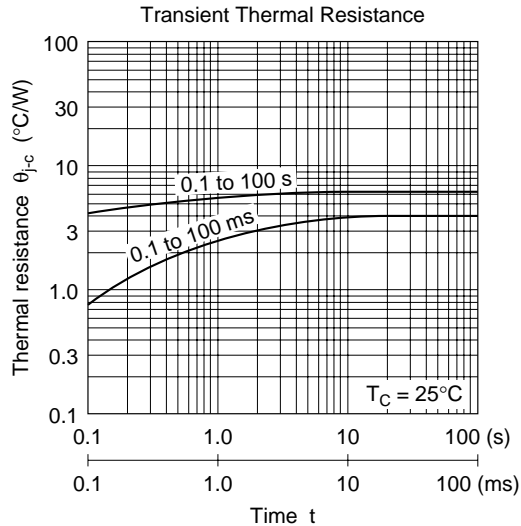
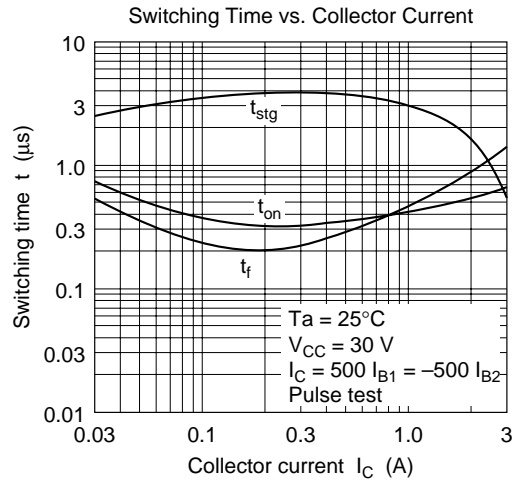
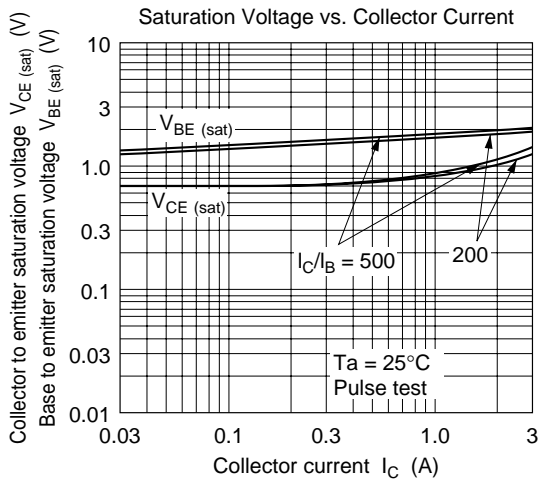


Typical Output Characteristics



DC Current Transfer Ratio vs. Collector Current





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