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# 2SD655

Silicon NPN Epitaxial

# HITACHI

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## Application

Low frequency power amplifier, Muting

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

## 2SD655

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

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	30	V
Collector to emitter voltage	$V_{CEO}$	15	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	0.7	A
Collector peak current	$i_{C(\text{peak})}$	1.0	A
Collector power dissipation	$P_C$	500	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	°C

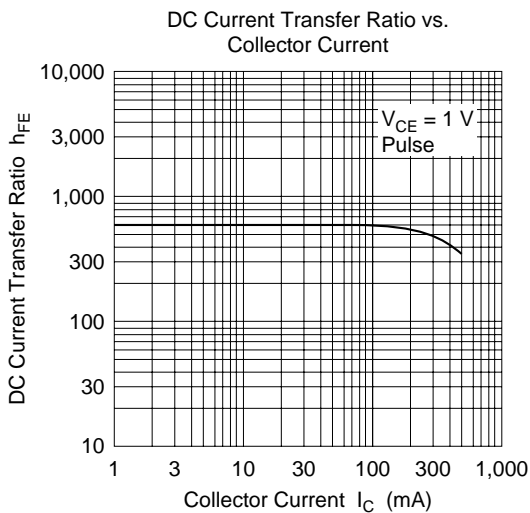
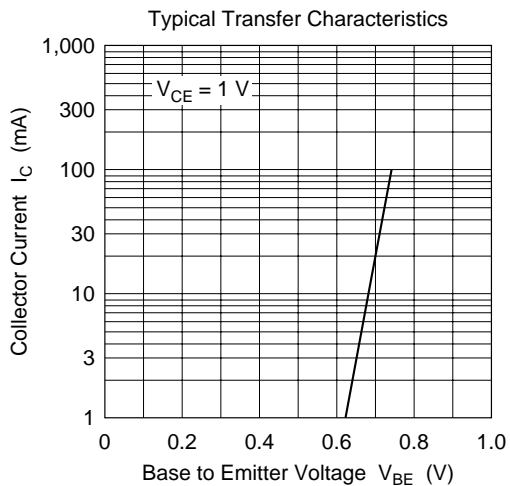
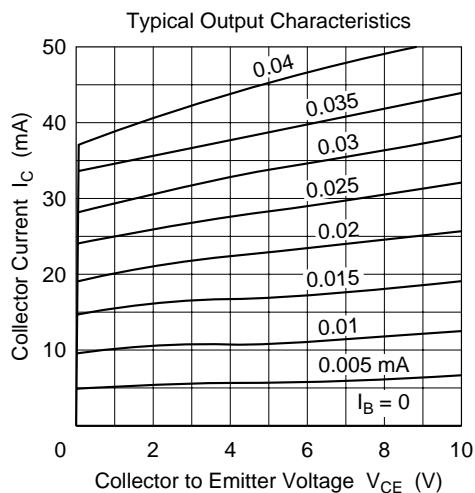
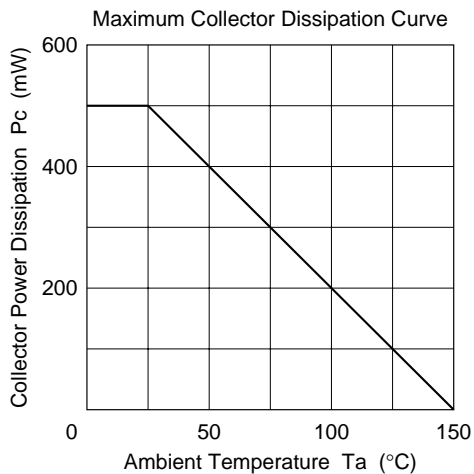
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu\text{A}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	15	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu\text{A}, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1.0	$\mu\text{A}$	$V_{CB} = 20 \text{ V}, I_E = 0$
Base to emitter voltage	$V_{BE}$	—	—	1.0	V	$V_{CE} = 1 \text{ V}, I_C = 150 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	—	0.15	0.5	V	$I_C = 500 \text{ mA}, I_B = 50 \text{ mA}^{*2}$
DC current transfer ratio	$h_{FE}^{*1}$	250	—	1200		$V_{CE} = 1 \text{ V}, I_C = 150 \text{ mA}^{*2}$
Gain bandwidth product	$f_T$	—	250	—	MHz	$V_{CE} = 1 \text{ V}, I_C = 150 \text{ mA}$

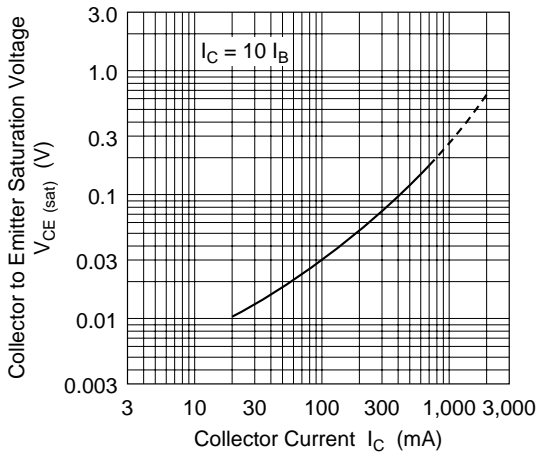
Notes: 1. The 2SD655 is grouped by  $h_{FE}$  as follows.

2. Pulse test

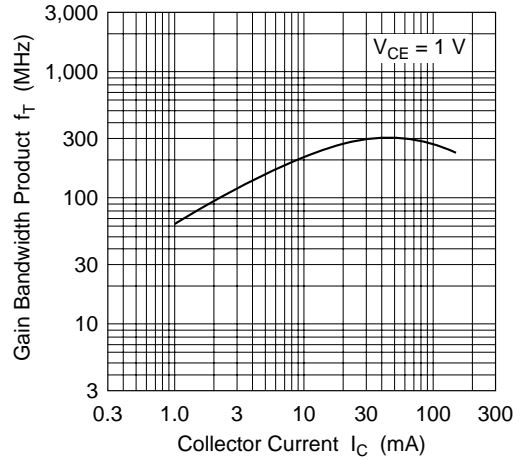
D	E	F
250 to 500	400 to 800	600 to 1200



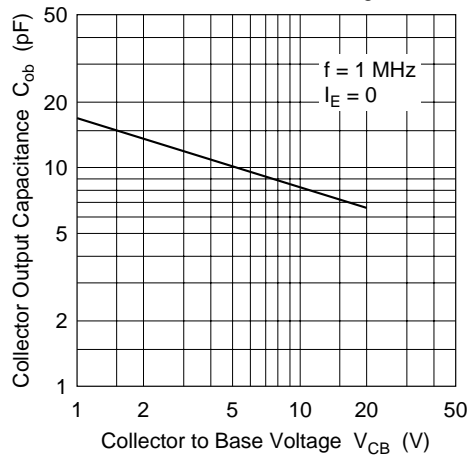
Collector to Emitter Saturation Voltage vs. Collector Current

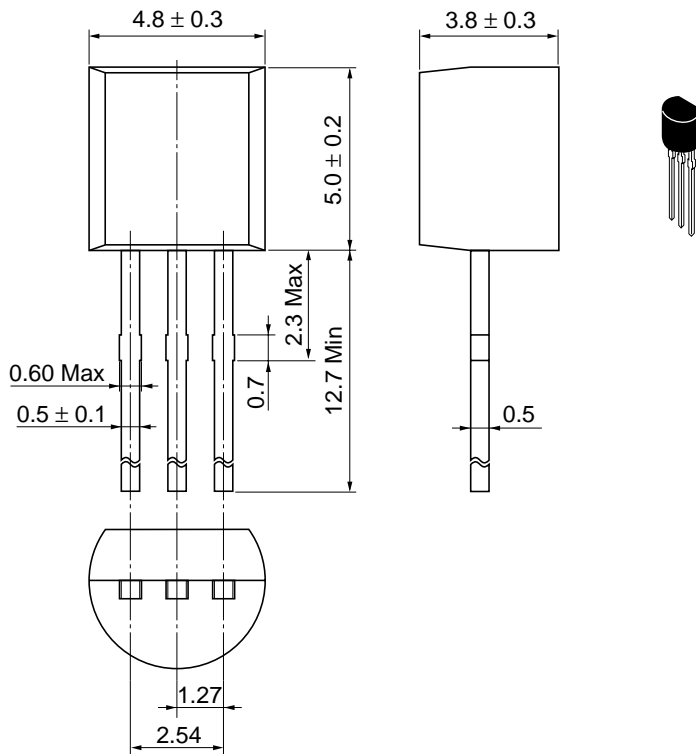


Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage





Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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