

2SA1194(K)

Silicon PNP Epitaxial

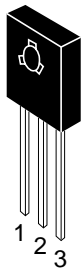
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Application

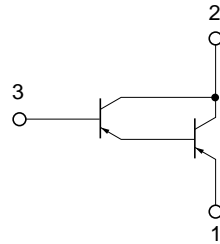
High gain amplifier

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}	-60	V
Collector to emitter voltage	V_{CEO}	-60	V
Emitter to base voltage	V_{EBO}	-7	V
Collector current	I_C	-1	A
Collector peak current	$I_{C(peak)}$	-2	A
Collector power dissipation	P_C	1	W
	P_C^{*1}	8	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

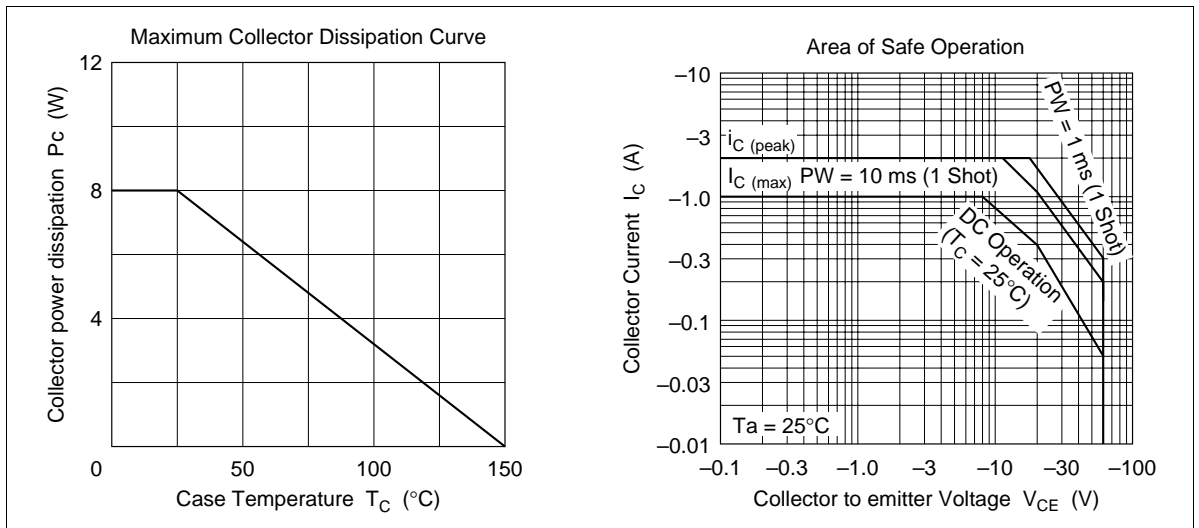
Note: 1. Value at $T_C = 25^\circ\text{C}$

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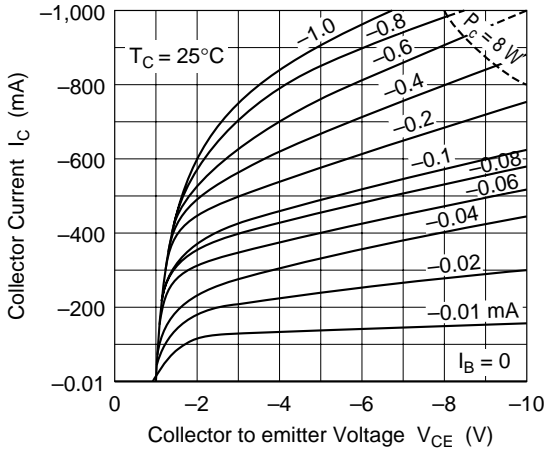
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -1 \text{ mA}$, $R_{BE} = \infty$
Collector cutoff current	I_{CBO}	—	—	-1.0	μA	$V_{CB} = -60 \text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-1.0	μA	$V_{EB} = -7 \text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE}	1000	—	—		$V_{CE} = -3 \text{ V}$, $I_C = -500 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-2.0	V	$I_C = -500 \text{ mA}$, $I_B = -1 \text{ mA}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	-2.0	V	
Turn on time	t_{on}	—	0.7	—	μs	$I_C = -500 \text{ mA}$
Turn off time	t_{off}	—	0.8	—	μs	$I_{B1} = -I_{B2} = -1 \text{ mA}$

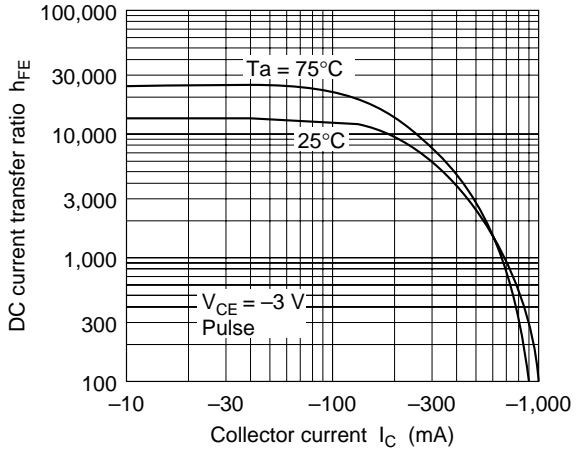
Note: 1. Pulse test



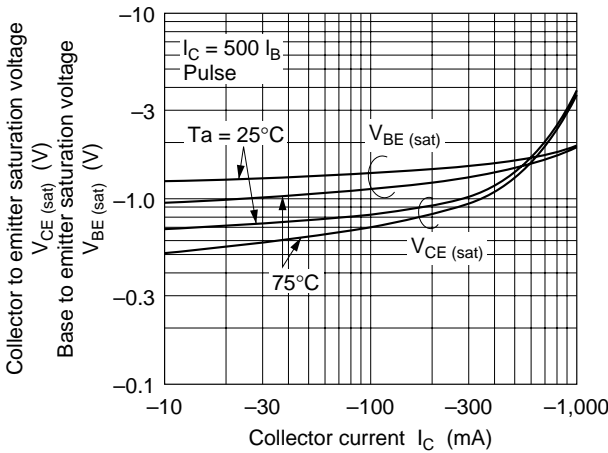
Typical Output Characteristics



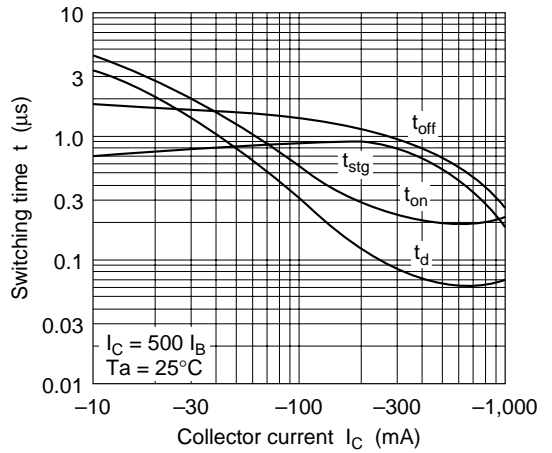
DC Current Transfer Ratio vs. Collector Current



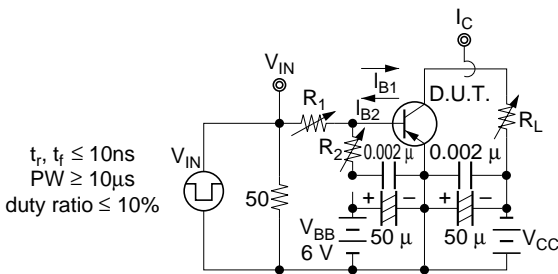
Saturation Voltage vs. Collector Current



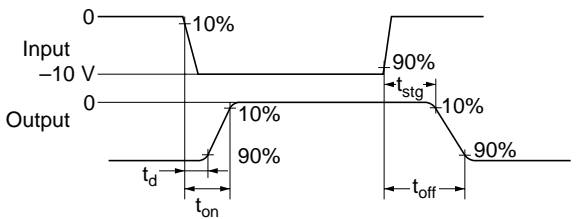
Switching Time vs. Collector Current

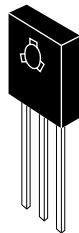
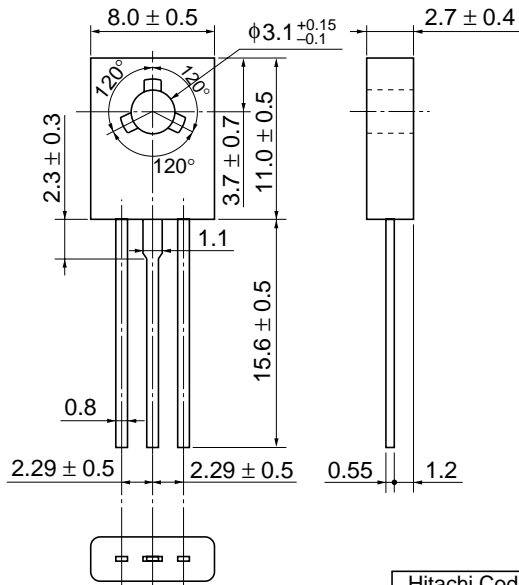


Switching Time Test Circuit



Response Waveform





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

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