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

April 1st, 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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2SC2620

Silicon NPN Epitaxial Planar

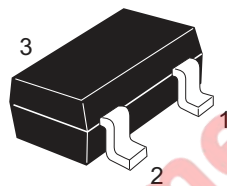
REJ03G0704-0200
 (Previous ADE-208-1071)
 Rev.2.00
 Aug.10.2005

Application

VHF amplifier, Local oscillator

Outline

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



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

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	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics

(Ta = 25°C)

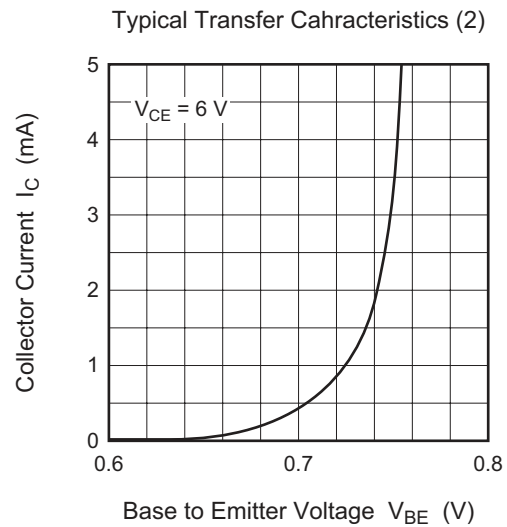
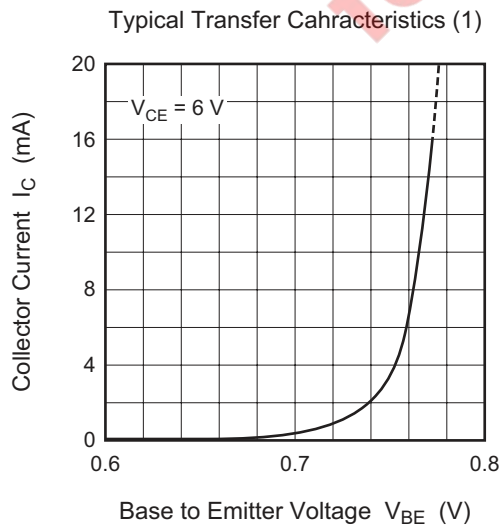
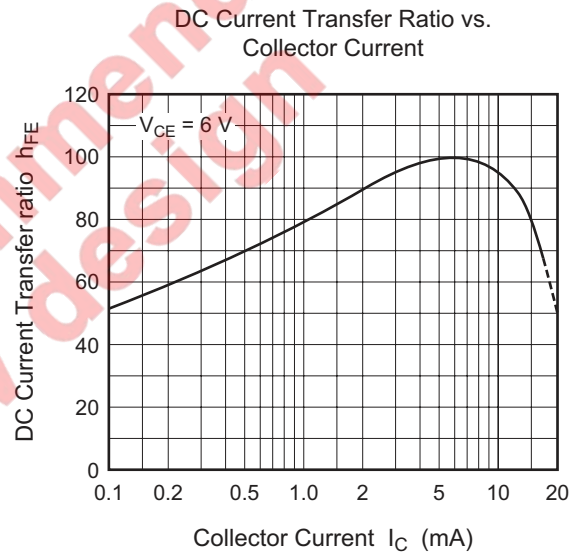
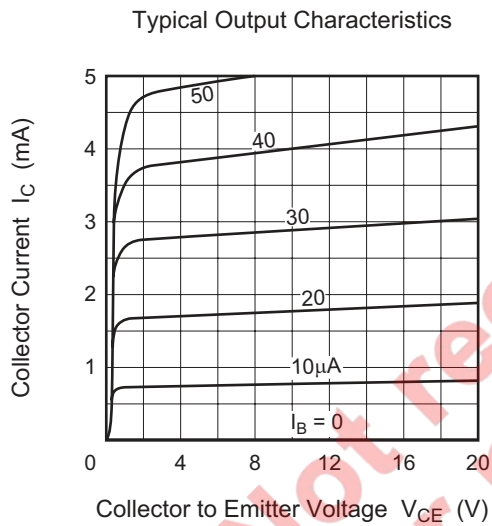
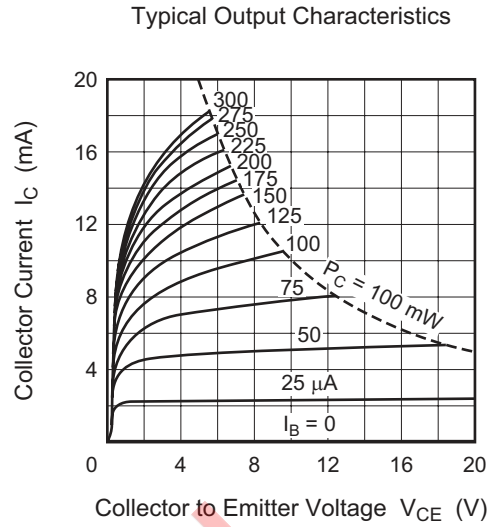
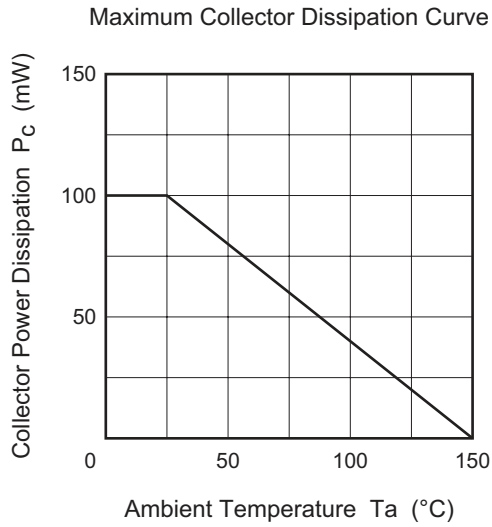
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 10 \text{ V}, I_C = 0$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB} = 2 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE}^{*1}	60	—	200		$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.17	—	V	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$
Base to emitter voltage	V_{BE}	—	0.72	—	V	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$
Gain bandwidth product	f_T	—	940	—	MHz	$V_{CE} = 6 \text{ V}, I_C = 5 \text{ mA}$
Collector output capacitance	C_{ob}	—	0.9	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

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

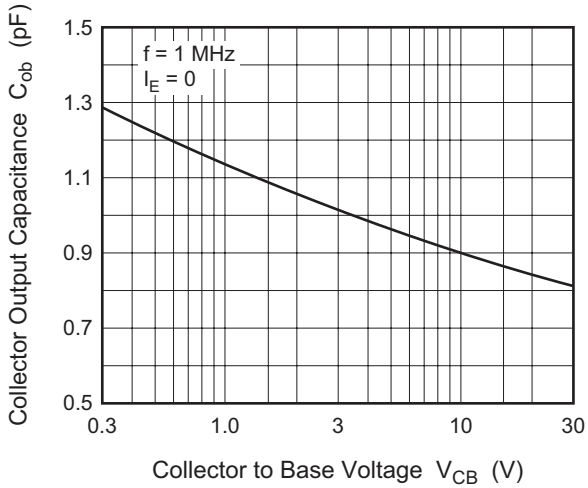
Grade	B	C
Mark	QB	QC
h_{FE}	60 to 120	100 to 200

Not recommend
for new design

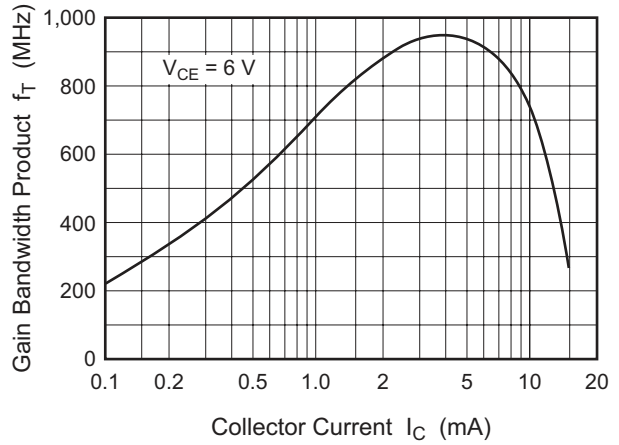
Main Characteristics



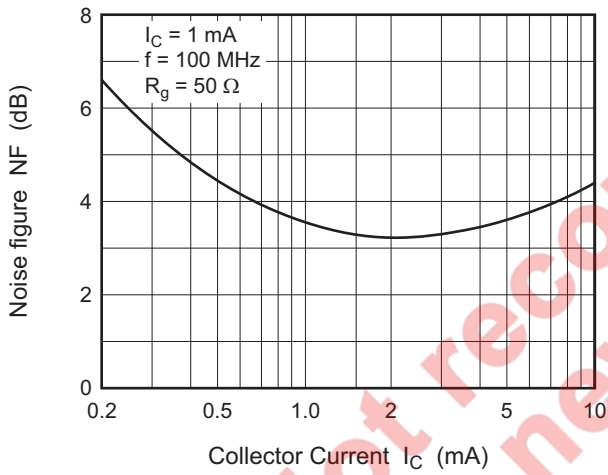
Collector Output Capacitance vs. Collector to Base Voltage



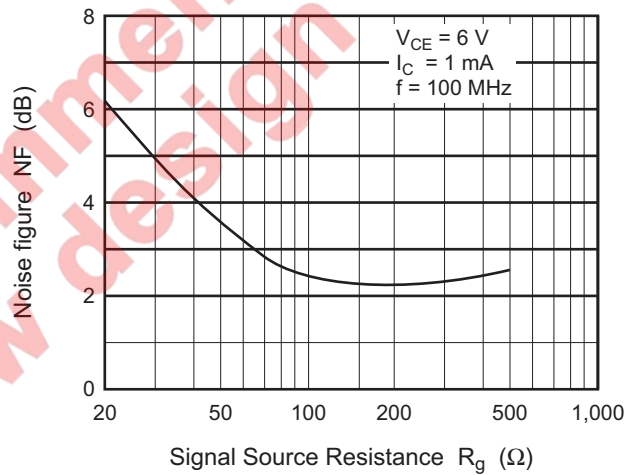
Gain Bandwidth Product vs. Collector Current



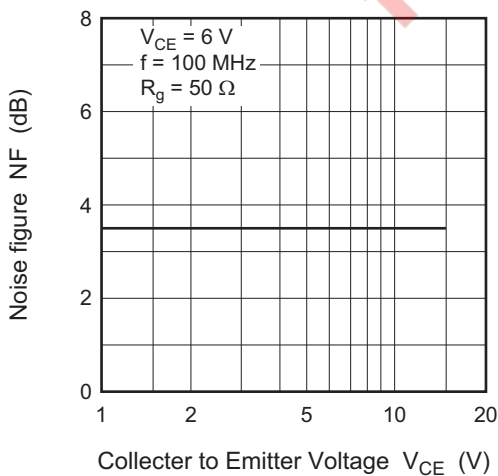
Noise Figure vs. Collector Current



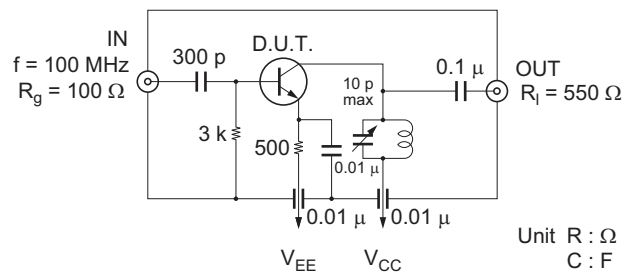
Noise Figure vs. Signal Source Resistance

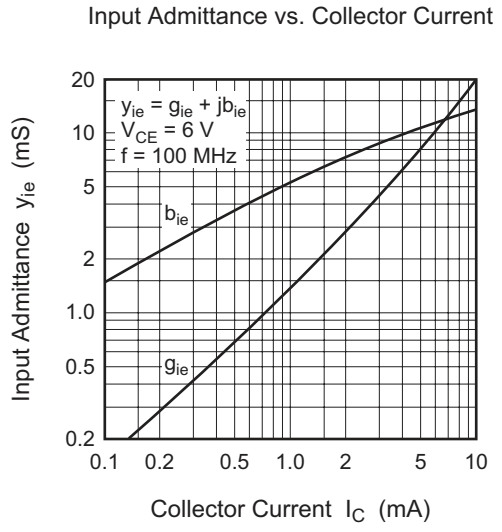
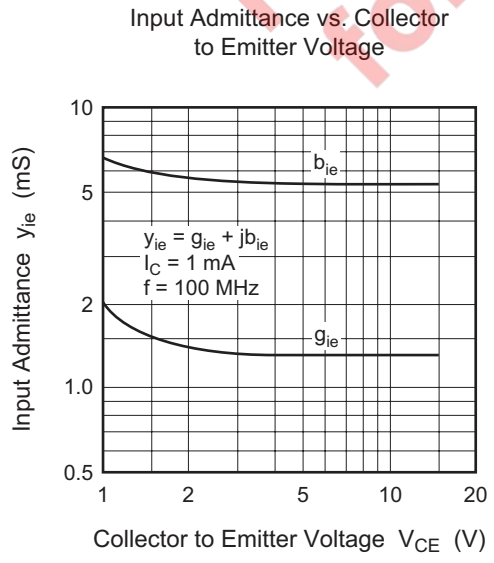
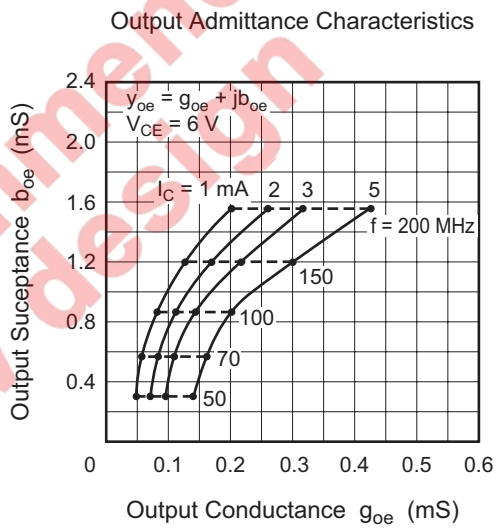
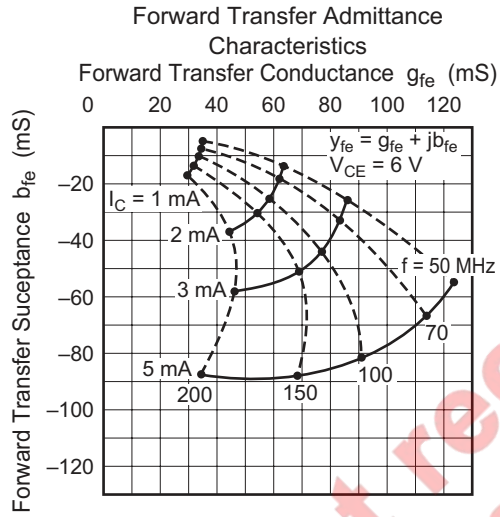
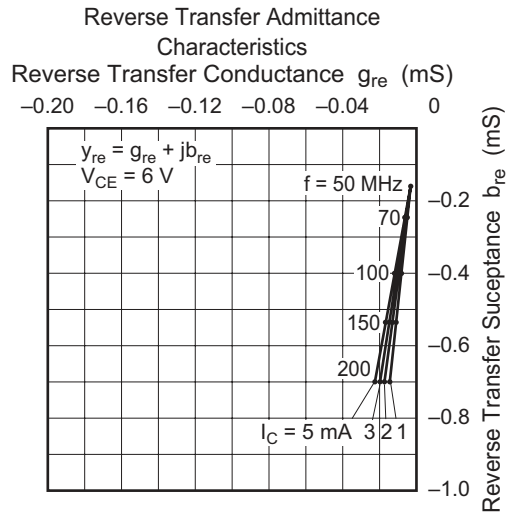
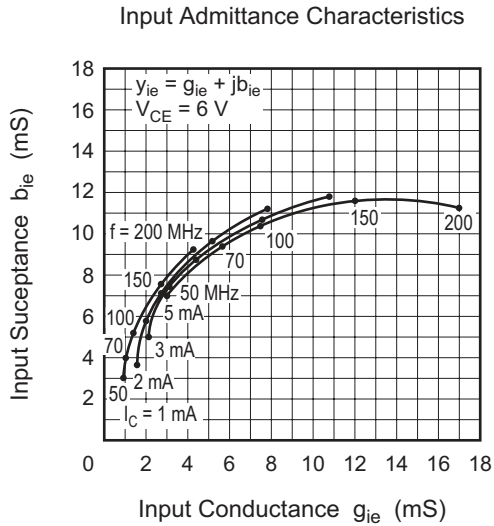


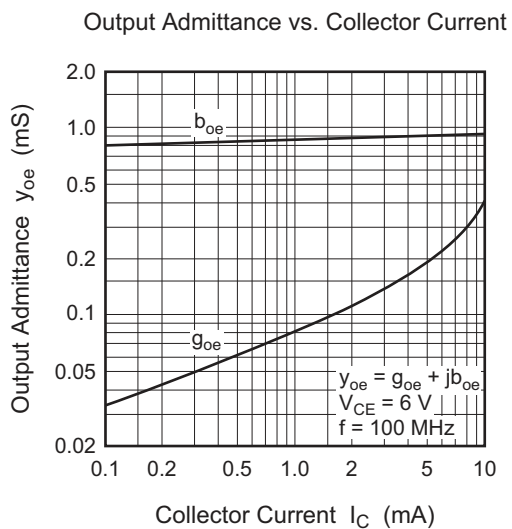
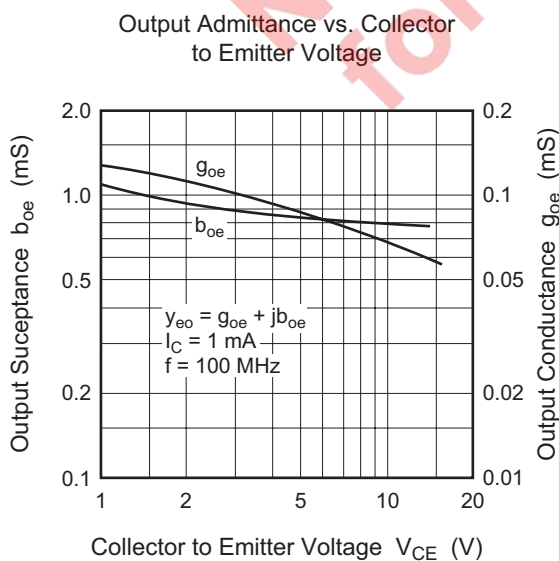
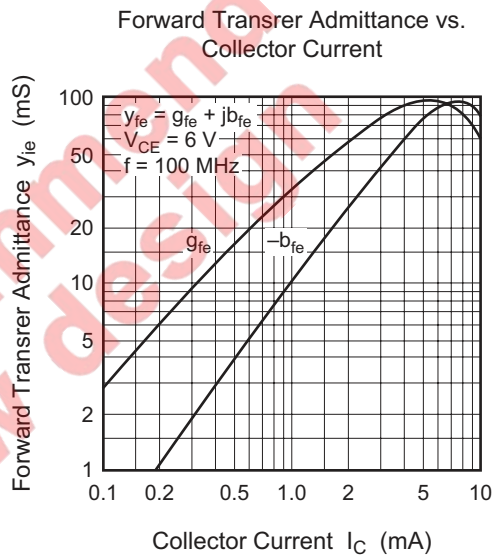
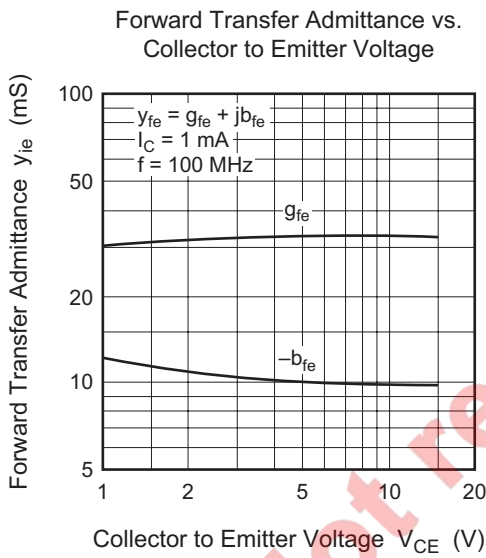
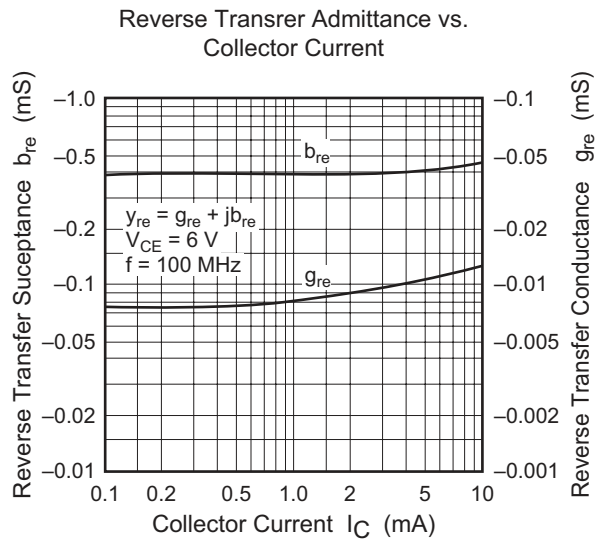
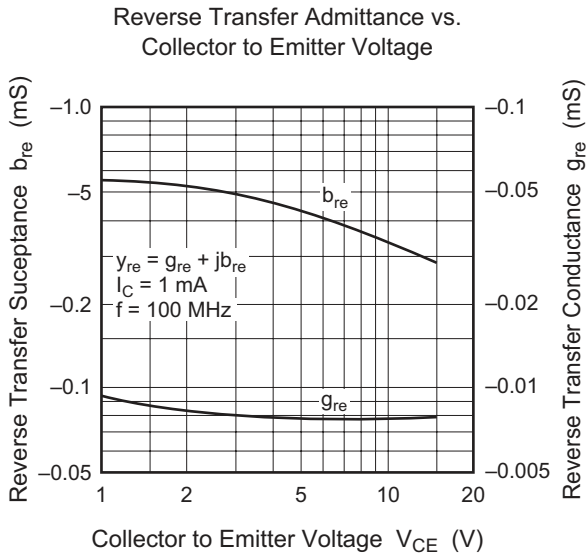
Noise Figure vs. Collector to Emitter Voltage



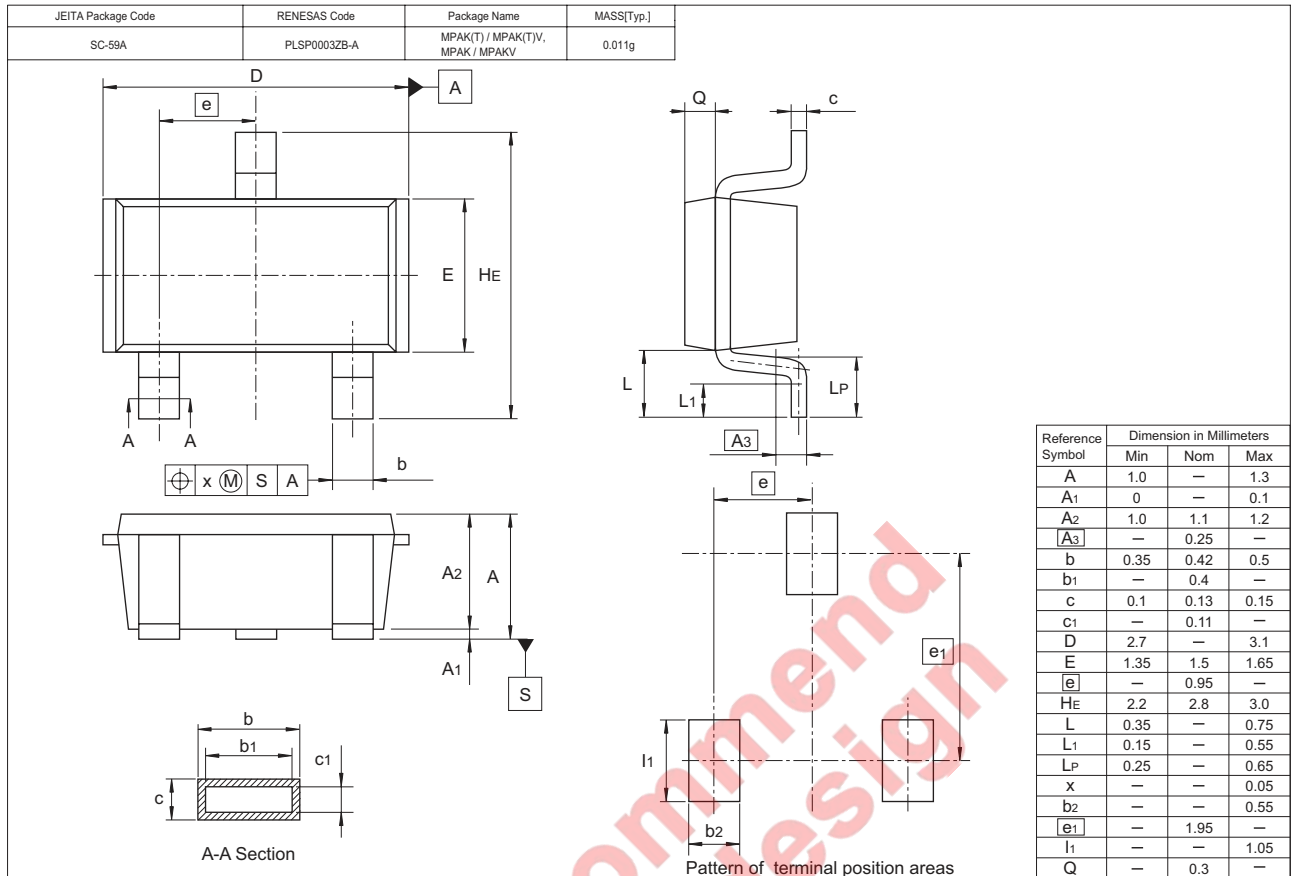
100 MHz Power Gain Test Circuit







Package Dimensions



Ordering Information

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

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