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# 2SC1213, 2SC1213A

Silicon NPN Epitaxial

# HITACHI

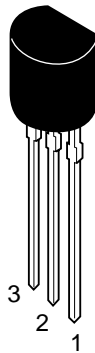
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## Application

- Low frequency amplifier
- Complementary pair with 2SA673 and 2SA673A

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SC1213, 2SC1213A

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SC1213	2SC1213A	Unit
Collector to base voltage	V <sub>CBO</sub>	35	50	V
Collector to emitter voltage	V <sub>CEO</sub>	35	50	V
Emitter to base voltage	V <sub>EBO</sub>	4	4	V
Collector current	I <sub>C</sub>	500	500	mA
Collector power dissipation	P <sub>C</sub>	400	400	mW
Junction temperature	T <sub>j</sub>	150	150	°C
Storage temperature	T <sub>stg</sub>	−55 to +150	−55 to +150	°C

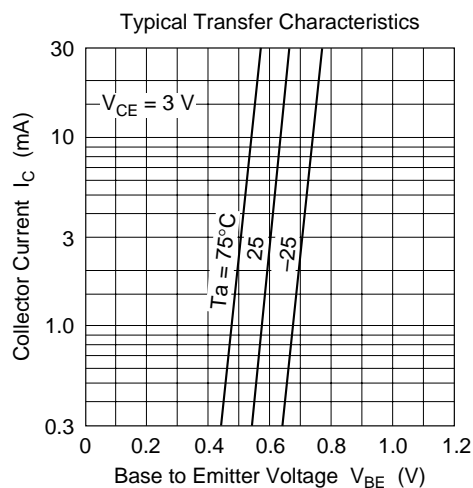
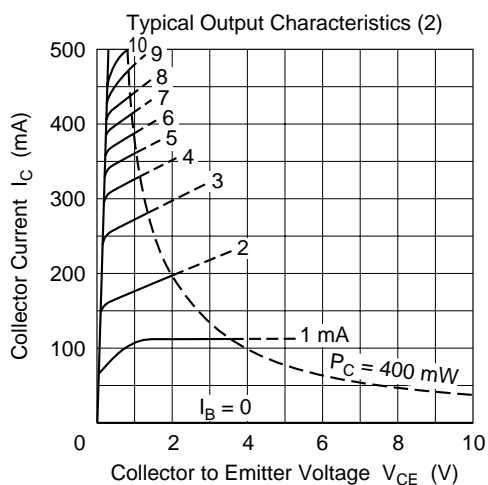
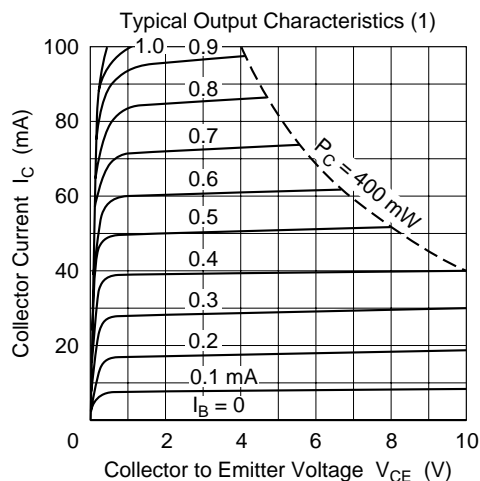
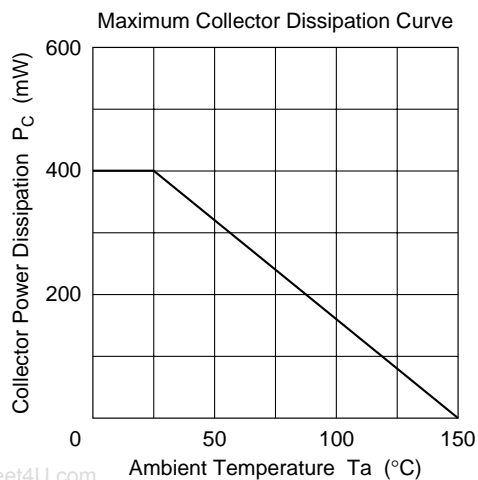
Electrical Characteristics (Ta = 25°C)

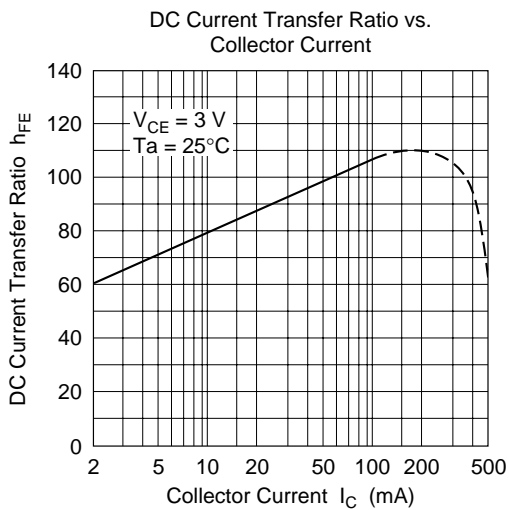
Item	Symbol	2SC1213			2SC1213A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	35	—	—	50	—	—	V	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	35	—	—	50	—	—	V	I <sub>C</sub> = 1 mA, R <sub>BE</sub> = ∞
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	4	—	—	4	—	—	V	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	0.5	—	—	0.5	μA	V <sub>CB</sub> = 20 V, I <sub>E</sub> = 0
DC current tarnsfer ratio	h <sub>FE</sub> <sup>*1</sup>	60	—	320	60	—	320		V <sub>CE</sub> = 3 V, I <sub>C</sub> = 10 mA
	h <sub>FE</sub>	10	—	—	10	—	—		V <sub>CE</sub> = 3 V, I <sub>C</sub> = 500 mA <sup>*2</sup>
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	—	0.2	0.6	—	0.2	0.6	V	I <sub>C</sub> = 150 mA, I <sub>B</sub> = 15 mA <sup>*2</sup>
Base to emitter voltage	V <sub>BE</sub>	—	0.64	—	—	0.64	—	V	V <sub>CE</sub> = 3 V, I <sub>C</sub> = 10 mA

Notes: 1. The 2SC1213 and 2SC1213A are grouped by h<sub>FE</sub> as follows.

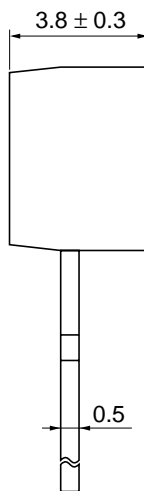
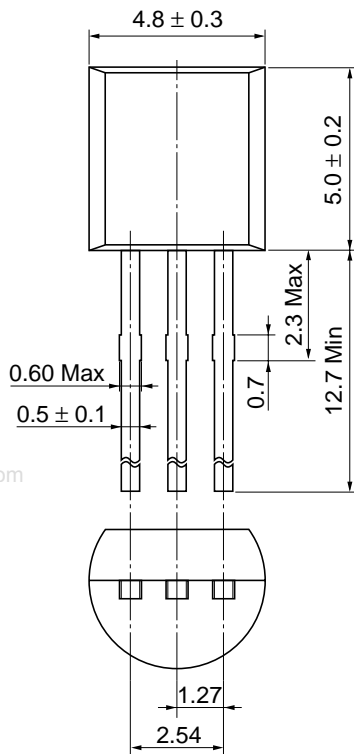
2. Pulse test

B	C	D
60 to 120	100 to 200	160 to 320





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Hitachi Code	7C-8214
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g