To our customers,

Old Company Name in Catalogs and Other Documents

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

April 1st, 2010
Renesas Electronics Corporation

Not recommend for new design

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2SC2620

Silicon NPN Epitaxial Planar

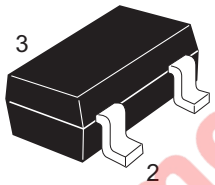
REJ03G0704-0200
(Previous ADE-208-1071)
Rev.2.00
Aug.10.2005

Application

VHF amplifier, Local oscillator

Outline

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



1. Emitter
2. Base
3. Collector

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Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	100	mW
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 to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.5	µA	V_{CB} = 10 V, I_C = 0
Emitter cutoff current	I_{EBO}	—	—	0.5	µA	V_{EB} = 2 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	60	—	200		V_{CE} = 6 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.17	—	V	I_C = 20 mA, I_B = 4 mA
Base to emitter voltage	V_{BE}	—	0.72	—	V	V_{CE} = 6 mA, I_C = 1 mA
Gain bandwidth product	f_T	—	940	—	MHz	V_{CE} = 6 V, I_C = 5 mA
Collector output capacitance	Cob	—	0.9	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

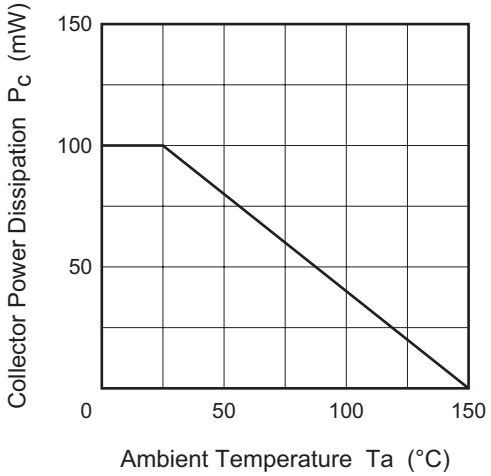
Note: 1. The 2SC2620 is grouped by h_{FE} as follows.

Grade	B	C
Mark	QB	QC
h_{FE}	60 to 120	100 to 200

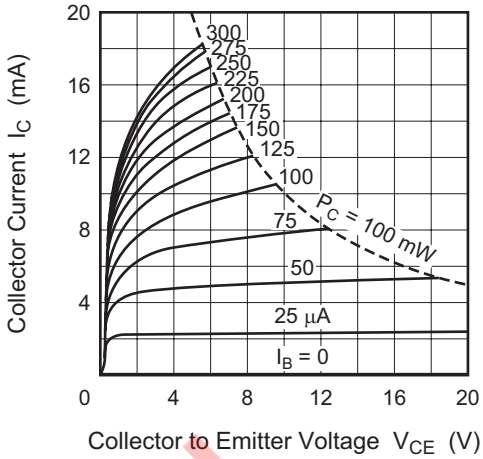
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Main Characteristics

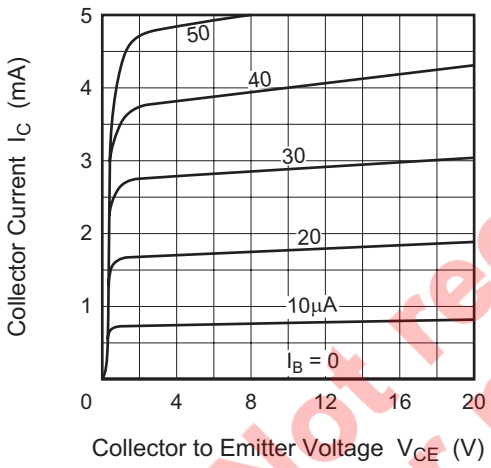
Maximum Collector Dissipation Curve



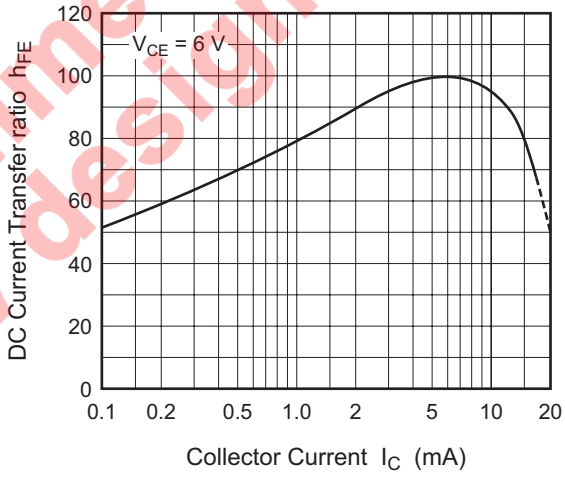
Typical Output Characteristics



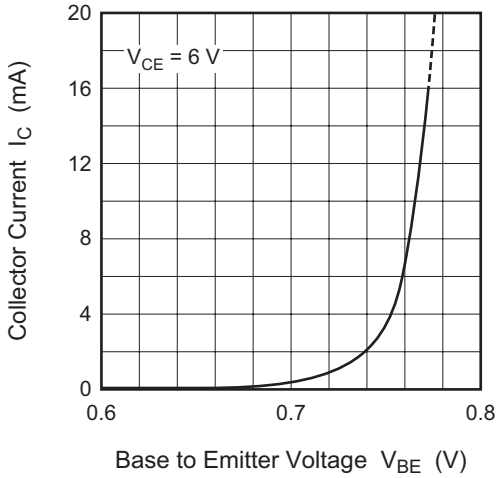
Typical Output Characteristics



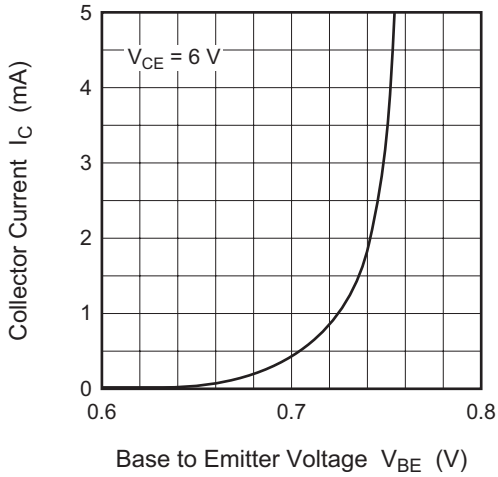
DC Current Transfer Ratio vs. Collector Current



Typical Transfer Cahracteristics (1)

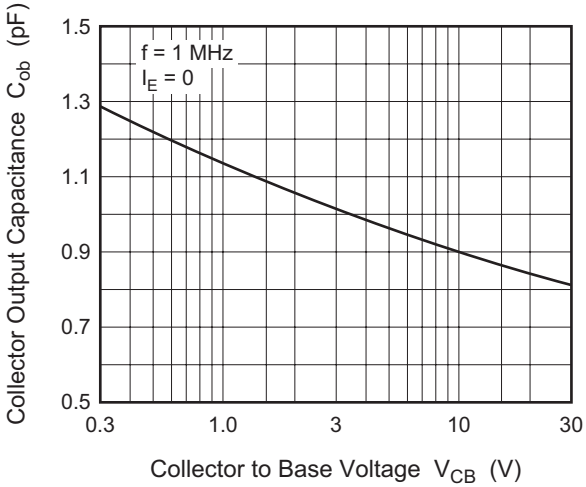


Typical Transfer Cahracteristics (2)

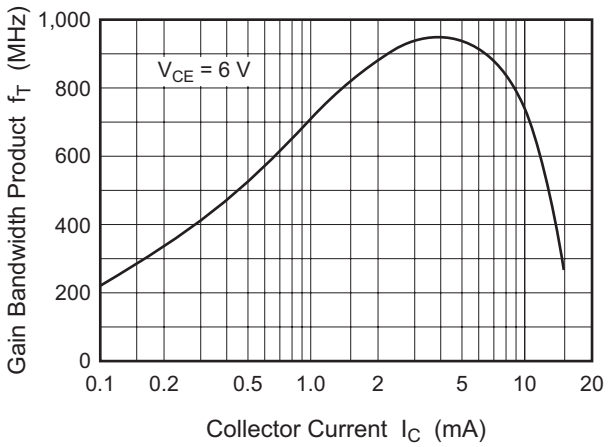


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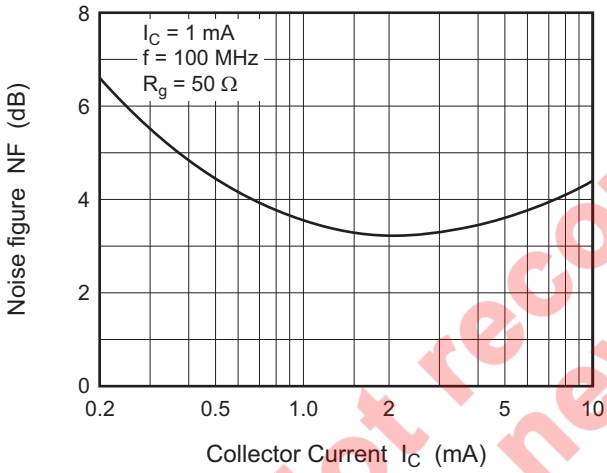
Collector Output Capacitance vs. Collector to Base Voltage



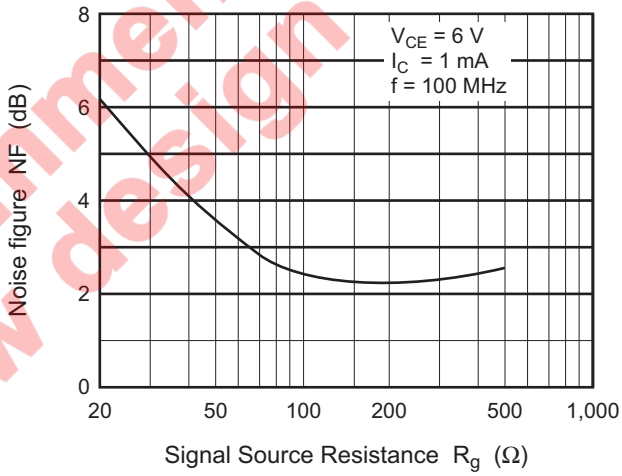
Gain Bandwidth Product vs. Collector Current



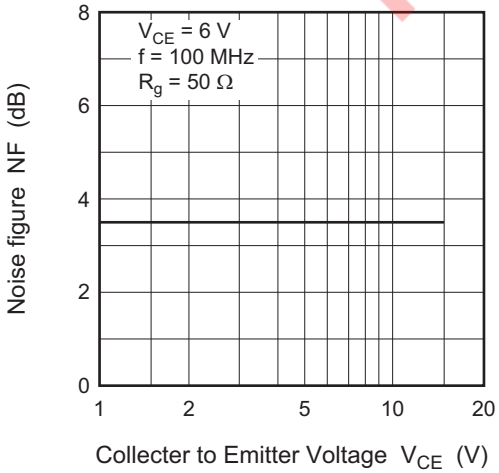
Noise Figure vs. Collector Current



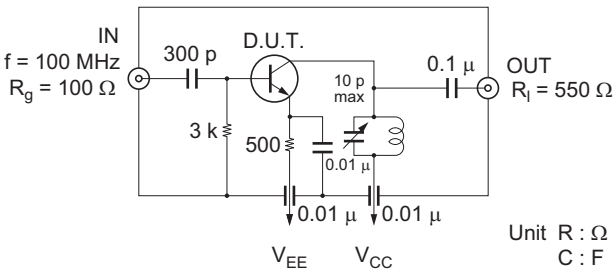
Noise Figure vs. Signal Source Resistance



Noise Figure vs. Collector to Emitter Voltage

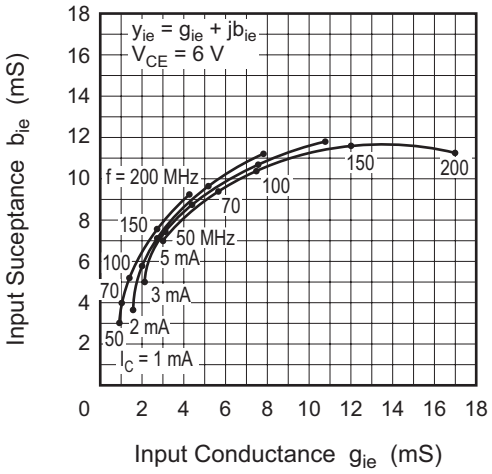


100 MHz Power Gain Test Circuit

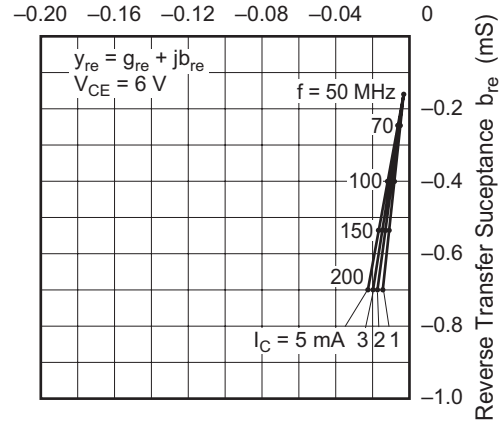


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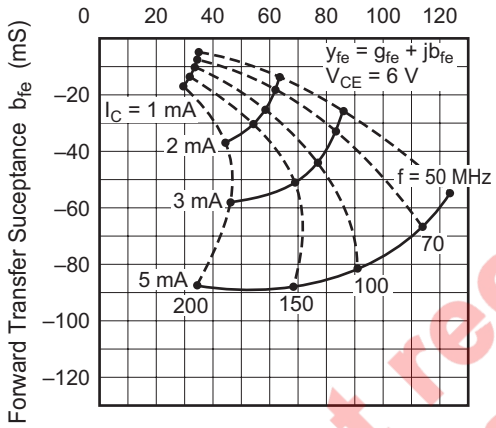
Input Admittance Characteristics



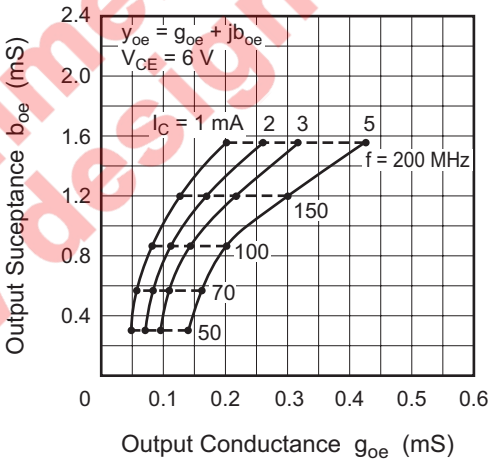
Reverse Transfer Admittance Characteristics



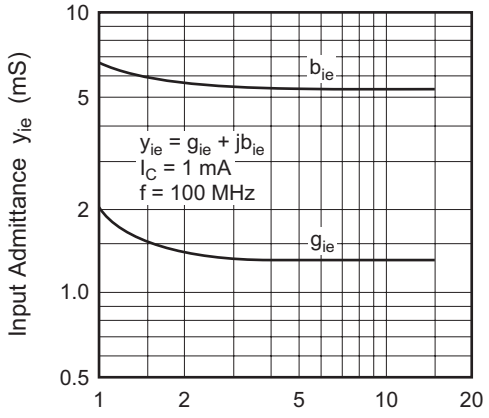
Forward Transfer Admittance Characteristics



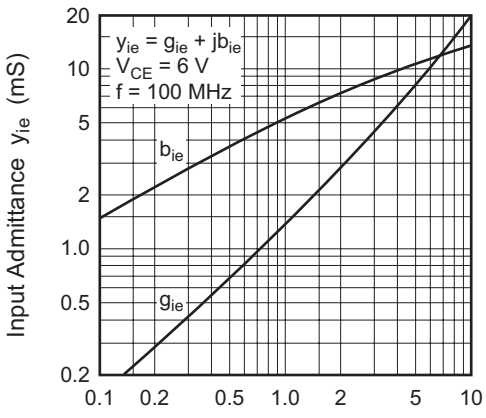
Output Admittance Characteristics



Input Admittance vs. Collector to Emitter Voltage

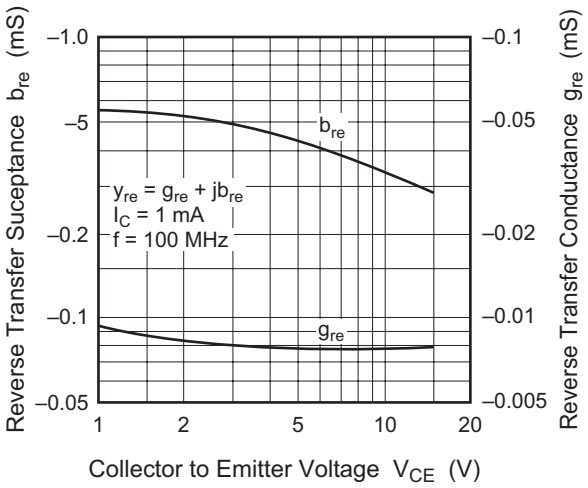


Input Admittance vs. Collector Current

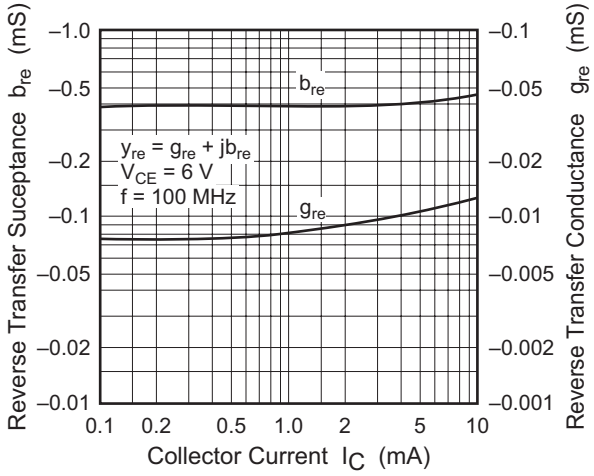


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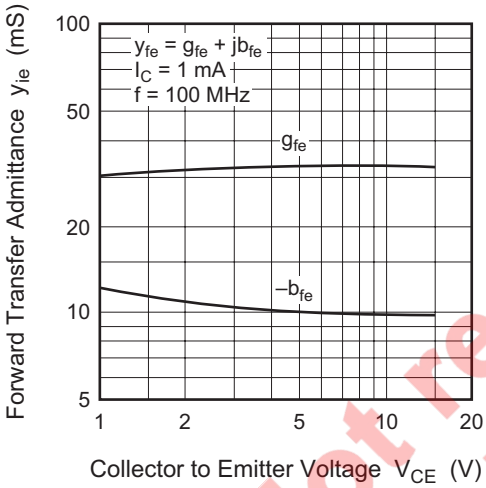
Reverse Transfer Admittance vs. Collector to Emitter Voltage



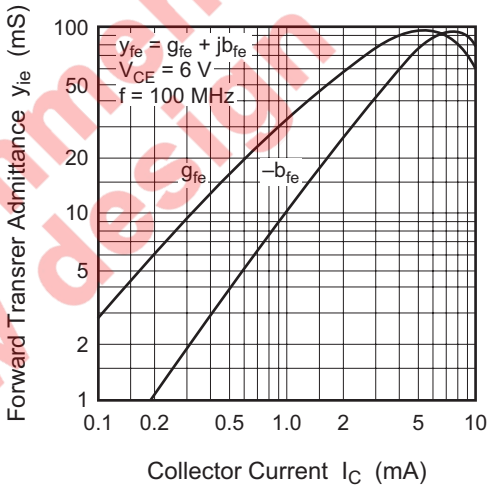
Reverse Transrer Admittance vs. Collector Current



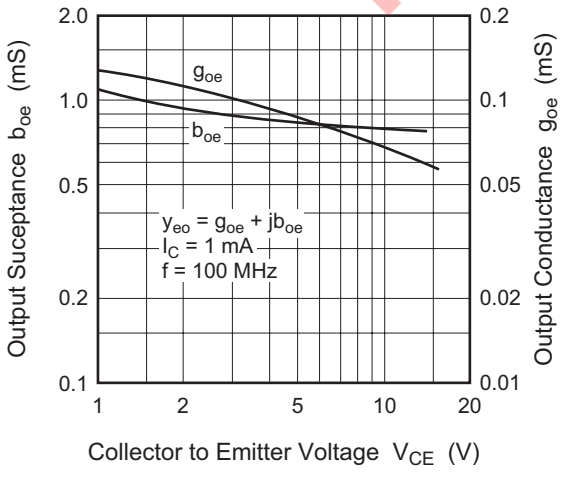
Forward Transfer Admittance vs. Collector to Emitter Voltage



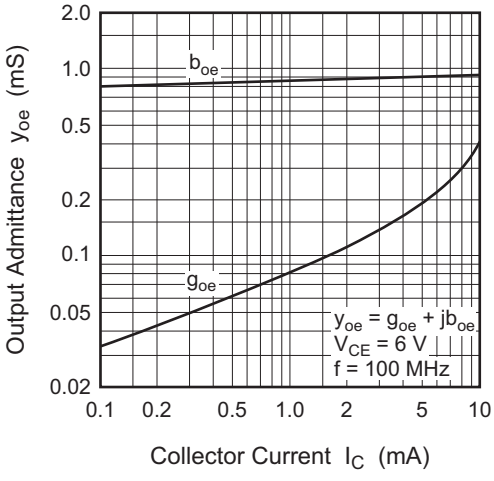
Forward Transrer Admittance vs. Collector Current



Output Admittance vs. Collector to Emitter Voltage



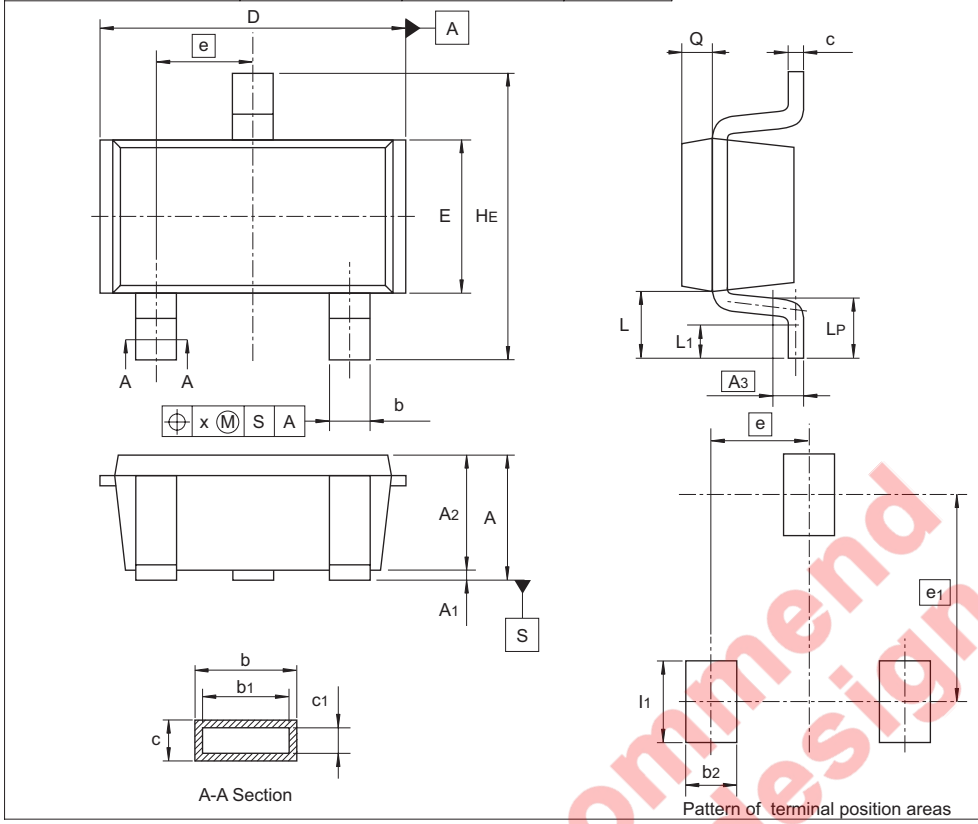
Output Admittance vs. Collector Current



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Package Dimensions

JEITA Package Code	RENESAS Code	Package Name	MASS[Typ.]
SC-59A	PLSP0003ZB-A	MPAK(T) / MPAK(T)V, MPAK / MPAKV	0.011g



Reference Symbol	Dimension in Millimeters		
	Min	Nom	Max
A	1.0	—	1.3
A_1	0	—	0.1
A_2	1.0	1.1	1.2
A_3	—	0.25	—
b	0.35	0.42	0.5
b_1	—	0.4	—
c	0.1	0.13	0.15
c_1	—	0.11	—
D	2.7	—	3.1
E	1.35	1.5	1.65
e	—	0.95	—
H_E	2.2	2.8	3.0
L	0.35	—	0.75
L_1	0.15	—	0.55
L_P	0.25	—	0.65
x	—	—	0.05
b_2	—	—	0.55
e_1	—	1.95	—
l_1	—	—	1.05
Q	—	0.3	—

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Ordering Information

Part Name	Quantity	Shipping Container
2SC2620QBTL-E 2SC2620QCTL-E	3000	ϕ 178 mm Reel, 8 mm Emboss Taping

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