

2SB1691

Silicon PNP Epitaxial Planer Low Frequency Power Amplifier

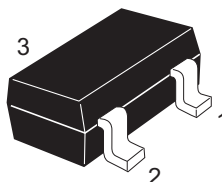
R07DS0272EJ0400
Rev.4.00
Jan 10, 2014

Features

- Small size package: MPAK (SC-59A)
- Large Maximum current: $I_C = -1$ A
- Low collector to emitter saturation voltage: $V_{CE(sat)} = -0.3$ V max.(at $I_C/I_B = -0.5$ A/ -0.05 A)
- High power dissipation: $P_C = 800$ mW (when using alumina ceramic board (25 x 60 x 0.7 mm))
- Complementary pair with 2SD2655

Outline

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



1. Emitter
2. Base
3. Collector

Note: Marking is "WL-".

Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base Voltage	V_{CBO}	-60	V
Collector to emitter voltage	V_{CEO}	-50	V
Emitter to base voltage	V_{EBO}	-6	V
Collector current	I_C	-1	A
Collector peak current	$i_{c(peak)}$	-2	A
Collector power dissipation	P_C	800*	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

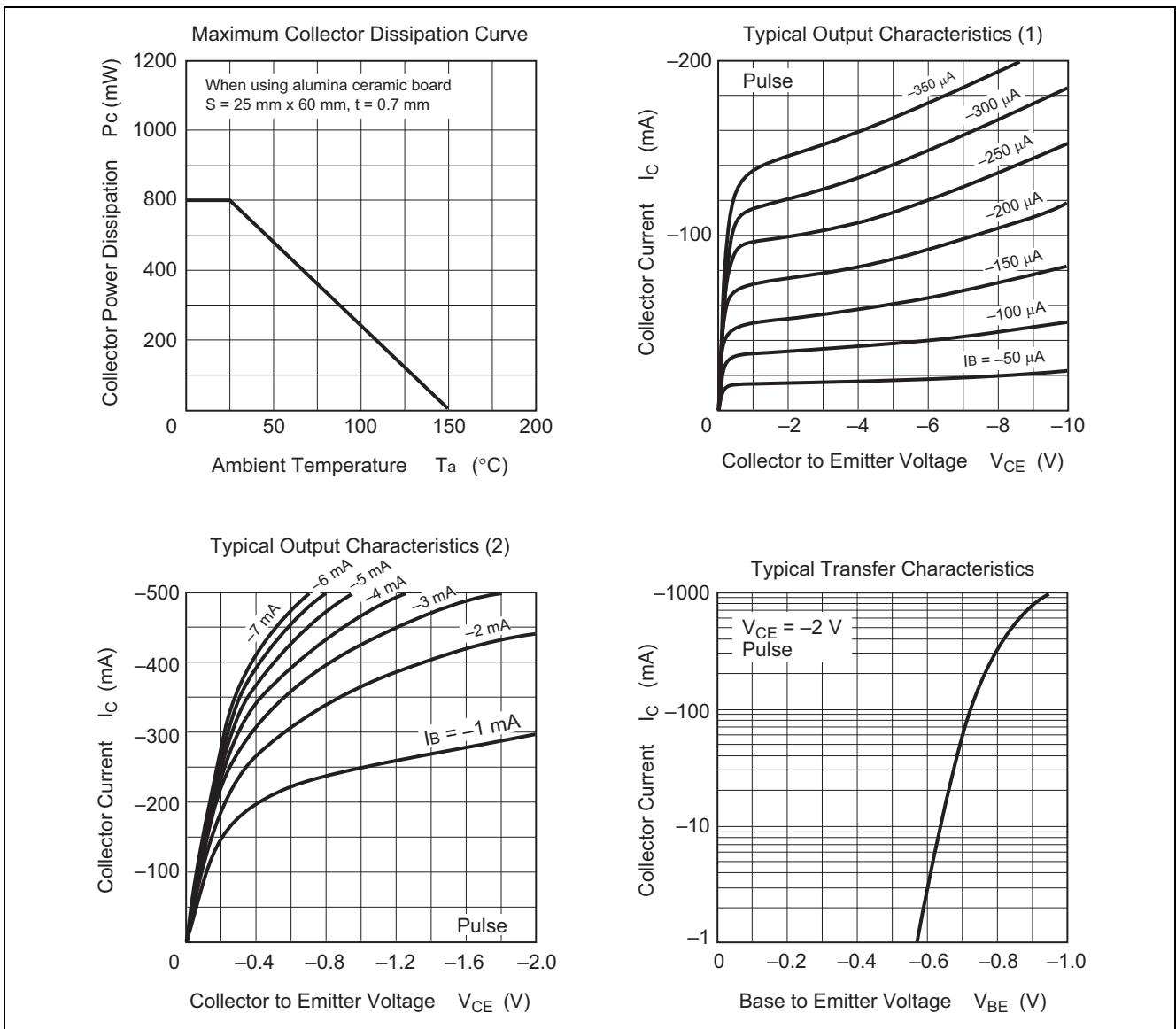
Note: *When using alumina ceramic board (25 x 60 x 0.7 mm)

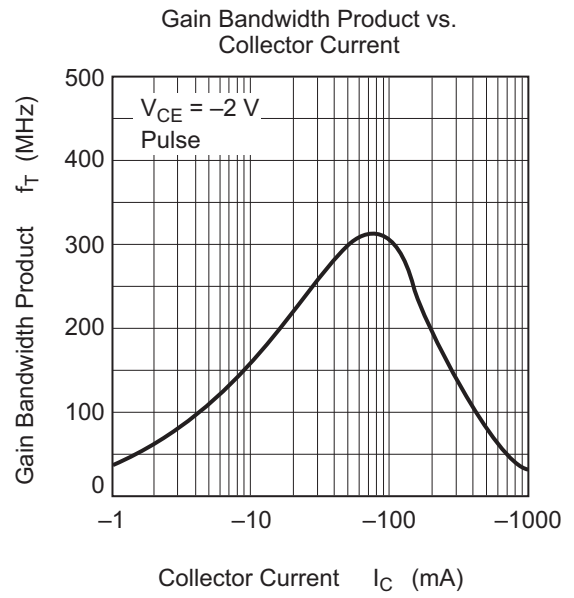
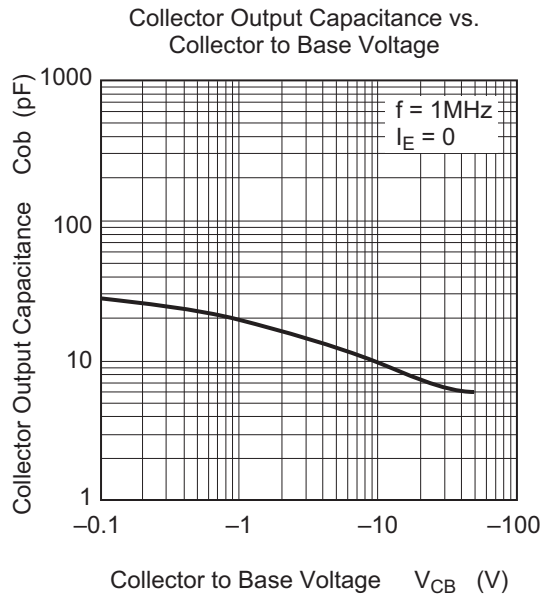
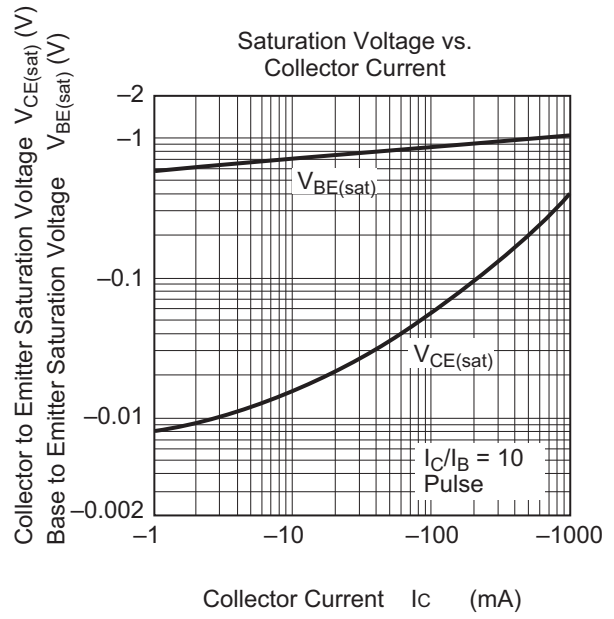
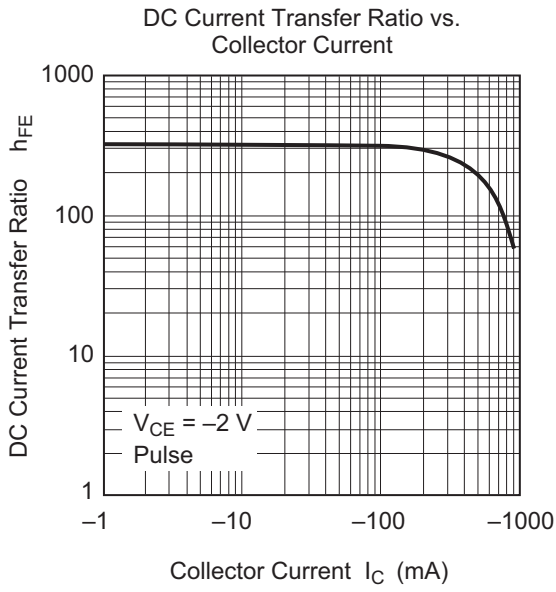
Electrical Characteristics

(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	-60	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-50	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-6	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	-100	nA	$V_{CB} = -50 \text{ V}, I_E = 0$
Emitter cutoff current	I_{EBO}	—	—	-100	nA	$V_{EB} = -5 \text{ V}, I_C = 0$
DC current transfer ratio	h_{FE}	200	—	500	—	$V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.2	-0.3	V	$I_C = -0.5 \text{ A}, I_B = -0.05 \text{ A}$, Pulse test
Base to emitter saturation voltage	$V_{BE(sat)}$	—	-0.95	-1.2	V	$I_C = -0.5 \text{ A}, I_B = -0.05 \text{ A}$, Pulse test
Gain bandwidth product	f_T	—	310	—	MHz	$V_{CE} = -2 \text{ V}, I_C = -0.1 \text{ A}$
Collector output capacitance	C_{ob}	—	9.8	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0$, $f = 1 \text{ MHz}$

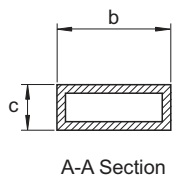
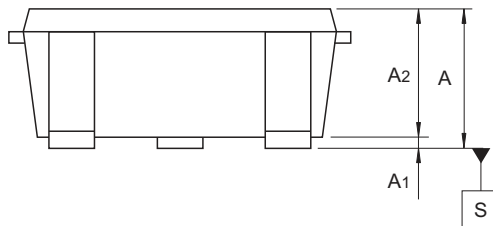
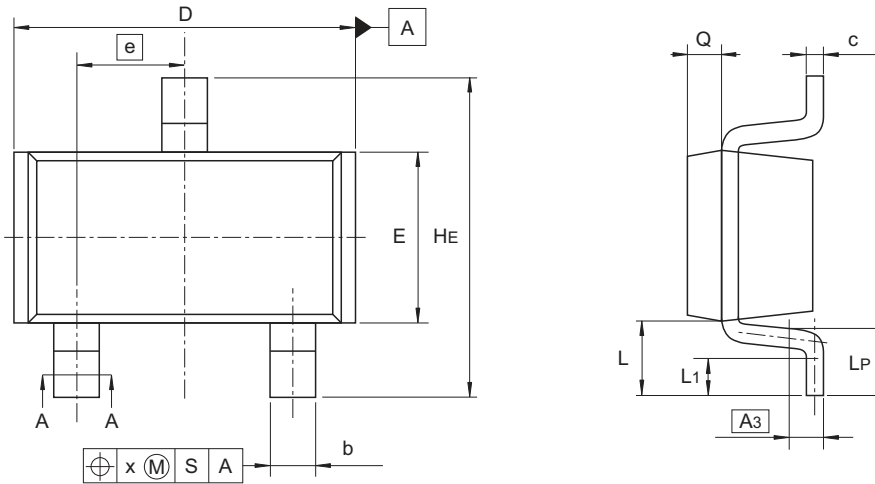
Main Characteristics





Package Dimensions

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



Reference Symbol	Dimensions in millimeters		
	Min	Nom	Max
A	1.0	—	1.3
A1	0	—	0.1
A2	1.0	1.1	1.2
A3	—	0.25	—
b	0.35	0.4	0.5
c	0.1	0.16	0.26
D	2.7	—	3.1
E	1.35	1.5	1.65
e	—	0.95	—
HE	2.2	2.8	3.0
L	0.35	—	0.75
L1	0.15	—	0.55
LP	0.25	—	0.65
x	—	—	0.05
Q	—	0.3	—

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Ordering Information

Orderable Part Number	Quantity	Shipping Container
2SB1691WL-TL-E 2SB1691WL-TL-H	3000 pcs	φ178 mm Taping Reel

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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