

# 2SD2655

Silicon NPN Epitaxial Planer  
Low Frequency Power Amplifier

# HITACHI

ADE-208-1388A (Z)

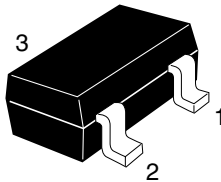
Rev.1  
Jun. 2001

## Features

- Small size package: MPAK (SC-59A)
- Large Maximum current:  $I_c = 1 \text{ A}$
- Low collector to emitter saturation voltage:  $V_{CE(sat)} = 0.3 \text{ V max.}$  (at  $I_c/I_b = 0.5 \text{ A}/0.05 \text{ A}$ )
- High power dissipation:  $P_c = 800 \text{ mW}$  (when using alumina ceramic board (25 x 60 x 0.7 mm))
- Complementary pair with 2SB1691

## Outline

MPAK



1. Emitter
2. Base
3. Collector

Note: Marking is "WM-".

**Absolute Maximum Ratings**

(Ta = 25 °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	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

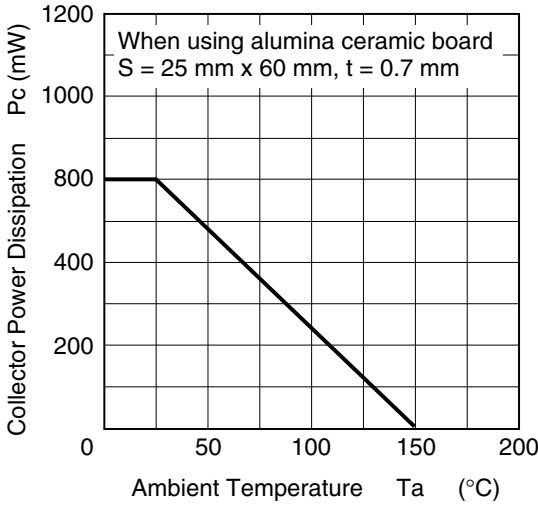
Note: \*When using alumina ceramic board (25 x 60 x 0.7 mm)

**Electrical Characteristics**

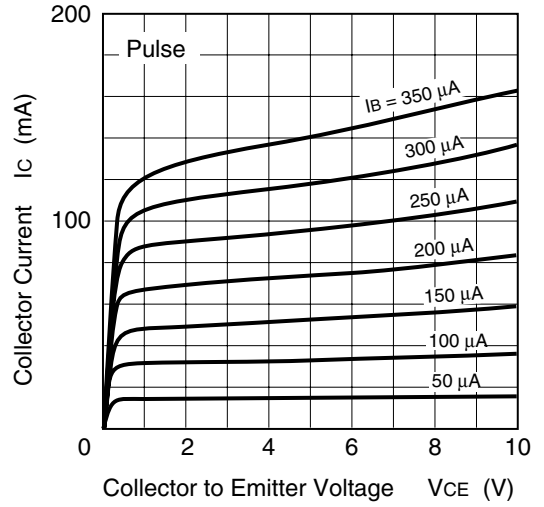
(Ta = 25 °C)

Item	Symbol	Min	Typ	Max	Unit	Test Condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	60	—	—	V	$I_C = 10 \mu\text{A}, I_E = 0$
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	$I_E = 10 \mu\text{A}, I_C = 0$
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	$V_{CE(\text{sat})}$	—	0.16	0.3	V	$I_C = 0.5 \text{ A}, I_B = 0.05 \text{ A}$ , Pulse test
Base to emitter saturation voltage	$V_{BE(\text{sat})}$	—	0.91	1.2	V	$I_C = 0.5 \text{ A}, I_B = 0.05 \text{ A}$ , Pulse test
Gain bandwidth product	$f_T$	—	280	—	MHz	$V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}$
Collector output capacitance	$C_{ob}$	—	4.2	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0$ , $f = 1 \text{ MHz}$

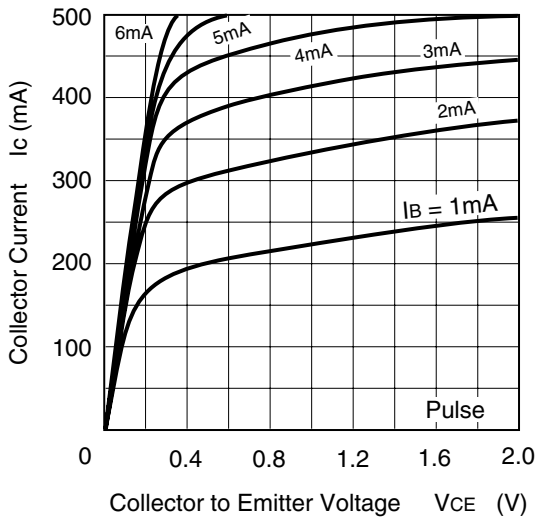
Maximum Collector Dissipation Curve



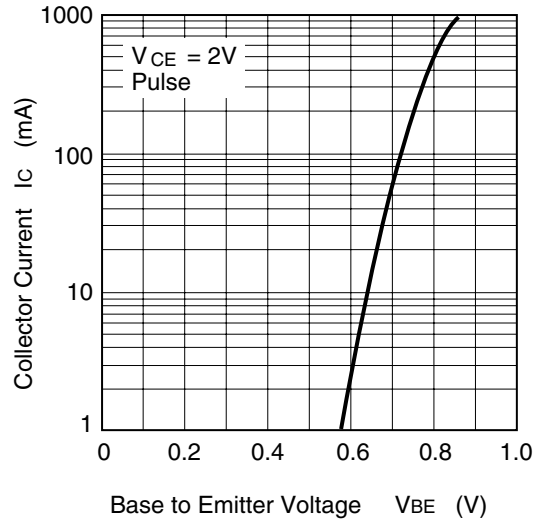
Typical Output Characteristics (1)



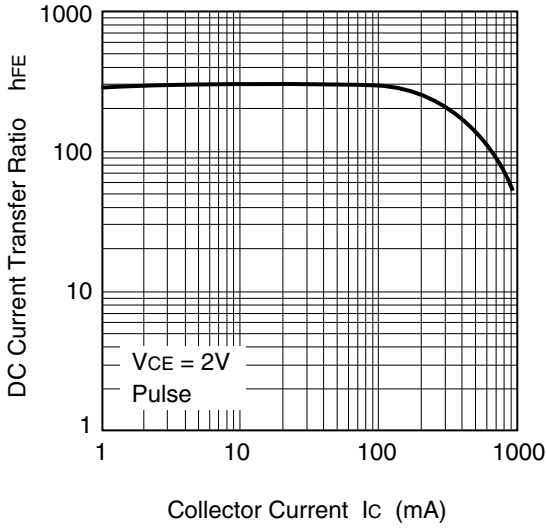
Typical Output Characteristics (2)



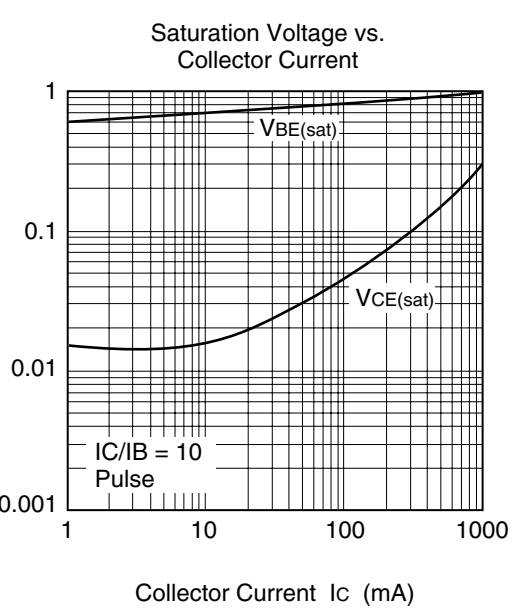
Typical transfer Characteristics



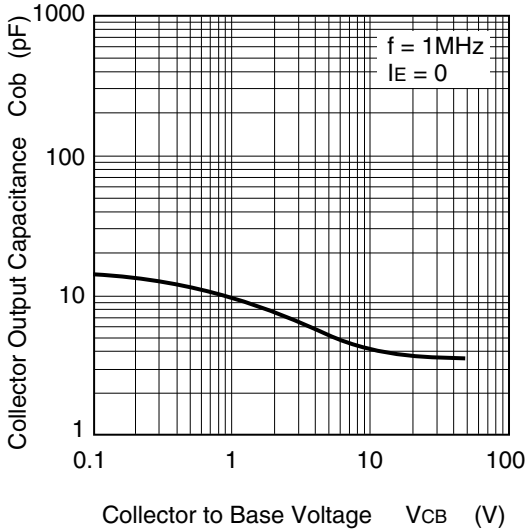
DC Current Transfer Ratio vs. Collector Current



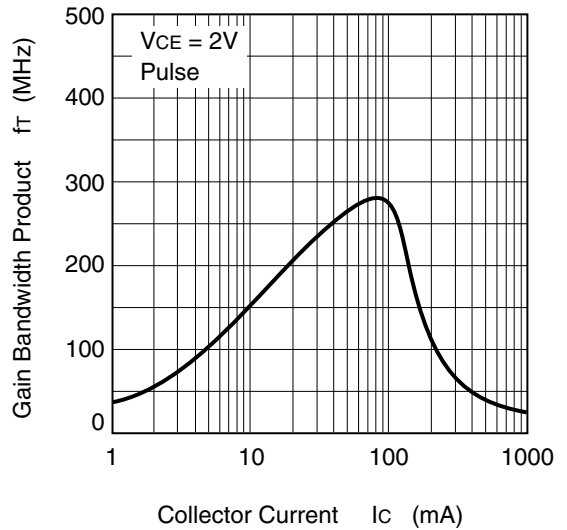
Saturation Voltage vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage

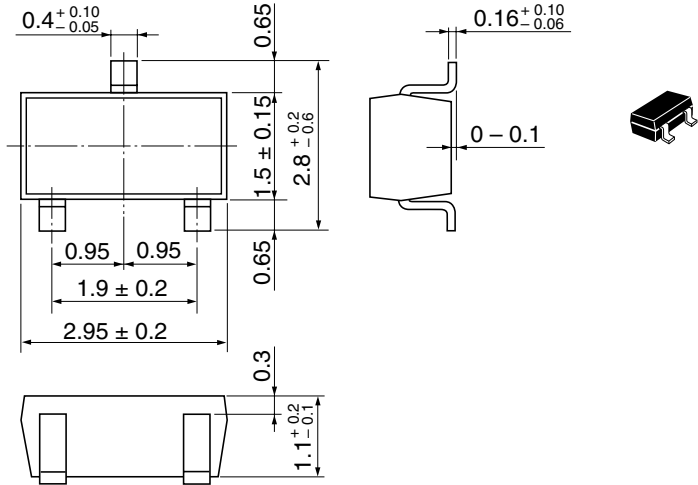


Gain Bandwidth Product vs. Collector Current



Package Dimensions

As of January, 2001  
Unit: mm



Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.011 g

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