

2SD1521

Silicon NPN Epitaxial

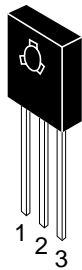
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Application

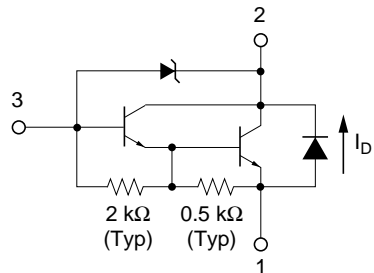
Low frequency power amplifier

Outline

TO-126 MOD



1. Emitter
2. Collector
3. Base



Absolute Maximum Ratings (Ta = 25°C)

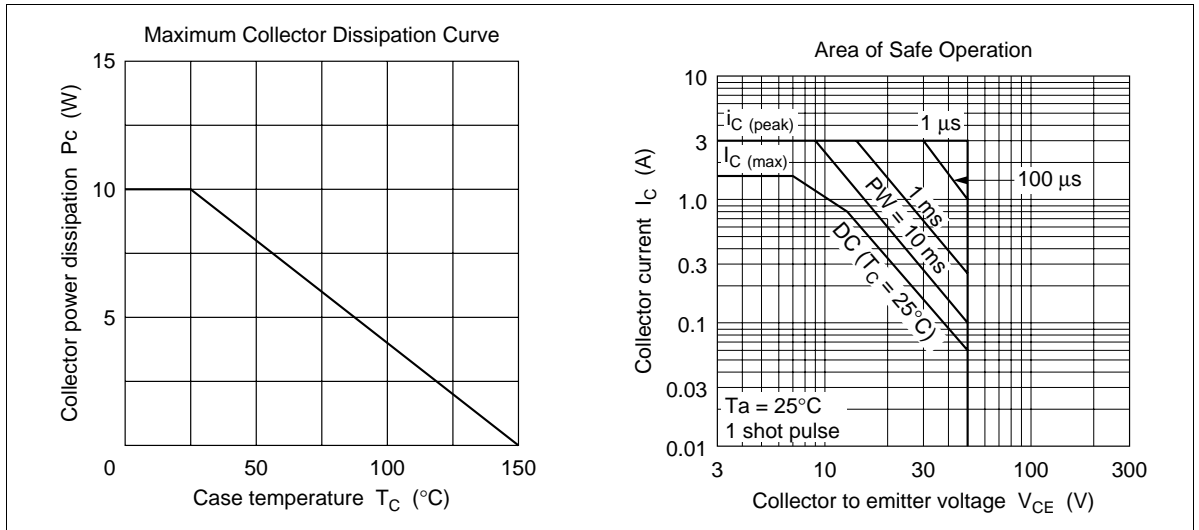
Item	Symbol	Rating	Unit
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	7	V
Collector current	I_C	1.5	A
Collector peak current	$I_{C(peak)}$	3.0	A
Collector power dissipation	P_C	10	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C
C to E diode forward current	I_D^{*1}	1.5	A

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

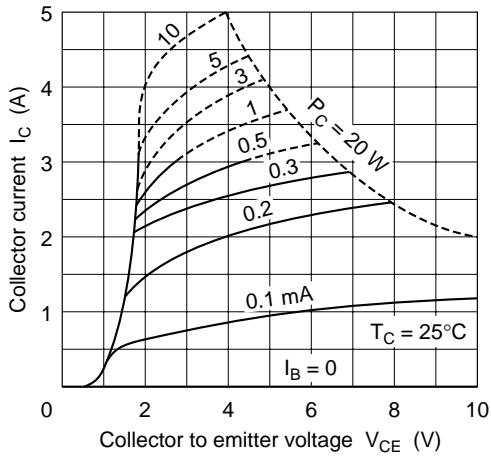
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage (Zener breakdown voltage)	$V_{(BR)CBO}$ [V _Z]	50	60	70	V	$I_C = 0.1 \text{ mA}, I_E = 0$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	7	—	—	V	$I_E = 50 \text{ mA}, I_C = 0$
Collector cutoff current	I_{CEO}	—	—	10	μA	$V_{CE} = 50 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	h_{FE}	2000	—	30000		$V_{CE} = 3 \text{ V}, I_C = 1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)1}$	—	—	1.5	V	$I_C = 1 \text{ A}, I_B = 1 \text{ mA}^{*1}$
	$V_{CE(sat)2}$	—	—	2.0	V	$I_C = 1.5 \text{ A}, I_B = 1.5 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)1}$	—	—	2.0	V	$I_C = 1 \text{ A}, I_B = 1 \text{ mA}^{*1}$
	$V_{BE(sat)2}$	—	—	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	$I_D = 1.5 \text{ A}$
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	

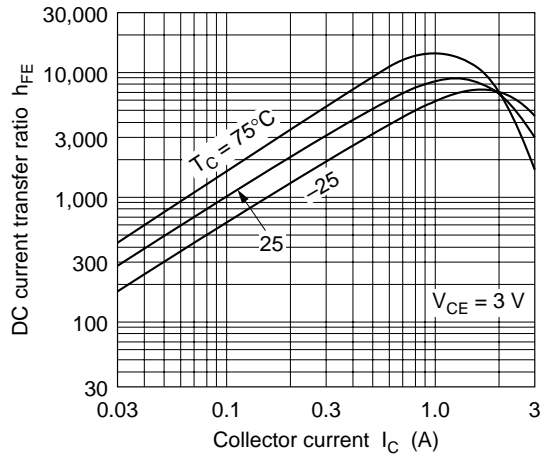
Note: 1. Pulse test.



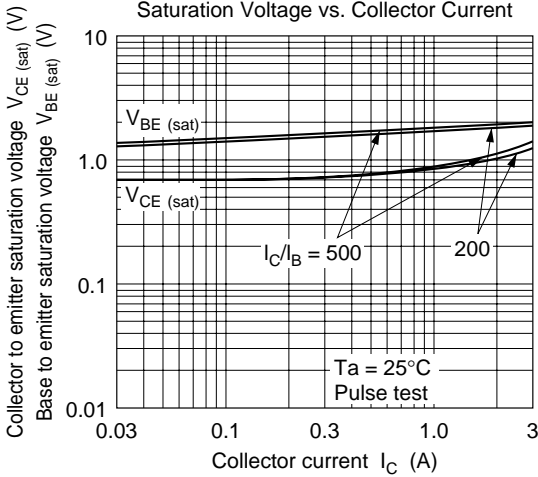
Typical Output Characteristics



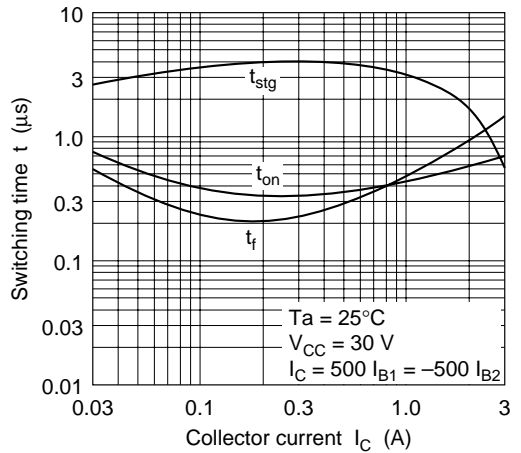
DC Current Transfer Ratio vs. Collector Current

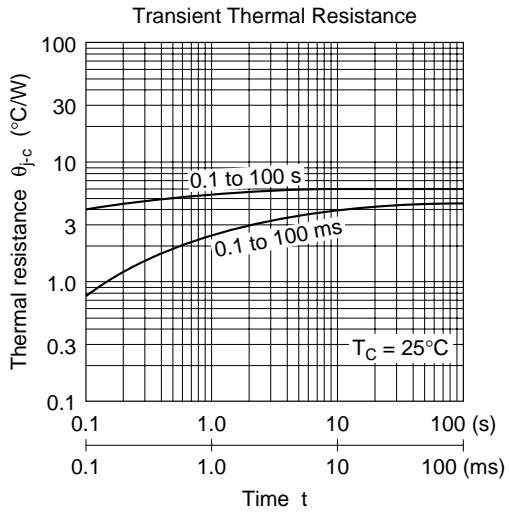


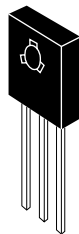
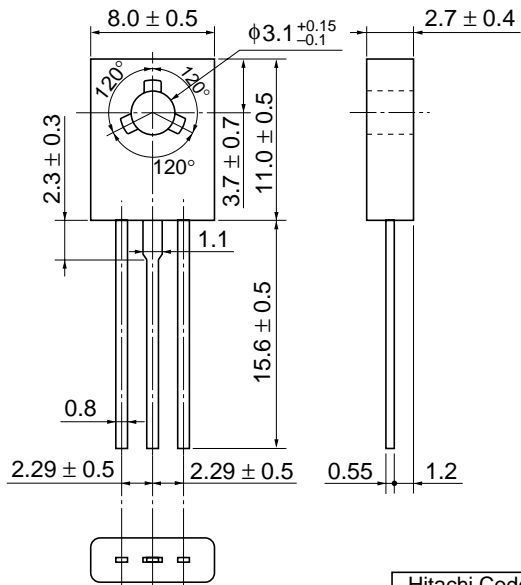
Saturation Voltage vs. Collector Current



Switching Time vs. Collector Current







Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Weight (reference value)	0.67 g

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