
2SC3957

Silicon NPN Epitaxial, Darlington

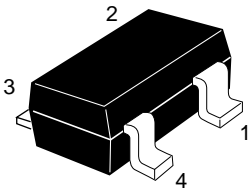
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Application

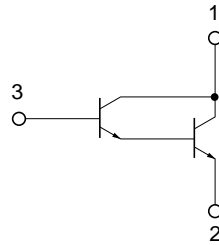
High gain amplifier

Outline

MPAK-4



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



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	40	V
Collector to emitter voltage	V_{CEO}	30	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_C	300	mA
Collector peak current	$I_{C(\text{peak})}$	500	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

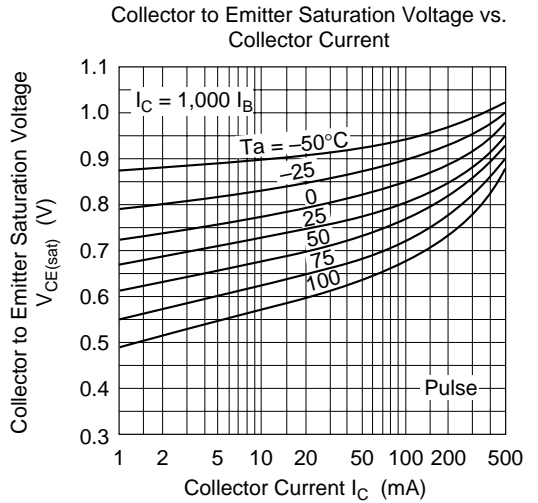
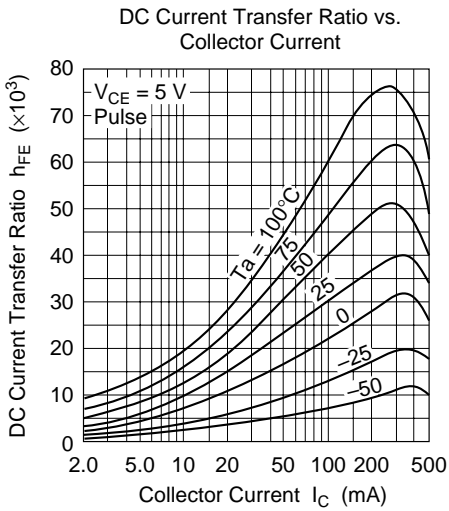
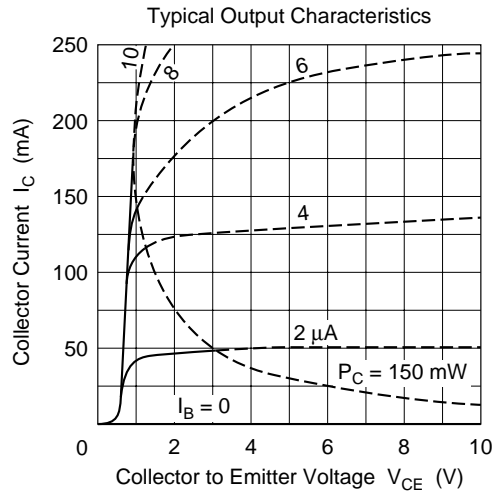
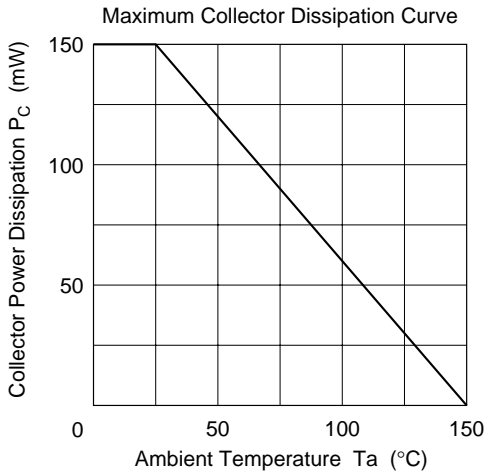
Electrical Characteristics (Ta = 25°C)

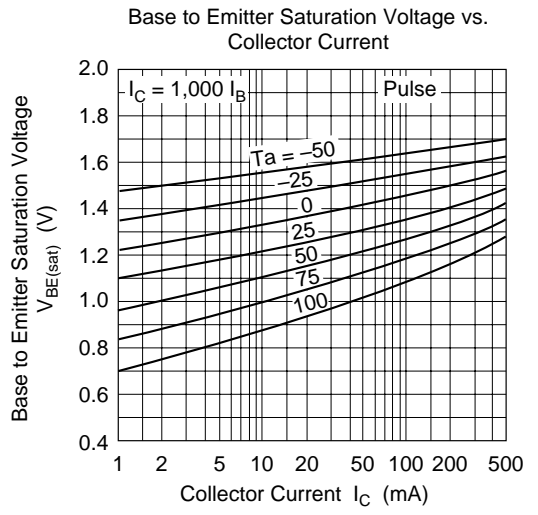
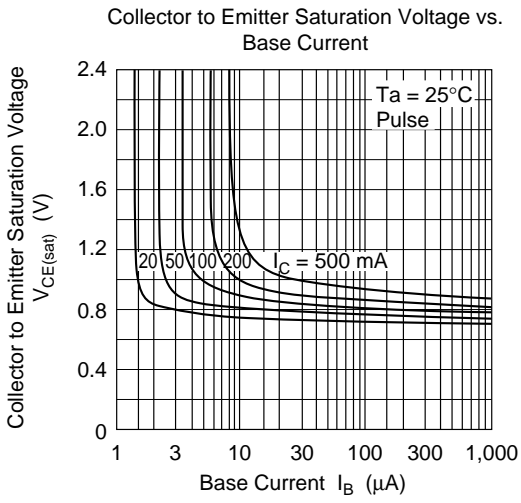
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	—	—	V	$I_C = 1 \text{ mA}$, $R_{BE} = \infty$
Collector cutoff current	I_{CBO}	—	—	100	nA	$V_{CB} = 30 \text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	100	nA	$V_{EB} = 10 \text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE1}^{*1}	2000	—	100000		$I_C = 10 \text{ mA}$, $V_{CE} = 5 \text{ V}^{*2}$
	h_{FE2}^{*1}	3000	—	—		$I_C = 100 \text{ mA}$, $V_{CE} = 5 \text{ V}^{*2}$
	h_{FE3}^{*1}	3000	—	—		$I_C = 400 \text{ mA}$, $V_{CE} = 5 \text{ V}^{*2}$
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	—	1.5	V	$I_C = 100 \text{ mA}$, $I_B = 0.1 \text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	—	2.0	V	$I_C = 100 \text{ mA}$, $I_B = 0.1 \text{ mA}^{*2}$

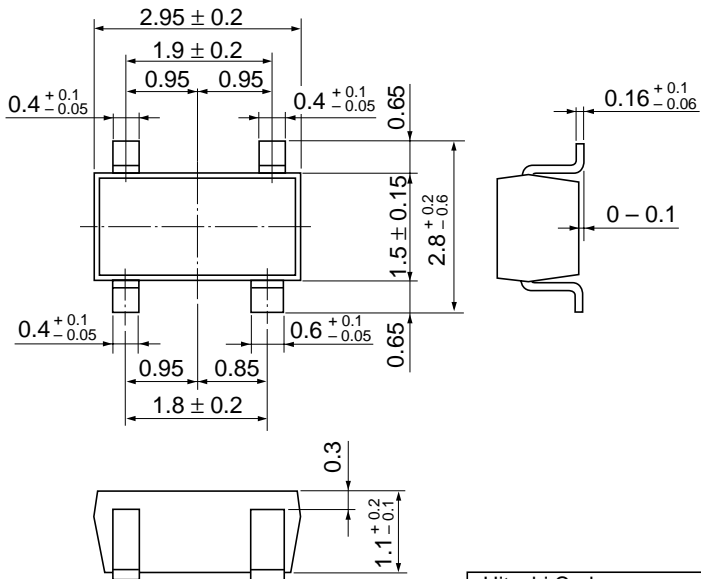
Notes: 1. The 2SC3957 is grouped by h_{FE} as follows.

2. Pulse test

Mark	GIA	GIB
h_{FE1}	2000 to 100000	5000 to 100000
h_{FE2}	3000 min	10000 min
h_{FE3}	3000 min	10000 min







Hitachi Code	MPAK-4
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.013 g

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