

To our customers,

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## Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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Not recommended  
for new design

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# 2SA1052

Silicon PNP Epitaxial

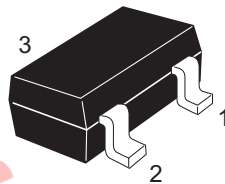
REJ03G0634-0300  
 (Previous ADE-208-1006A)  
 Rev.3.00  
 Aug.10.2005

## Application

Low frequency amplifier

## Outline

RENESAS Package code: PLSP0003ZB-A  
 (Package name: MPAK)



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

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-30	V
Collector to emitter voltage	$V_{CEO}$	-30	V
Emitter to base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-100	mA
Emitter current	$I_E$	100	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)

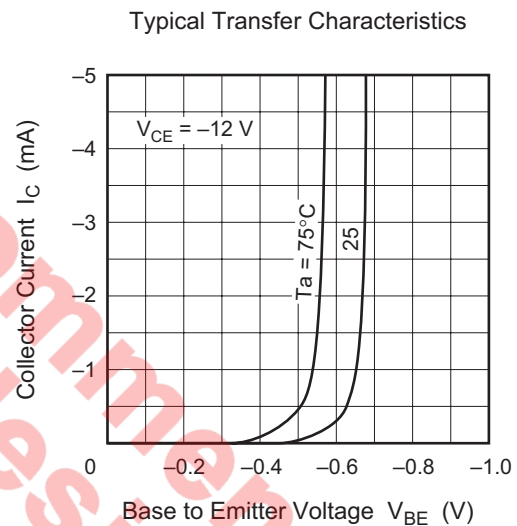
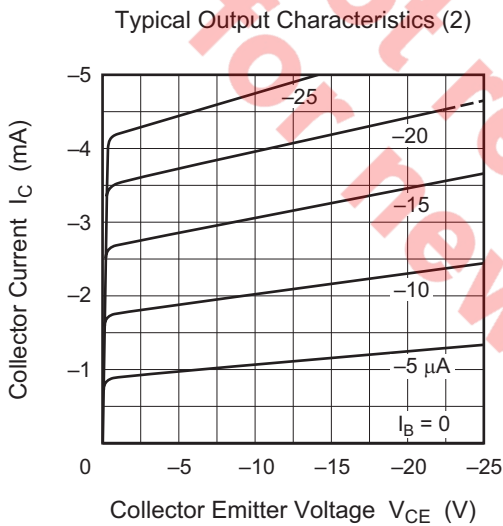
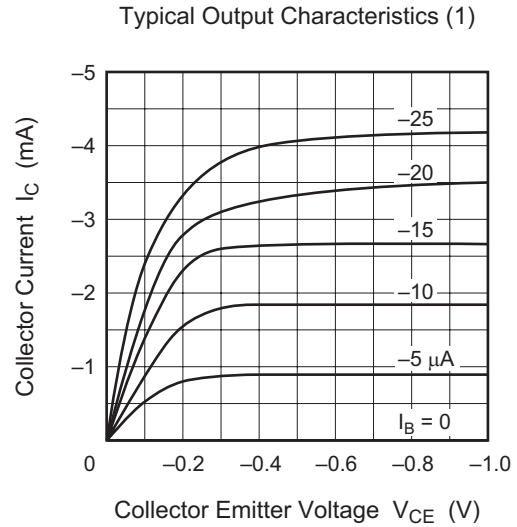
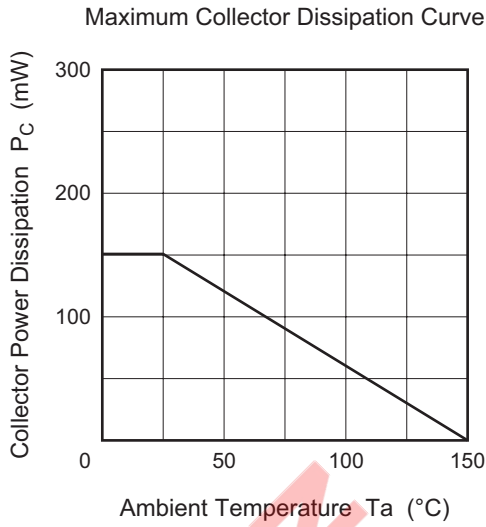
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-30	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-30	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-0.5	$\mu A$	$V_{CB} = -20 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	-0.5	$\mu A$	$V_{EB} = -2 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	160	—	500		$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.2	V	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	—	-0.75	V	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$

Note: 1. The 2SA1052 is grouped by  $h_{FE}$  as follows.

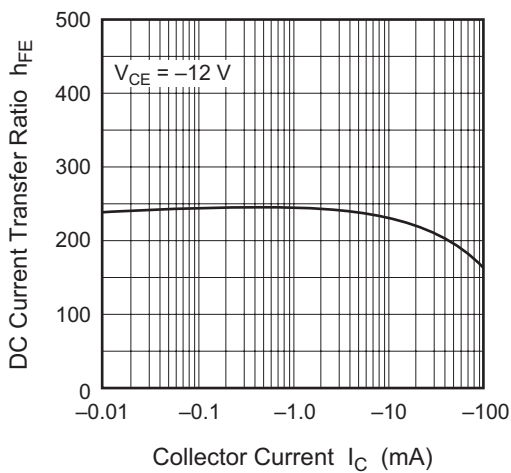
Grade	C	D
Mark	MC	MD
$h_{FE}$	160 to 320	250 to 500

Not recommend  
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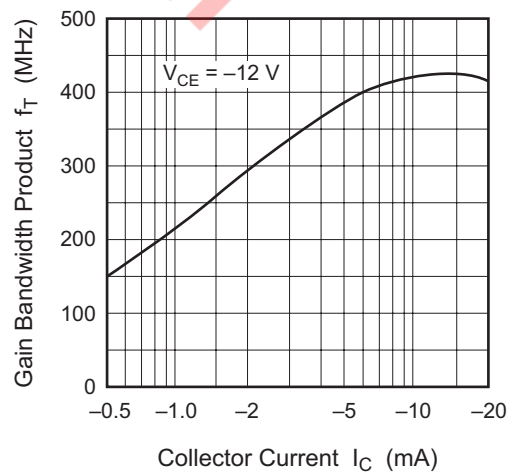
Main Characteristics

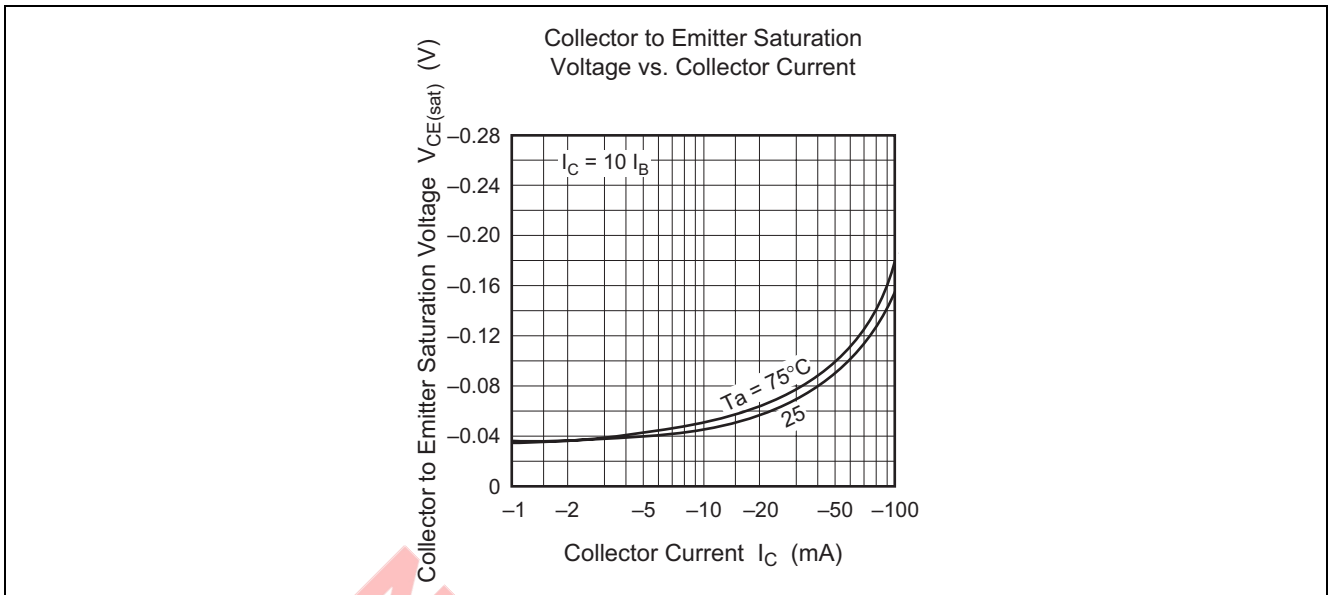


DC Current Transfer Ratio vs. Collector Current



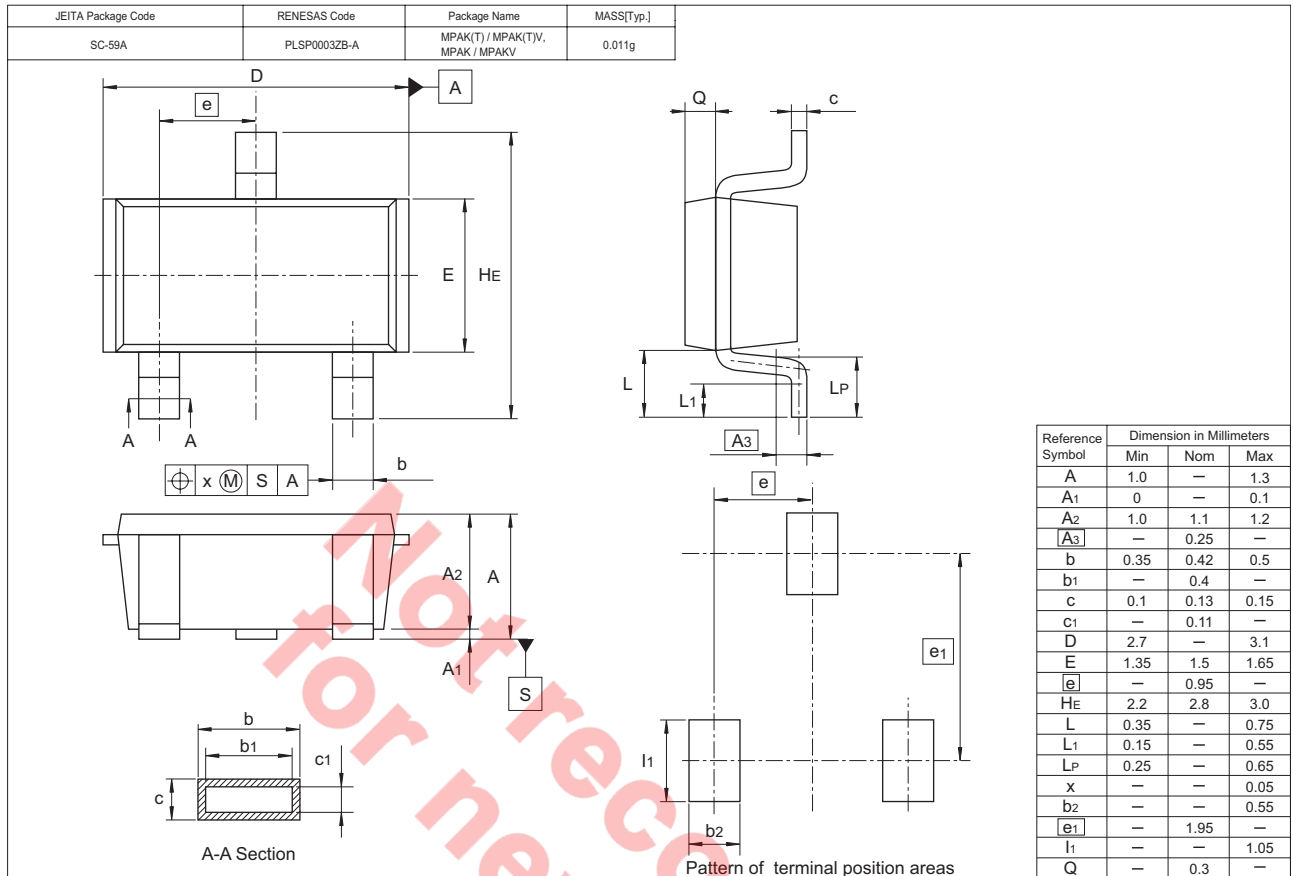
Gain Bandwidth Product vs. Collector Current





Not recommend  
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### Package Dimensions



### Ordering Information

Part Name	Quantity	Shipping Container
2SA1052MCTR-E	3000	φ 178 mm Reel, 8 mm Emboss Taping
2SA1052MDTR-E		

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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