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# 2SD755, 2SD756, 2SD756A

Silicon NPN Epitaxial

# HITACHI

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## Application

- Low frequency high voltage amplifier
- Complementary pair with 2SB715, 2SB716 and 2SB716A

## Outline

TO-92MOD



1. Emitter
2. Collector
3. Base

# 2SD755, 2SD756, 2SD756A

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

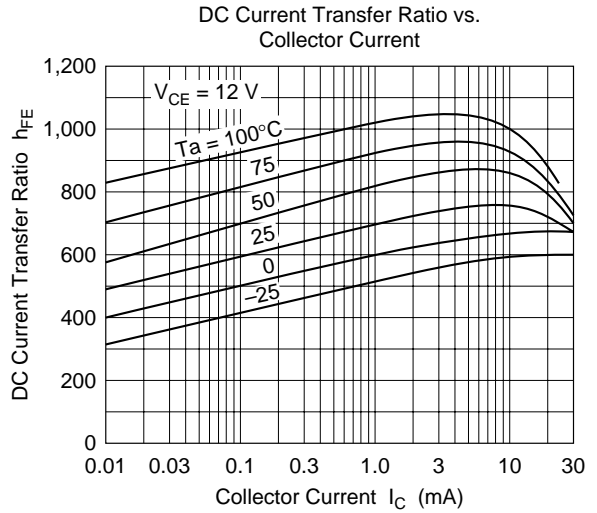
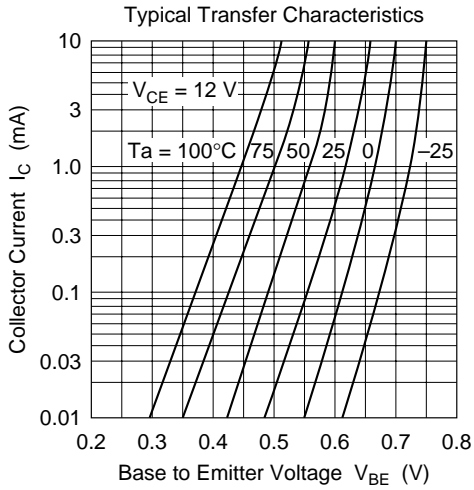
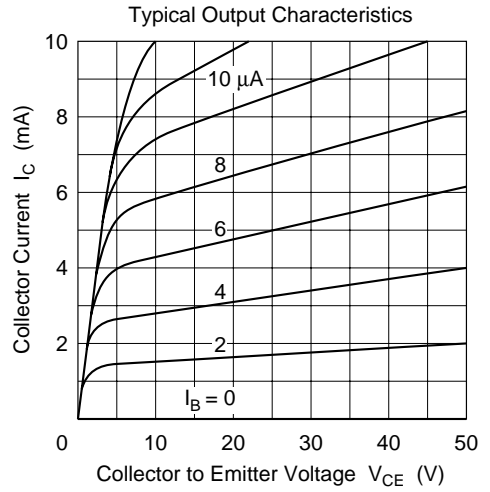
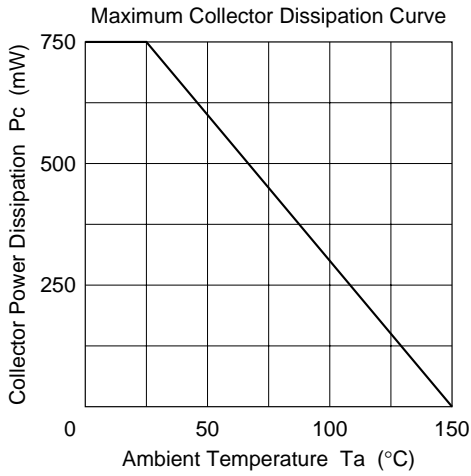
Item	Symbol	2SD755	2SD756	2SD756A	Unit
Collector to base voltage	$V_{CBO}$	100	120	140	V
Collector to emitter voltage	$V_{CEO}$	100	120	140	V
Emitter to base voltage	$V_{EBO}$	5	5	5	V
Collector current	$I_C$	50	50	50	mA
Collector power dissipation	$P_C$	750	750	750	mW
Junction temperature	$T_j$	150	150	150	°C
Storage temperature	$T_{stg}$	-55 to +150	-55 to +150	-55 to +150	°C

## Electrical Characteristics (Ta = 25°C)

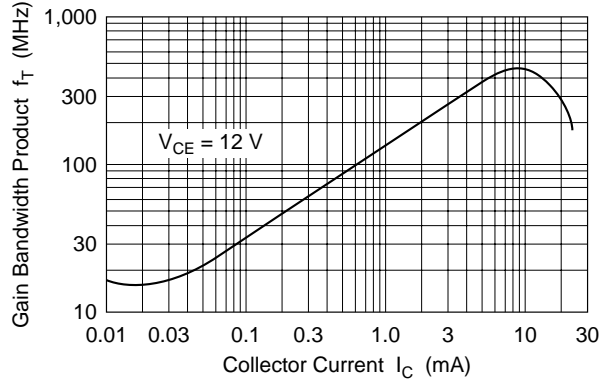
Item	Symbol	2SD755			2SD756			2SD756A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max	Min	Typ	Max		
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	100	—	—	120	—	—	140	—	—	V	$I_C = 1 \text{ mA}$ , $R_{BE} = \infty$
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	120	—	—	140	—	—	V	$I_C = 10 \text{ } \mu\text{A}$ , $I_E = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.5	—	—	0.5	—	—	0.5	$\mu\text{A}$	$V_{CB} = 100 \text{ V}$ , $I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	250	—	1200	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	$f_T$	—	350	—	—	350	—	—	350	—	MHz	$V_{CE} = 12 \text{ V}$ , $I_C = 5 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	1.6	—	—	1.6	—	—	1.6	—	pF	$V_{CB} = 25 \text{ V}$ , $I_E = 0$ , $f = 1 \text{ MHz}$

Note: 1. The 2SD755, 2SD756 and 2SD756A are grouped by  $h_{FE1}$  as follows.

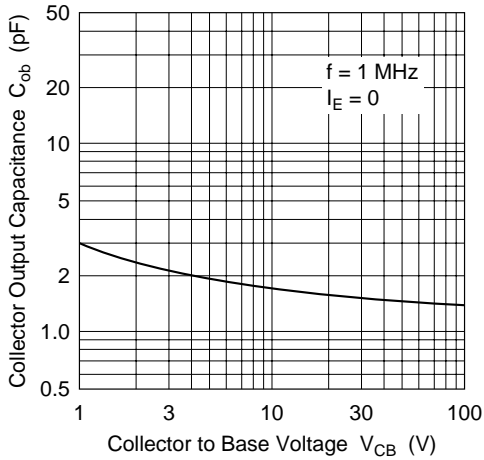
	D	E	F
2SD755	250 to 500	400 to 800	600 to 1200
2SD756	250 to 500	400 to 800	—
2SD756A	250 to 500	—	—



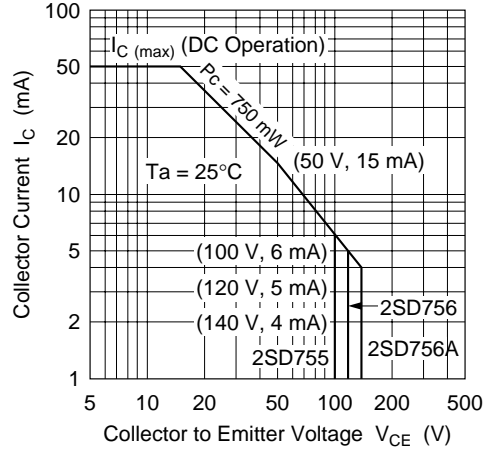
Gain Bandwidth Product vs. Collector Current

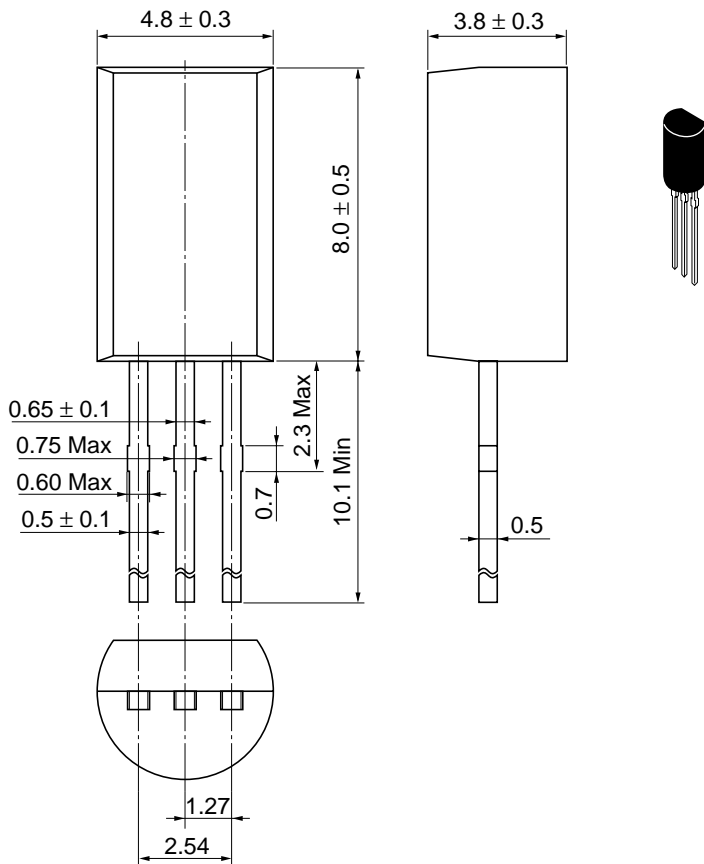


Collector Output Capacitance vs. Collector to Base Voltage



Area of Safe Operation





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

## Cautions

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