

# 2SB1691

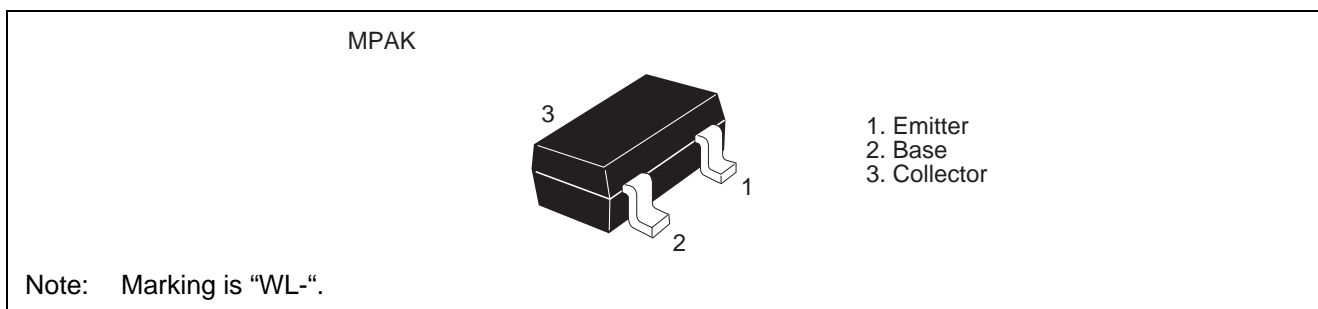
## Silicon PNP Epitaxial Planer Low Frequency Power Amplifier

REJ03G0482-0200  
(Previous ADE-208-1387A (Z))  
Rev.2.00  
Dec.09.2004

### 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



### 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	$i_c(\text{peak})$	-2	A
Collector power dissipation	$P_C$	800*	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

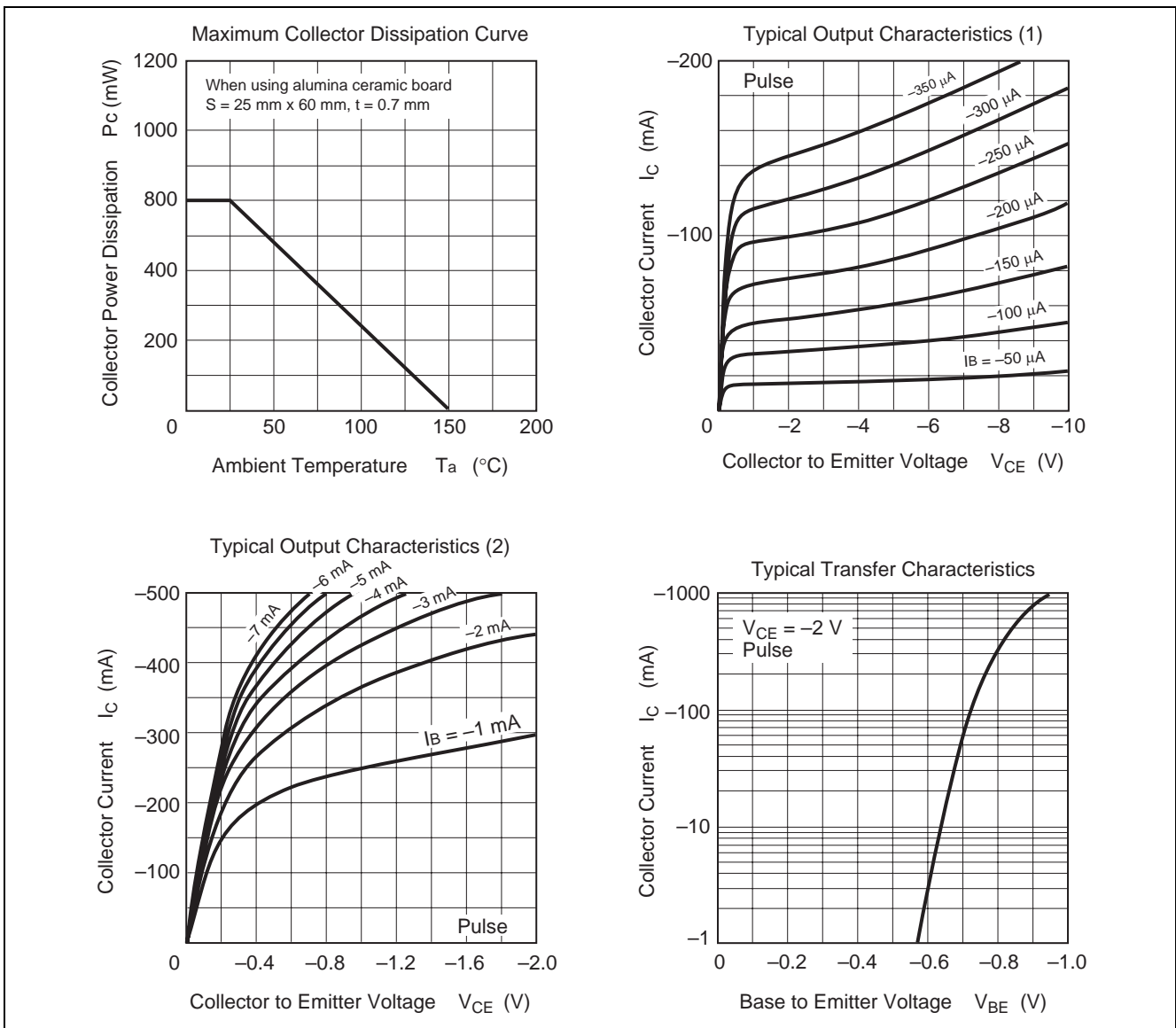
Note: \*When using alumina ceramic board (25 x 60 x 0.7 mm)

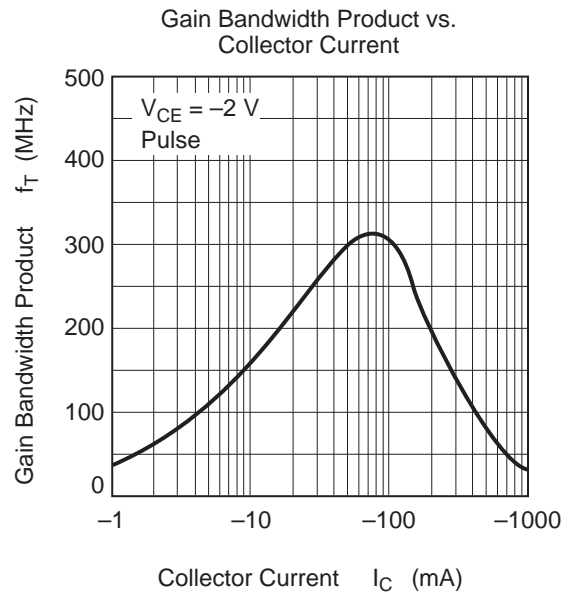
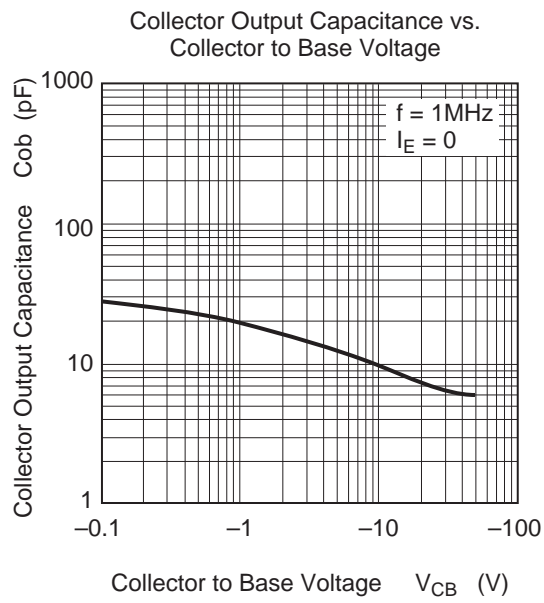
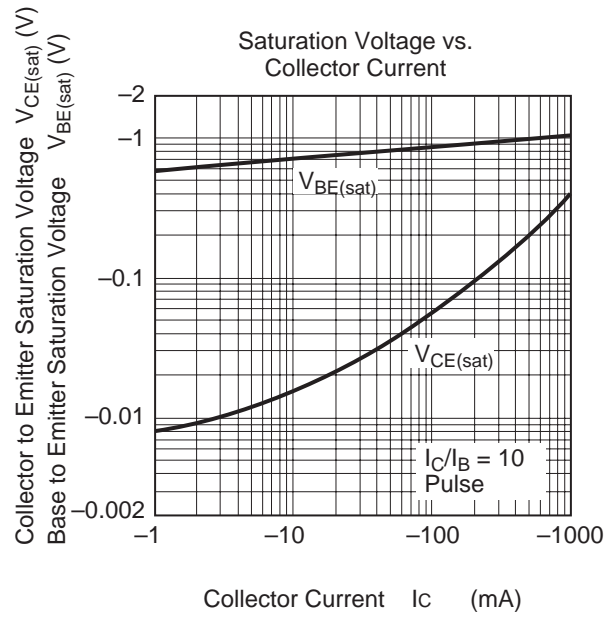
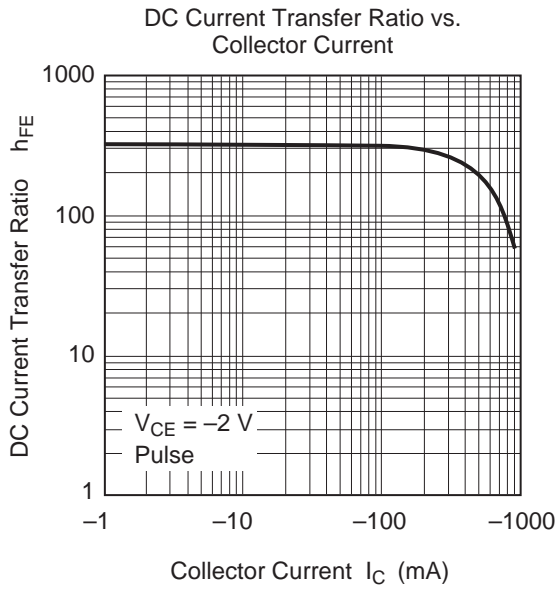
## Electrical Characteristics

(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	$V_{CB} = -10 \text{ V}, I_E = 0$ , $f = 1 \text{ MHz}$

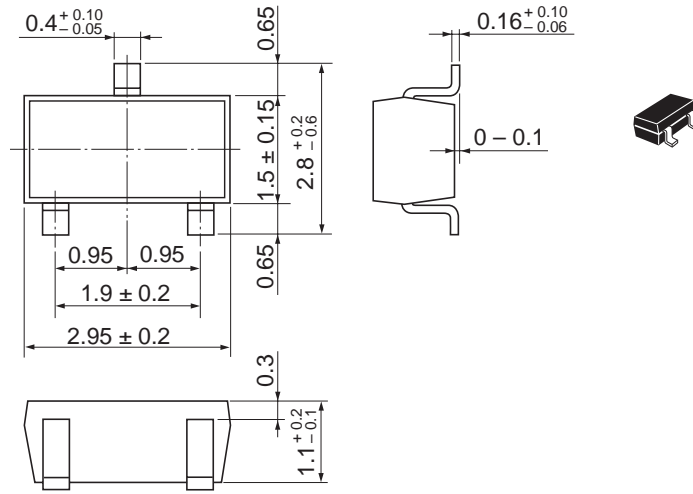
## Main Characteristics





Package Dimensions

As of January, 2003  
Unit: mm



Package Code	MPAK(T)
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.011 g

Ordering Information

Part Name	Quantity	Shipping Container
2SB1691WL-	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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