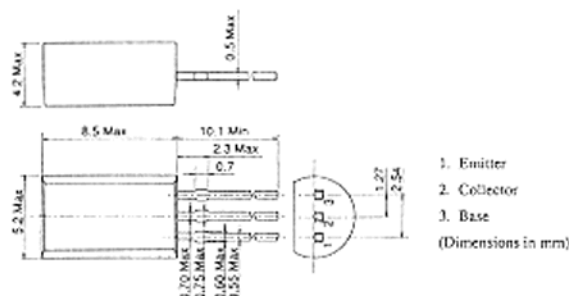


2SD666, 2SD666A

SILICON NPN EPITAXIAL

LOW FREQUENCY HIGH VOLTAGE AMPLIFIER

Complementary pair with 2SB646/A



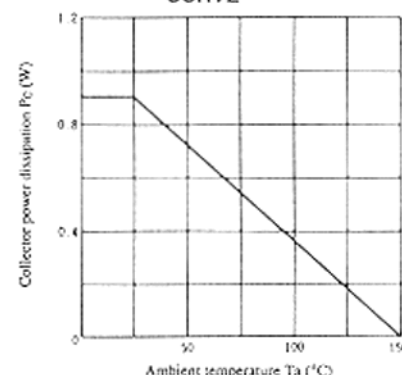
1. Emitter
 2. Collector
 3. Base
- (Dimensions in mm)

(JEDEC TO-92 MOD.)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SD666	2SD666A	Unit
Collector to base voltage	V_{CBO}	120	120	V
Collector to emitter voltage	V_{CEO}	80	100	V
Emitter to base voltage	V_{EBO}	5	5	V
Collector current	I_C	50	50	mA
Collector peak current	$i_{C(peak)}$	100	100	mA
Collector power dissipation	P_C	0.9	0.9	mW
Junction temperature	T_j	150	150	°C
Storage temperature	T_{seg}	-55 to +150	-55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

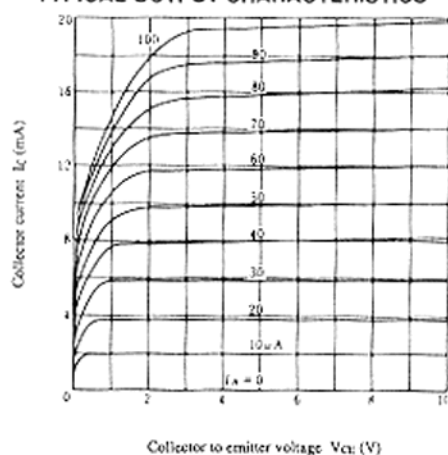
Item	Symbol	Test Condition	2SD666			2SD666A			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	$V_{(BR)CBO}$	$I_C = 10\mu A, I_E = 0$	120	—	—	120	—	—	V
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1mA, R_{BE} = \infty$	80	—	—	100	—	—	V
Emitter to base breakdown voltage	$V_{(BR)EBO}$	$I_E = 10\mu A, I_C = 0$	5	—	—	5	—	—	V
Collector cutoff current	I_{CBO}	$V_{CB} = 100V, I_E = 0$	—	—	10	—	—	10	μA
DC current transfer ratio	h_{FE1}^*	$V_{CE} = 5V, I_C = 10mA$	60	—	320	60	—	200	
	h_{FE2}	$V_{CE} = 5V, I_C = 1mA$	30	—	—	30	—	—	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30mA, I_B = 3mA$	—	—	2	—	—	2	V
Base to emitter voltage	V_{BE}	$V_{CE} = 5V, I_C = 10mA$	—	—	1.5	—	—	1.5	V
Gain bandwidth product	f_T	$V_{CE} = 5V, I_C = 10mA$	—	140	—	—	140	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$	—	3	—	—	3	—	pF

* The 2SD666 and 2SD666A are grouped by h_{FE1} as follows.

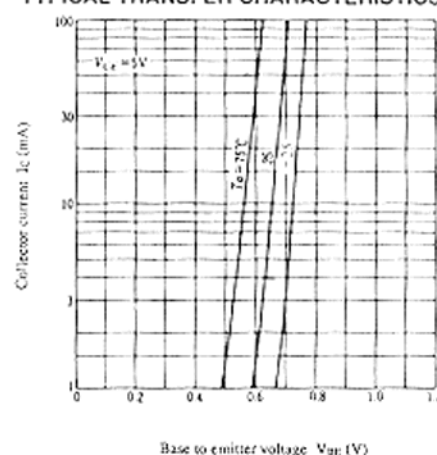
	B	C	D
2SD666	60 to 120	100 to 200	160 to 320
2SD666A	60 to 120	100 to 200	—

2SD666, 2SD666A

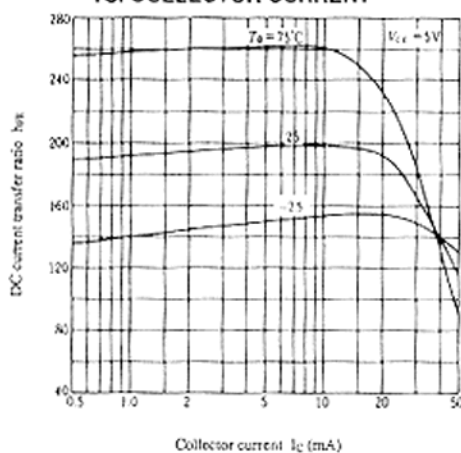
TYPICAL OUTPUT CHARACTERISTICS



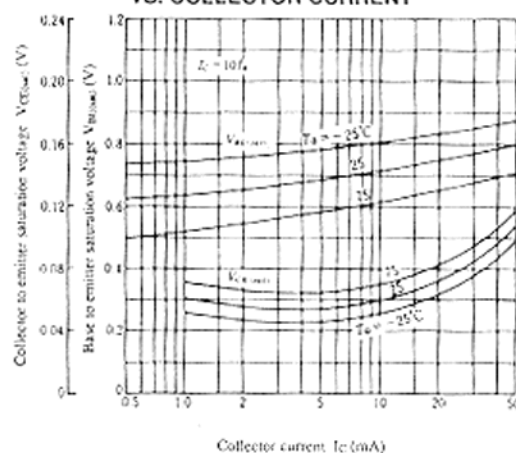
TYPICAL TRANSFER CHARACTERISTICS



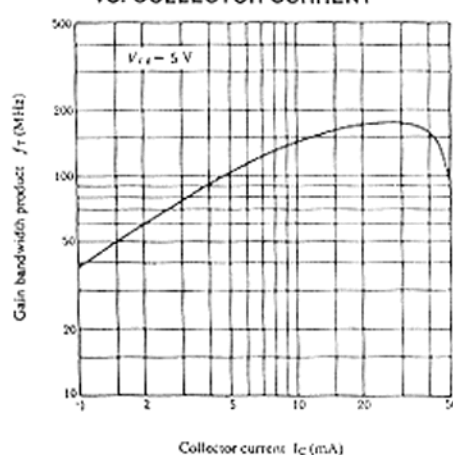
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



SATURATION VOLTAGE VS. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE

