

# 2SA715

Silicon PNP Epitaxial

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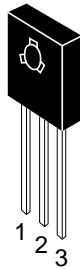
ADE-208-852 (Z)  
1st. Edition  
Sep. 2000

## Application

Low frequency power amplifier complementary pair with 2SC1162

## Outline

TO-126 MOD



1. Emitter  
2. Collector  
3. Base

## Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Item	Symbol	Rating	Unit
Collector to base voltage	$V_{\text{CBO}}$	-35	V
Collector to emitter voltage	$V_{\text{CEO}}$	-35	V
Emitter to base voltage	$V_{\text{EBO}}$	-5	V
Collector current	$I_{\text{C}}$	-2.5	A
Collector peak current	$I_{\text{C(peak)}}$	-3	A
Collector power dissipation	$P_{\text{C}}$	0.75	W
	$P_{\text{C}}^{*1}$	10	W
Junction temperature	$T_{\text{j}}$	150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 to +150	$^\circ\text{C}$

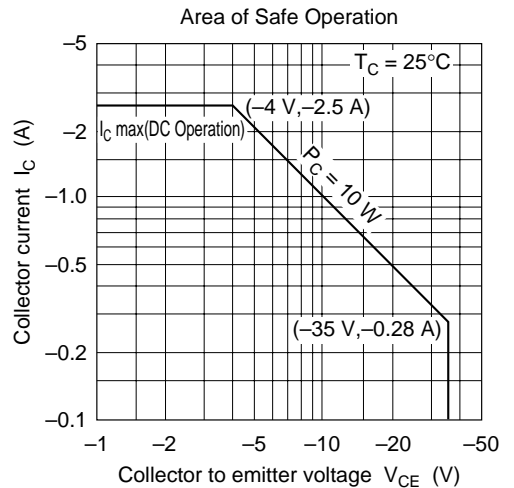
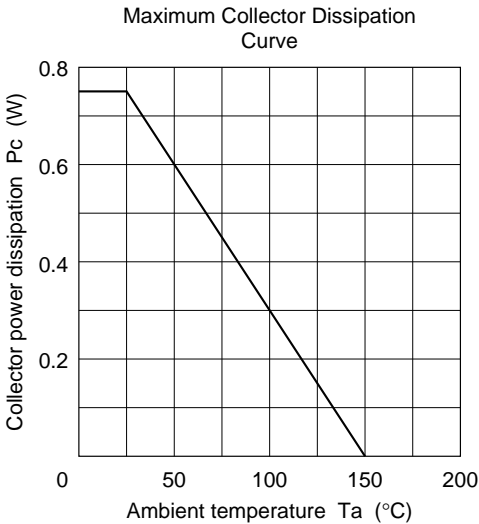
Note: 1. Value at  $T_{\text{c}} = 25^\circ\text{C}$

## Electrical Characteristics (Ta = 25°C)

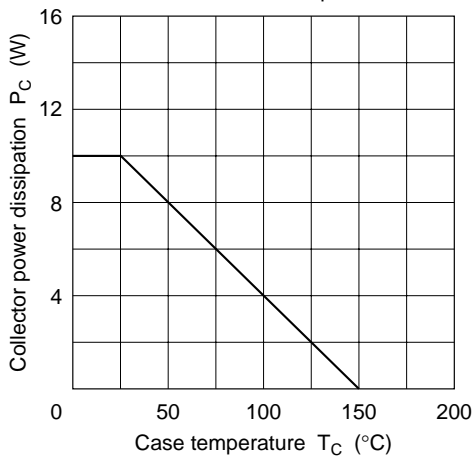
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-35	—	—	V	$I_C = -1 \text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-35	—	—	V	$I_C = -10 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -1 \text{ mA}, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-20	$\mu\text{A}$	$V_{CB} = -35 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE}^{*1}$	60	—	320		$V_{CE} = -2 \text{ V}, I_C = -0.5 \text{ A}$
	$h_{FE}$	20	—	—		$V_{CE} = -2 \text{ V}, I_C = -1.5 \text{ A}$ (Pulse test)
Base to emitter voltage	$V_{BE}$	—	-1.0	-1.5	V	$V_{CE} = -2 \text{ V}, I_C = -1.5 \text{ A}$ (Pulse test)
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	-0.5	-1.0	V	$I_C = -2 \text{ A}, I_B = -0.2 \text{ A}$ (Pulse test)
Gain bandwidth product	$f_T$	—	160	—	MHz	$V_{CE} = -2 \text{ V}, I_C = -0.2 \text{ A}$ (Pulse test)

Note: 1. The 2SA715 is grouped by  $h_{FE}$  as follows.

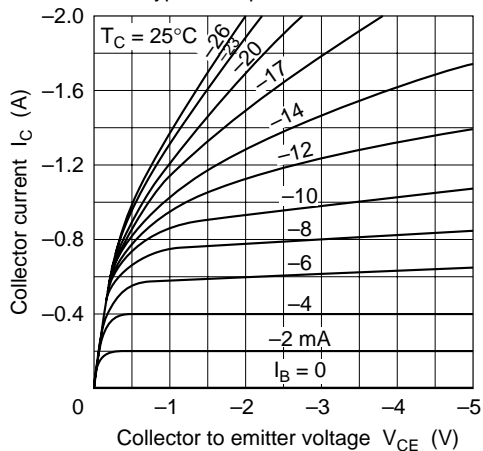
B	C	D
60 to 120	100 to 200	160 to 320



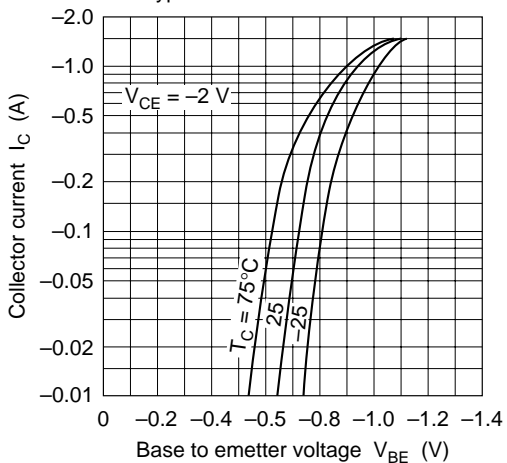
Maximum Collector Dissipation Curve



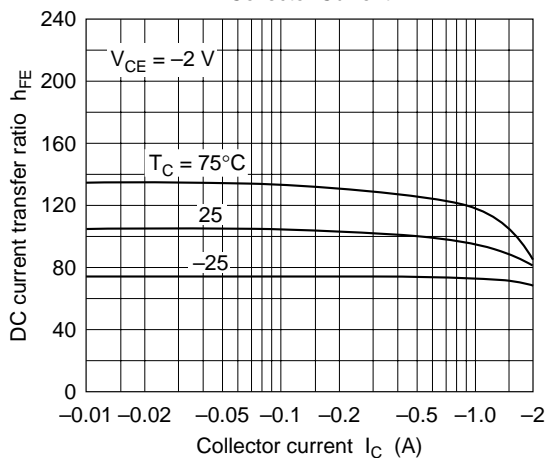
Typical Output Characteristics



Typical Transfer Characteristics

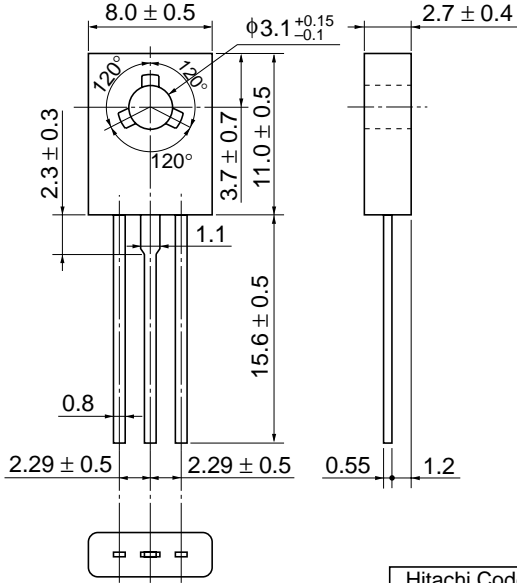


DC Current Transfer Ratio vs. Collector Current



## Package Dimensions

Unit: mm



Hitachi Code	TO-126 Mod
JEDEC	—
EIAJ	—
Mass (reference value)	0.67 g

## Cautions

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