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# 2SB715, 2SB716, 2SB716A

Silicon PNP Epitaxial

# HITACHI

ADE-208-1027A (Z)  
2nd. Edition  
Mar. 2001

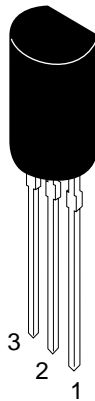
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## Application

- Low frequency high voltage amplifier

## Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

## 2SB715, 2SB716, 2SB716A

### Absolute Maximum Ratings (Ta = 25°C)

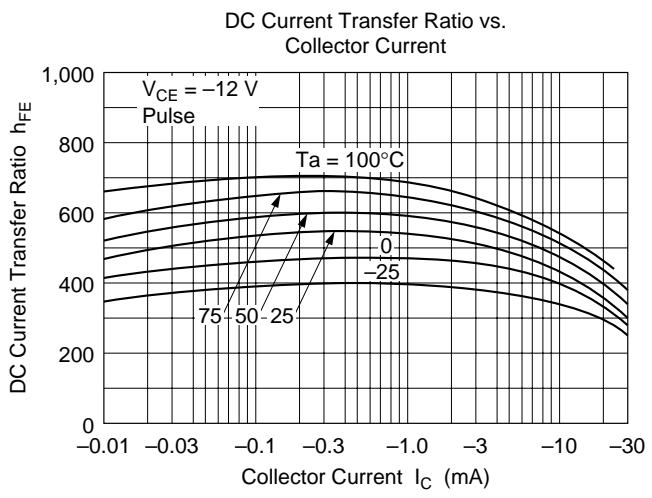
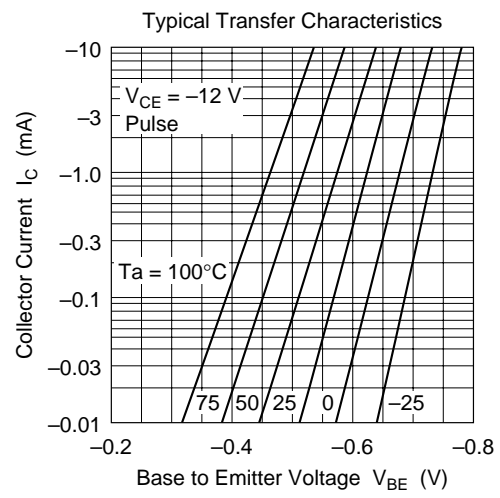
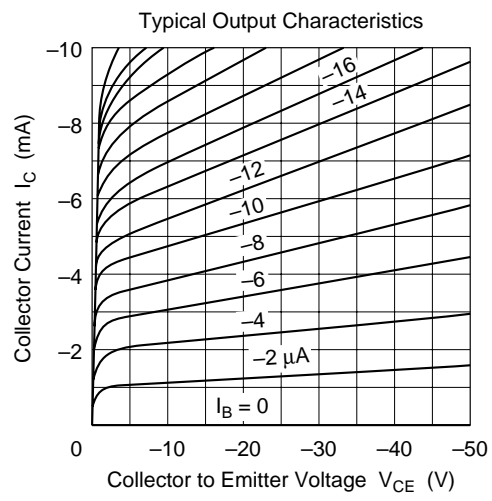
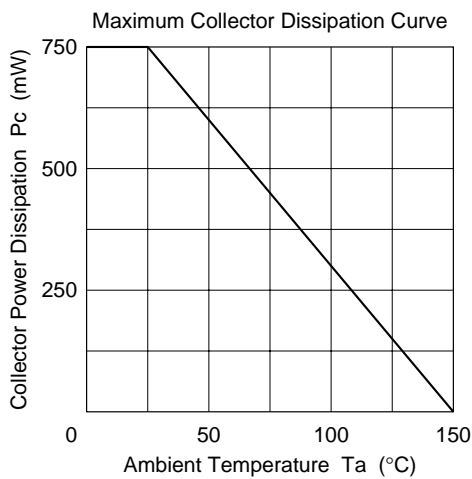
Item	Symbol	2SB715	2SB716	2SB716A	Unit
Collector to base voltage	$V_{CBO}$	-100	-120	-140	V
Collector to emitter voltage	$V_{CEO}$	-100	-120	-140	V
Emitter to base voltage	$V_{EBO}$	-5	-5	-5	V
Collector current	$I_C$	-50	-50	-50	mA
Collector power dissipation	$P_C$	750	750	750	mW
Junction temperature	$T_j$	150	150	150	°C
Storage temperature	$T_{stg}$	-55 to +150	-55 to +150	-55 to +150	°C

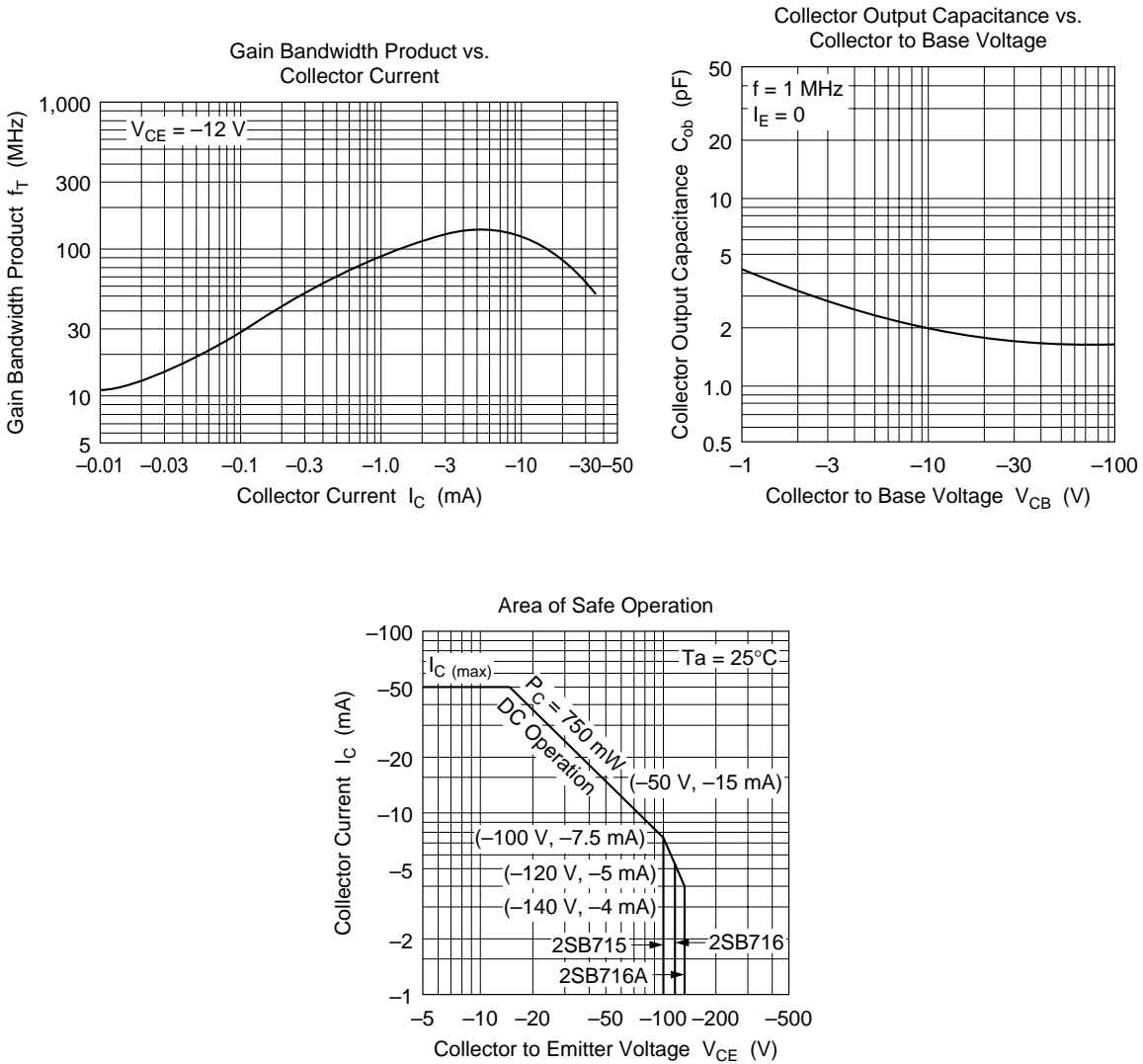
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	2SB715			2SB716			2SB716A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	-100	—	—	-120	—	—	-140	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-100	—	—	-120	—	—	-140	—	—	V	$I_C = -1 \text{ mA}, R_{BE} = \infty$
Collector cutoff current	$I_{CBO}$	—	—	-0.5	—	—	—	—	—	—	$\mu A$	$V_{CB} = -80 \text{ V}, I_E = 0$
		—	—	—	—	—	-0.5	—	—	-0.5	$\mu A$	$V_{CB} = -100 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	250	—	800	250	—	800	250	—	500		$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
	$h_{FE2}$	125	—	—	125	—	—	125	—	—		$V_{CE} = -12 \text{ V}, I_C = -10 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	—	-0.75	—	—	-0.75	—	—	-0.75	V	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.2	—	—	-0.2	—	—	-0.2	V	$I_C = -10 \text{ mA}, I_B = -1 \text{ mA}$
Gain bandwidth product	$f_T$	—	150	—	—	150	—	—	150	—	MHz	$V_{CE} = -12 \text{ V}, I_C = -5 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	1.8	—	—	1.8	—	—	1.8	—	pF	$V_{CB} = -25 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

Note: 1. The 2SB715, 2SB716 and 2SB716A are grouped by  $h_{FE1}$  as follows.

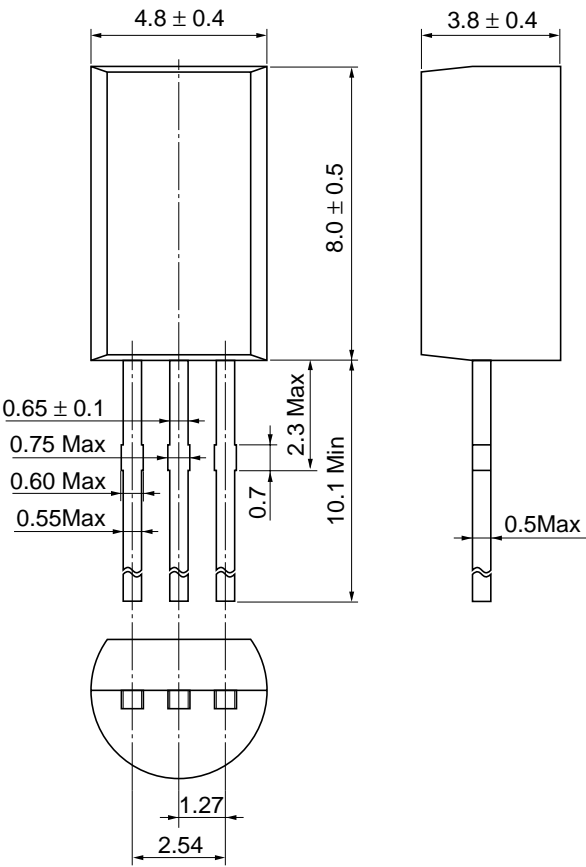
	D	E
2SB715, 2SB716	250 to 500	400 to 800
2SB716A	250 to 500	—





Package Dimensions

As of January, 2001  
Unit: mm



Hitachi Code	TO-92 Mod
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.35 g

## Cautions

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