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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SC2853, 2SC2854

Silicon NPN Epitaxial

RENESAS

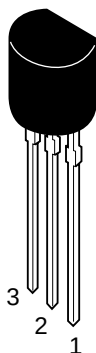
ADE-208-1078A (Z)
2nd. Edition
Mar. 2001

Application

- Low frequency amplifier

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

2SC2853, 2SC2854

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SC2853	2SC2854	Unit
Collector to base voltage	V_{CBO}	90	120	V
Collector to emitter voltage	V_{CEO}	90	120	V
Emitter to base voltage	V_{EBO}	5	5	V
Collector current	I_C	100	100	mA
Emitter current	I_E	−100	−100	mA
Collector power dissipation	P_C	400	400	mW
Junction temperature	T_j	150	150	°C
Storage temperature	T_{stg}	−55 to +150	−55 to +150	°C

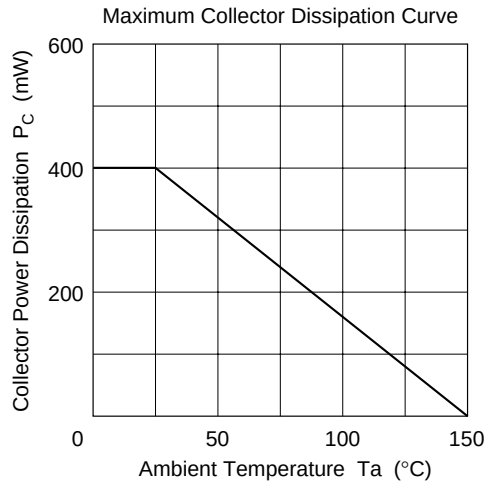
Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SC2853			2SC2854			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	90	—	—	120	—	—	V	$I_C = 10\text{ }\mu\text{A}$, $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	—	—	120	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	$I_E = 10\text{ }\mu\text{A}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.1	—	—	0.1	μA	$V_{CB} = 70\text{ V}$, $I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	0.1	—	—	0.1	μA	$V_{EB} = 2\text{ V}$, $I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	250	—	800	250	—	800		$V_{CE} = 12\text{ V}$, $I_C = 2\text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.05	0.10	—	0.05	0.10	V	$I_C = 10\text{ mA}$, $I_B = 1\text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	0.7	1.0	—	0.7	1.0	V	
Gain bandwidth product	f_T	—	310	—	—	310	—	MHz	$V_{CE} = 6\text{ V}$, $I_C = 10\text{ mA}$
Collector output capacitance	C_{ob}	—	3	—	—	3	—	pF	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$

Notes: 1. The 2SC2853 and 2SC2854 are grouped by h_{FE} as follows.
2. Pulse test

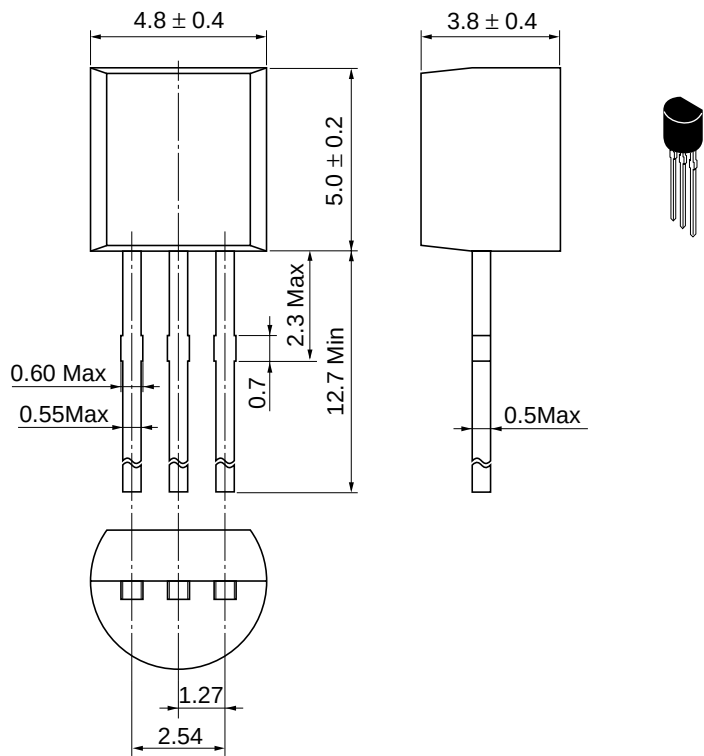
D	E
250 to 500	400 to 800

See characteristic curves of 2SC2855 and 2SC2856.



Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Mass (reference value)	0.25 g

Cautions

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