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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2SC5022

Silicon NPN Triple Diffused

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

Application

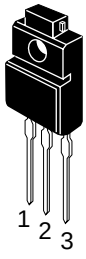
High voltage amplifier

Features

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

Outline

TO-220FM



1. Base
2. Collector
3. Emitter

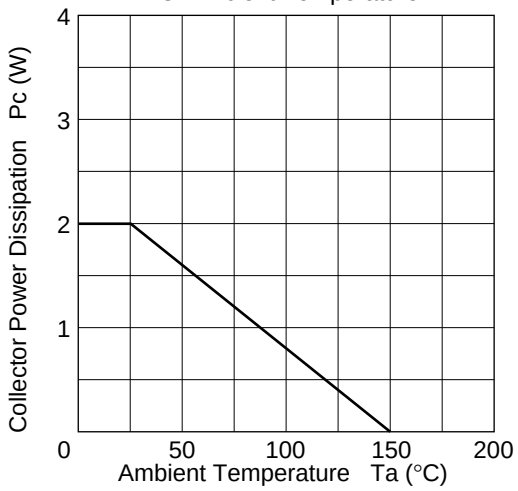
Absolute Maximum Ratings (Ta = 25°C)

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

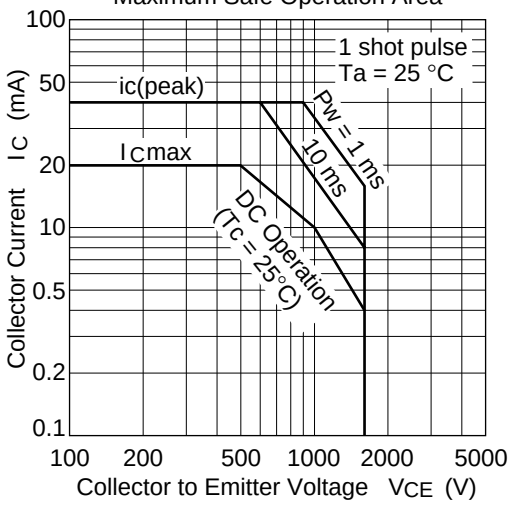
Electrical Characteristics (Ta = 25°C)

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

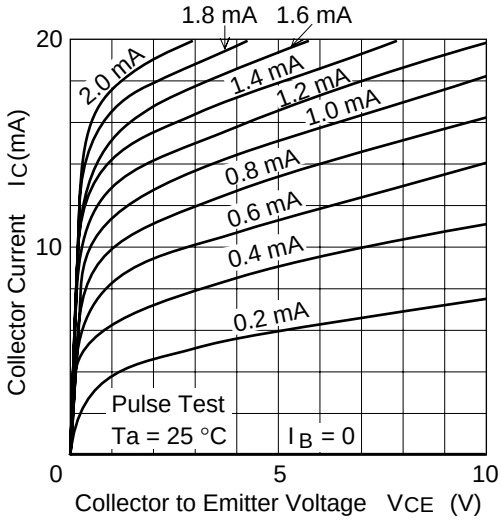
Collector Power Dissipation vs. Ambient Temperature



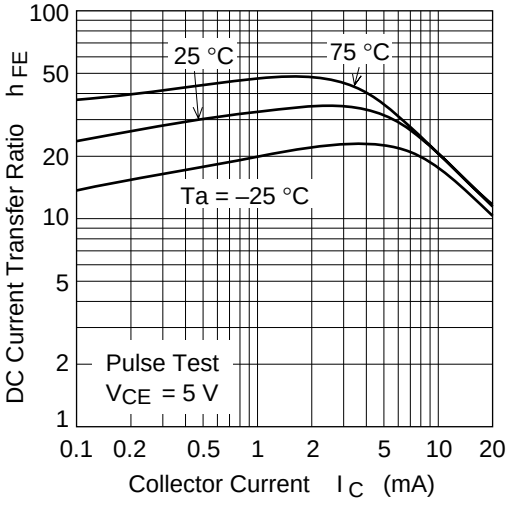
Maximum Safe Operation Area



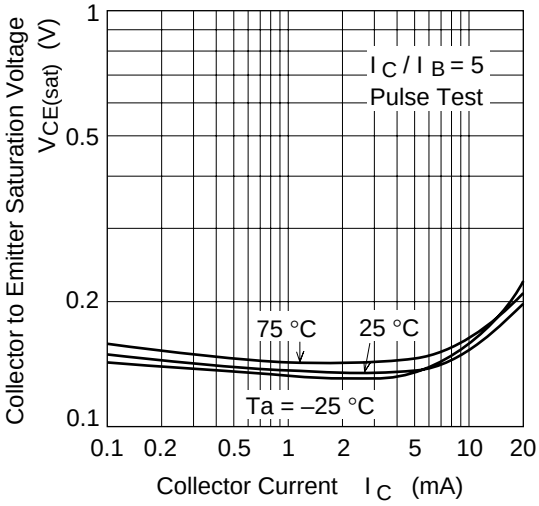
Typical Output Characteristics



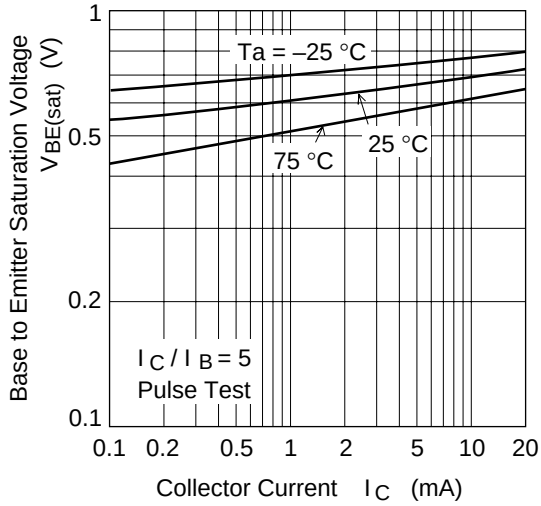
DC Current Transfer Ratio vs. Collector Current



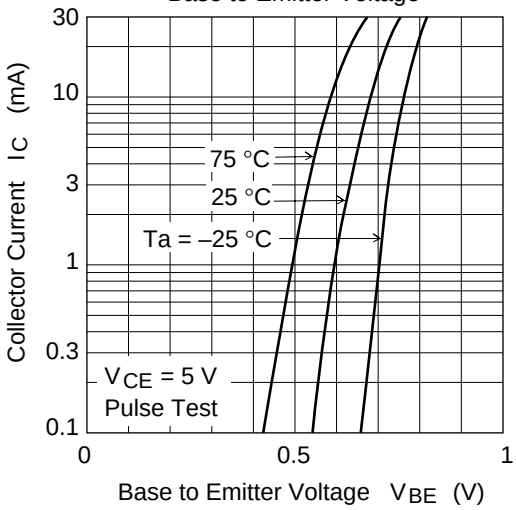
Collector to Emitter Saturation Voltage vs. Collector Current



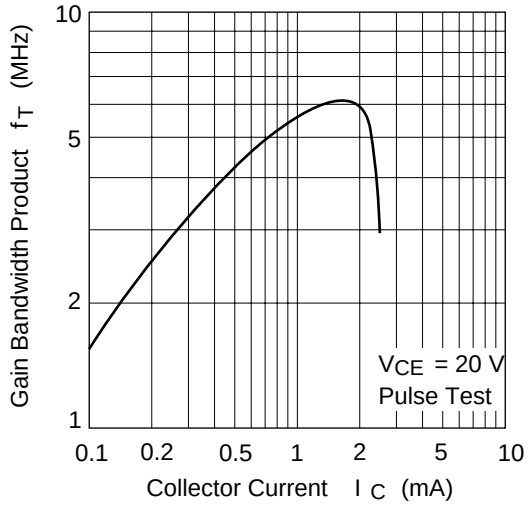
Base to Emitter Saturation Voltage vs. Collector Current

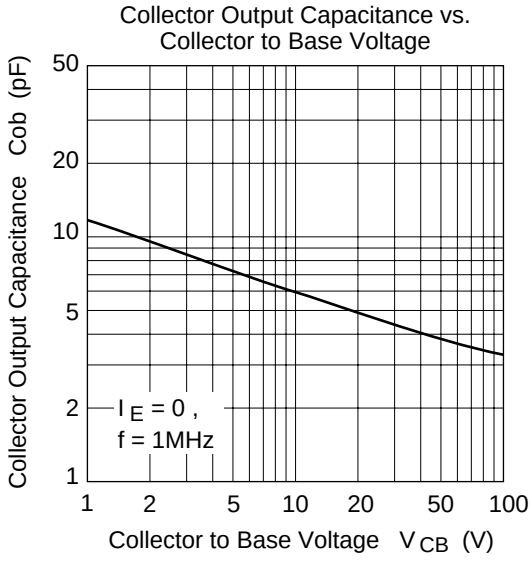


Collector Current vs. Base to Emitter Voltage



Gain Bandwidth Product vs. Collector Current




Collector Output Capacitance vs.
Collector to Base Voltage
Collector Output Capacitance Cob (pF)
50
20
10
5
2
1
I E = 0 ,
f = 1MHz
1
2
5
10
20
50
100
Collector to Base Voltage V CB (V)

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