

To all our customers

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

Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

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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2SC5022

Silicon NPN Triple Diffused

RENESAS

ADE-208-896 (Z)
1st. Edition
September 2000

Application

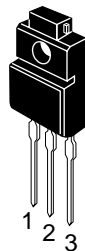
High voltage amplifier

Features

- High breakdown voltage $V_{(BR)CEO} = 1500 \text{ V Min}$

Outline

TO-220FM



1. Base
2. Collector
3. Emitter

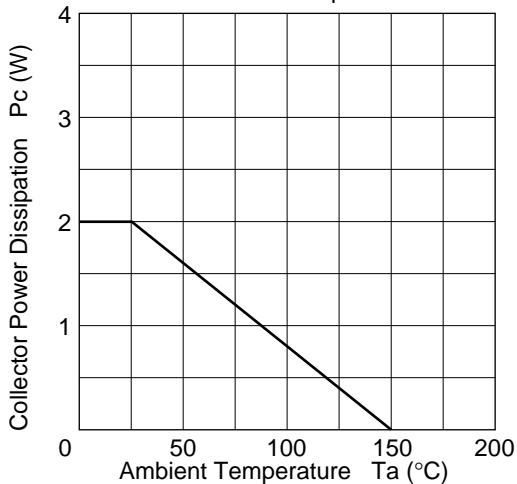
Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	1500	V
Collector to emitter voltage	V_{CEO}	1500	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	20	mA
Collector peak current	$I_{C(peak)}$	40	mA
Collector power dissipation	P_C	2	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

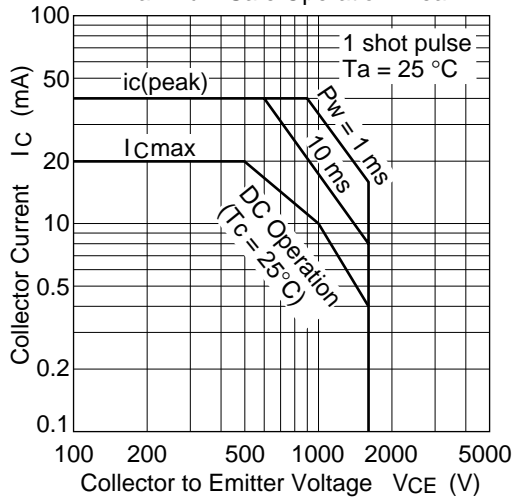
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	I_{CES}	—	—	10	μA	$V_{CE} = 1500 V, R_{BE} = 0$
Collector cutoff current	I_{CEO}	—	—	100	μA	$V_{CE} = 1500 V, R_{BE} =$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 6 V, I_C = 0$
DC current transfer ratio	h_{FE}	10	—	—		$V_{CE} = 5 V, I_C = 1 mA$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5.0	V	$I_C = 10 mA, I_B = 2 mA$

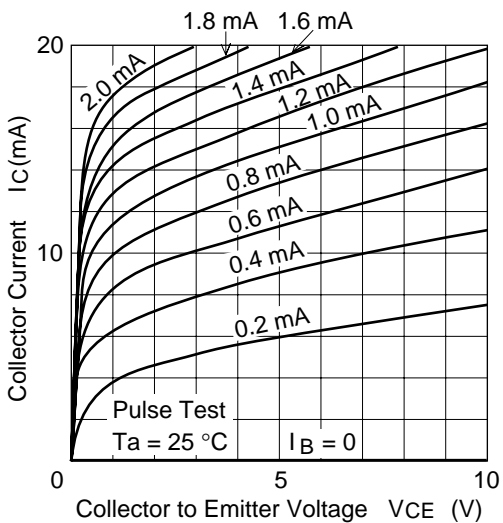
Collector Power Dissipation vs. Ambient Temperature



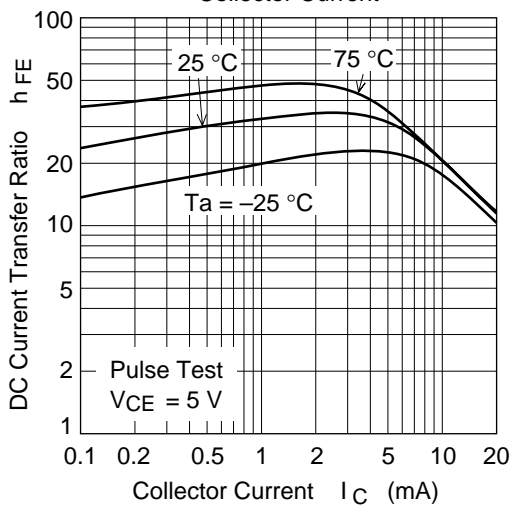
Maximum Safe Operation Area



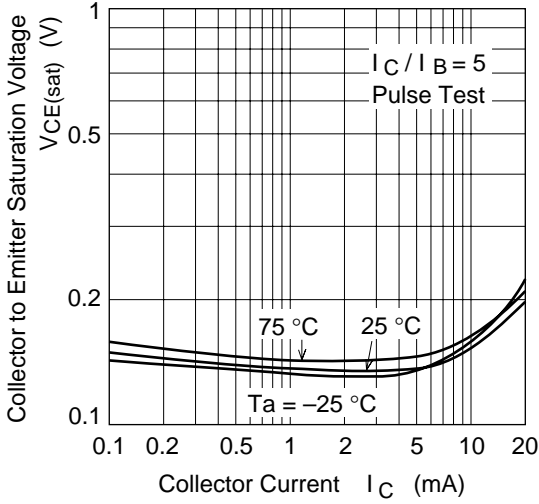
Typical Output Characteristics



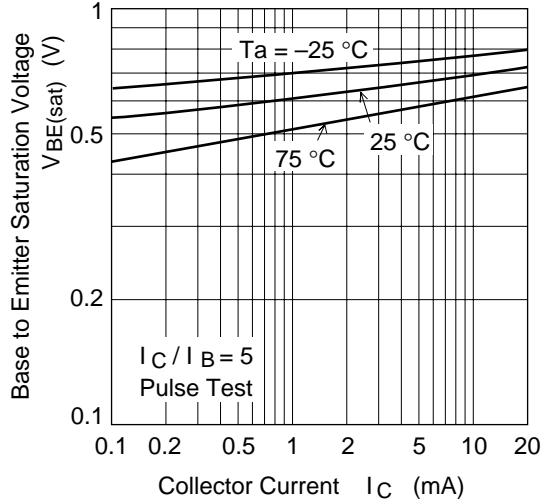
DC Current Transfer Ratio vs. Collector Current



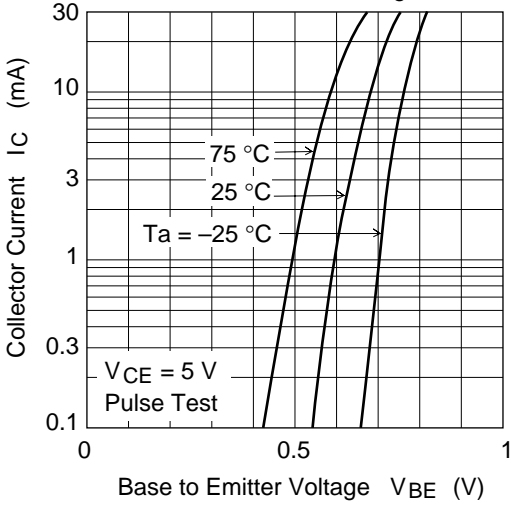
Collector to Emitter Saturation Voltage vs. Collector Current



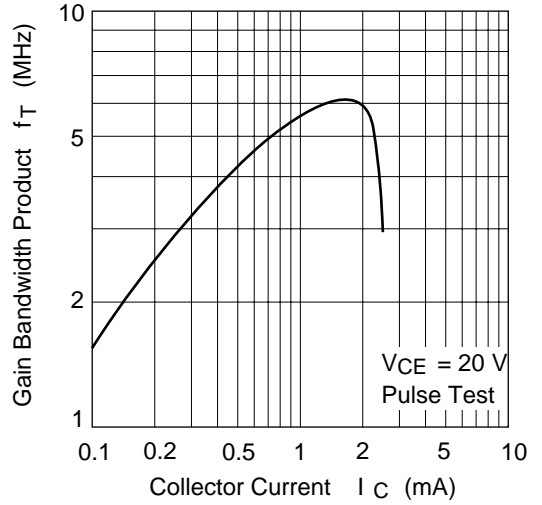
Base to Emitter Saturation Voltage vs. Collector Current

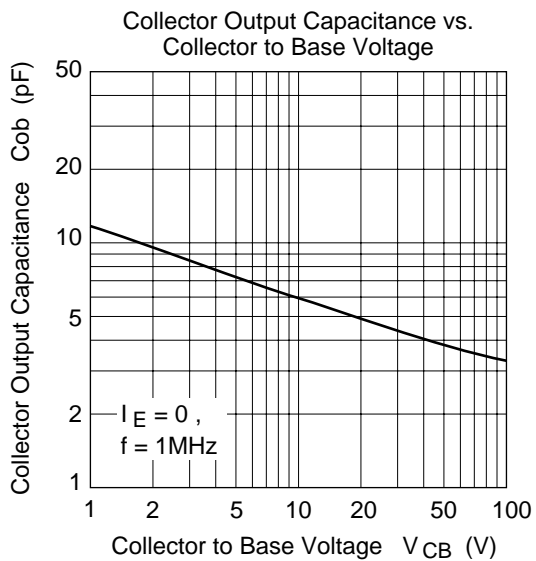


Collector Current vs. Base to Emitter Voltage



Gain Bandwidth Product vs. Collector Current





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