To all our customers

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

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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

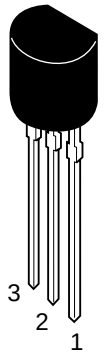
ADE-208-1078A (Z)
2nd. Edition
Mar. 2001

Application

- Low frequency amplifier

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

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	Tj	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

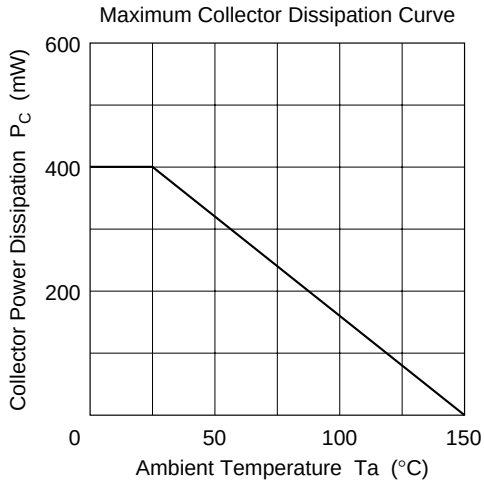
		2SC2853			2SC2854				
Item	**Symbol**	**Min**	**Typ**	**Max**	**Min**	**Typ**	**Max**	**Unit**	**Test conditions**
Collector to base breakdown voltage	$V_{(BR)CBO}$	90	—	—	120	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	90	—	—	120	—	—	V	I_C = 1 mA, R_{BE} =
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.1	—	—	0.1	µA	V_{CB} = 70 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	0.1	—	—	0.1	µA	V_{EB} = 2 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	250	—	800	250	—	800		V_{CE} = 12 V, I_C = 2 mA*[2]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.05	0.10	—	0.05	0.10	V	I_C = 10 mA, I_B = 1 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 V, I_C = 10 mA
Collector output capacitance	Cob	—	3	—	—	3	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 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

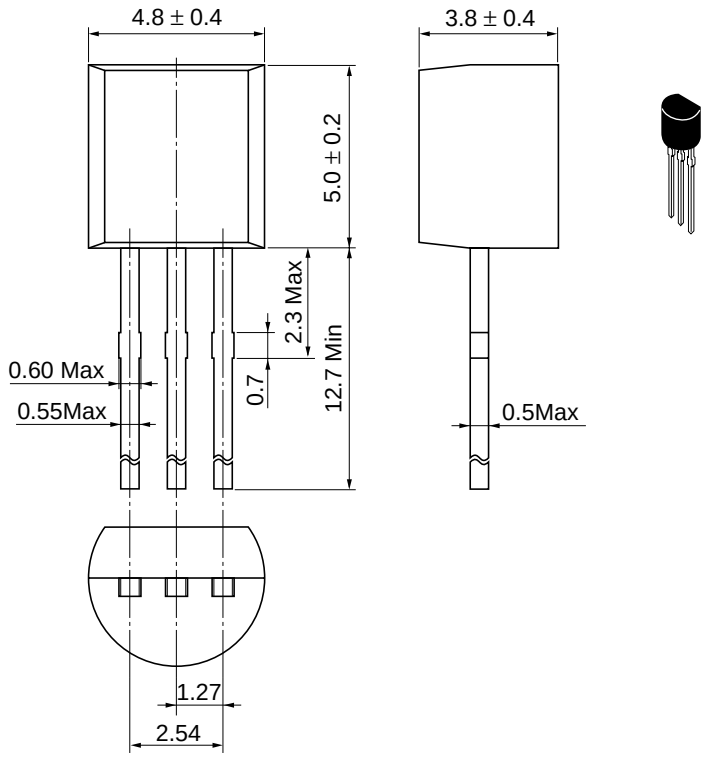
See characteristic curves of 2SC2855 and 2SC2856.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (mW)
600
400
200
0
50
100
150
Ambient Temperature Ta (°C)

Package Dimensions

As of January, 2001

Unit: mm



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

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