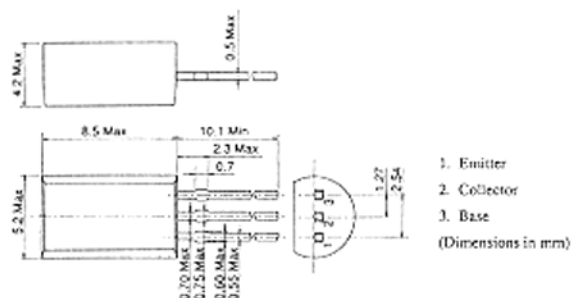


## 2SD666, 2SD666A

SILICON NPN EPITAXIAL

LOW FREQUENCY HIGH VOLTAGE AMPLIFIER

Complementary pair with 2SB646/A

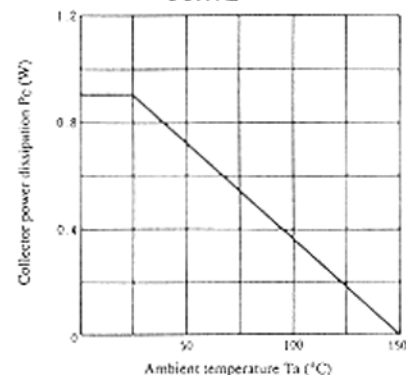


(JEDEC TO-92 MOD.)

### ■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD666	2SD666A	Unit
Collector to base voltage	V <sub>CB0</sub>	120	120	V
Collector to emitter voltage	V <sub>CEO</sub>	80	100	V
Emitter to base voltage	V <sub>EBO</sub>	5	5	V
Collector current	I <sub>C</sub>	50	50	mA
Collector peak current	i <sub>C(peak)</sub>	100	100	mA
Collector power dissipation	P <sub>C</sub>	0.9	0.9	mW
Junction temperature	T <sub>j</sub>	150	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	-55 to +150	°C

### MAXIMUM COLLECTOR DISSIPATION CURVE



### ■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

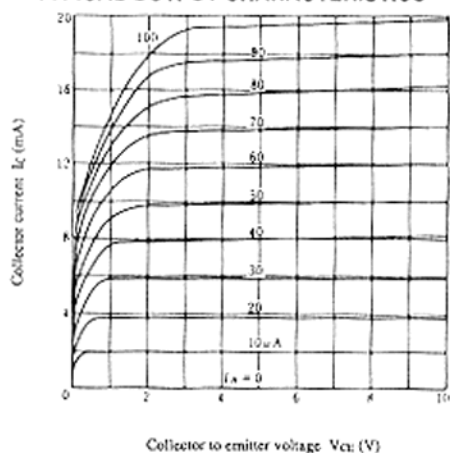
Item	Symbol	Test Condition	2SD666			2SD666A			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10μA, I <sub>E</sub> = 0	120	—	—	120	—	—	V
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA, R <sub>BE</sub> = ∞	80	—	—	100	—	—	V
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10μA, I <sub>C</sub> = 0	5	—	—	5	—	—	V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 100V, I <sub>E</sub> = 0	—	—	10	—	—	10	μA
DC current transfer ratio	h <sub>FE1</sub> *	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	60	—	320	60	—	200	
	h <sub>FE2</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	30	—	—	30	—	—	
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 30mA, I <sub>B</sub> = 3mA	—	—	2	—	—	2	V
Base to emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	—	—	1.5	—	—	1.5	V
Gain bandwidth product	f <sub>T</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 10mA	—	140	—	—	140	—	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0, f = 1MHz	—	3	—	—	3	—	pF

\* The 2SD666 and 2SD666A are grouped by h<sub>FE1</sub> as follows.

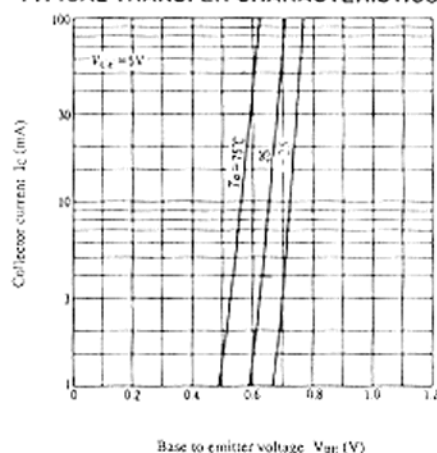
	B	C	D
2SD666	60 to 120	100 to 200	160 to 320
2SD666A	60 to 120	100 to 200	—

## 2SD666, 2SD666A

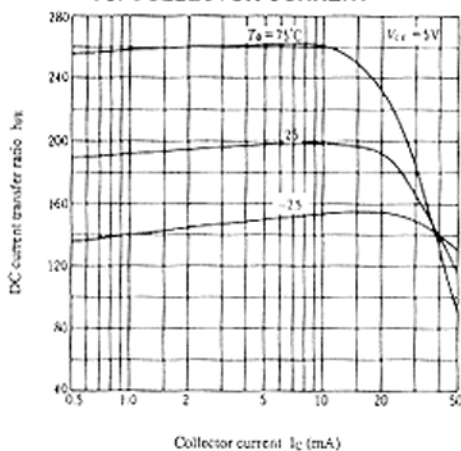
### TYPICAL OUTPUT CHARACTERISTICS



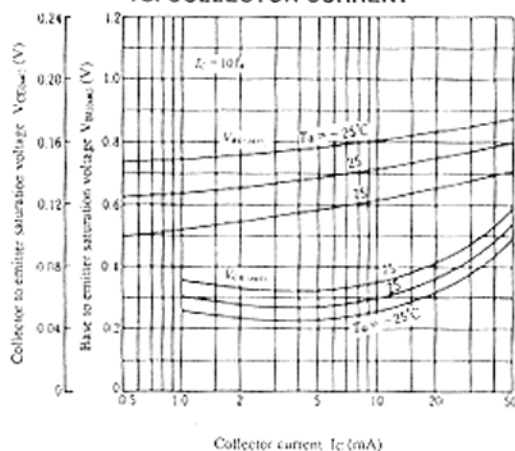
### TYPICAL TRANSFER CHARACTERISTICS



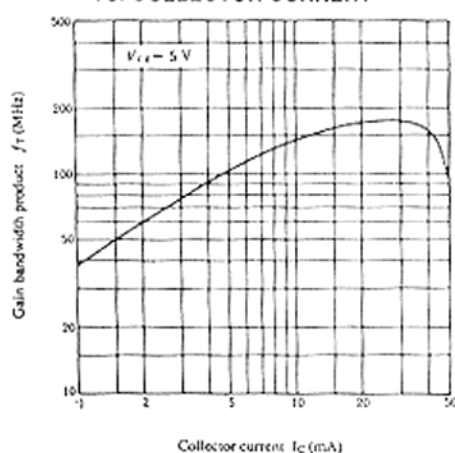
### DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



### SATURATION VOLTAGE VS. COLLECTOR CURRENT



### GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



### COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE

