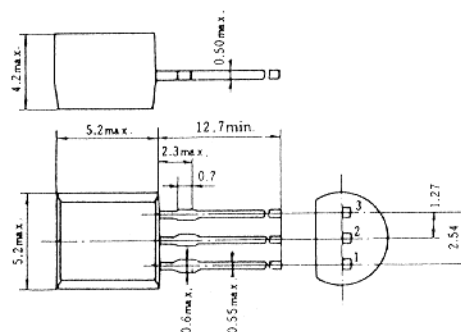


2SA1083, 2SA1084, 2SA1085

SILICON PNP EPITAXIAL

LOW FREQUENCY LOW NOISE AMPLIFIER

Complementary pair with 2SC2545,
2SC2546 and 2SC2547



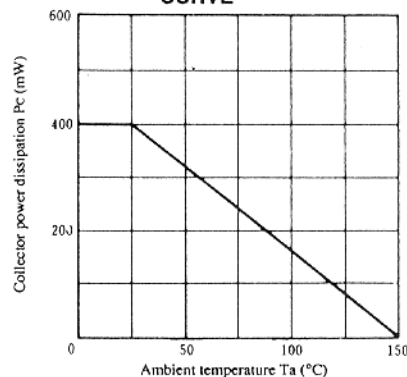
1. Emitter
2. Collector
3. Base
(Dimensions in mm)

(JEDEC TO-92)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SA1083	2SA1084	2SA1085	Unit
Collector to base voltage	V _{CB0}	-60	-90	-120	V
Collector to emitter voltage	V _{CE0}	-60	-90	-120	V
Emitter to base voltage	V _{EB0}	-5	-5	-5	V
Collector current	I _C	-100	-100	-100	mA
Emitter current	I _E	100	100	100	mA
Collector power dissipation	P _C	400	400	400	mW
Junction temperature	T _j	150	150	150	°C
Storage temperature	T _{sig}	-55 to +150	-55 to +150	-55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



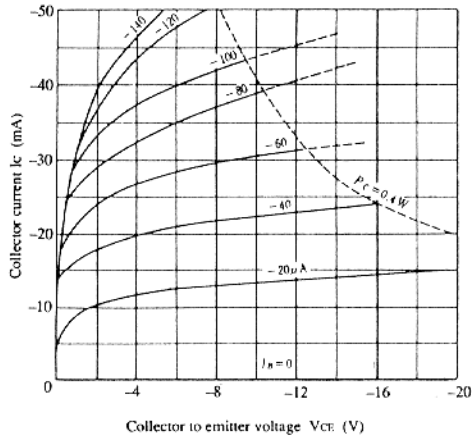
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	2SA1083			2SA1084			2SA1085			Unit
			min.	typ.	max.	min.	typ.	max.	min.	typ.	max.	
Collector to base breakdown voltage	V _{(BR)CBO}	I _C = -10μA, I _E = 0	-60	—	—	-90	—	—	-120	—	—	V
Collector to emitter breakdown voltage	V _{(BR)CEO}	I _C = -1mA, R _{BE} = ∞	-60	—	—	-90	—	—	-120	—	—	V
Emitter to base breakdown voltage	V _{(BR)EBO}	I _E = -10μA, I _C = 0	-5	—	—	-5	—	—	-5	—	—	V
Collector cutoff current	I _{CB0}	V _{CB} = -50V, I _E = 0	—	—	-0.1	—	—	-0.1	—	—	-0.1	μA
Emitter cutoff current	I _{EB0}	V _{EB} = -2V, I _C = 0	—	—	-0.1	—	—	-0.1	—	—	-0.1	μA
DC current transfer ratio	h _{FE} *	V _{CE} = -12V, I _C = -2mA	250	—	800	250	—	800	250	—	800	
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = -10mA, I _B = -1mA	—	—	-0.2	—	—	-0.2	—	—	-0.2	V
Base to emitter voltage	V _{BE}	V _{CE} = -12V, I _C = -2mA	—	-0.6	—	—	-0.6	—	—	-0.6	—	V
Gain bandwidth product	f _T	V _{CE} = -12V, I _C = -2mA	—	90	—	—	90	—	—	90	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz	—	3.5	—	—	3.5	—	—	3.5	—	pF
Noise voltage referred to input	e _n	V _{CE} = -6V, I _C = -10mA f = 1kHz, R _g = 0, Δf = 1Hz	—	0.5	—	—	0.5	—	—	0.5	—	nV/√Hz

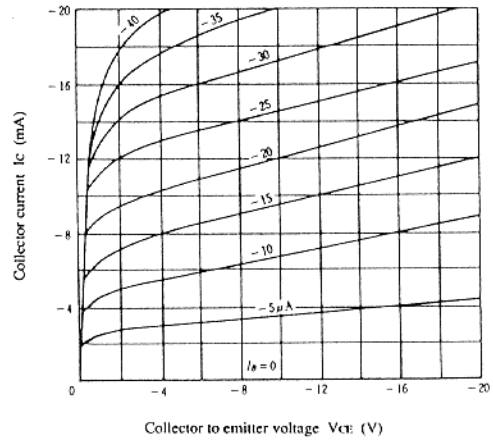
* The 2SA1083, 2SA1084 and 2SA1085 are grouped by h_{FE} as follows.

D	E
250 to 500	400 to 800

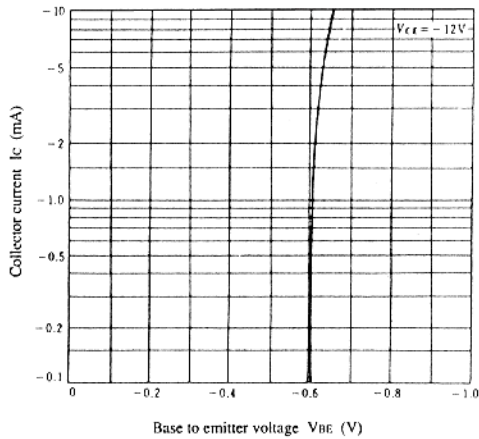
TYPICAL OUTPUT CHARACTERISTICS (1)



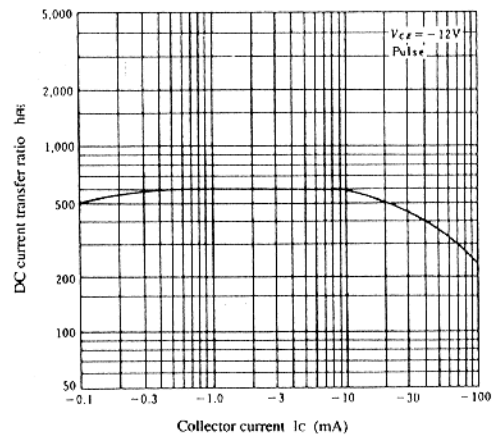
TYPICAL OUTPUT CHARACTERISTICS (2)



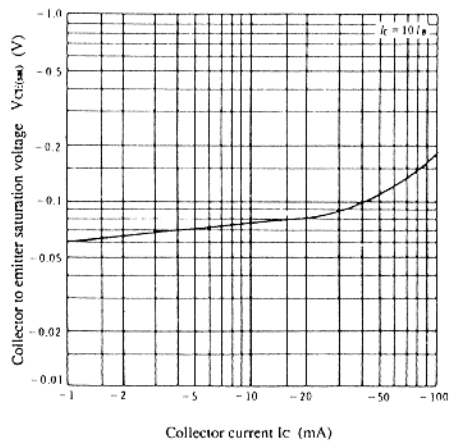
TYPICAL TRANSFER CHARACTERISTICS



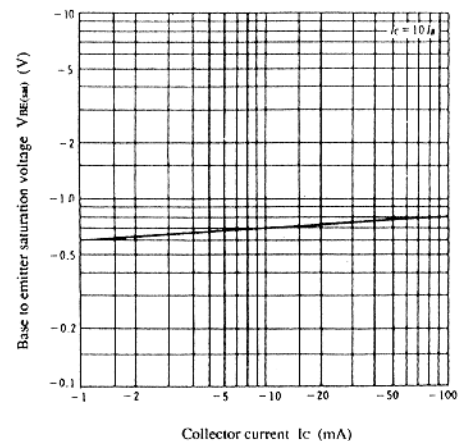
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

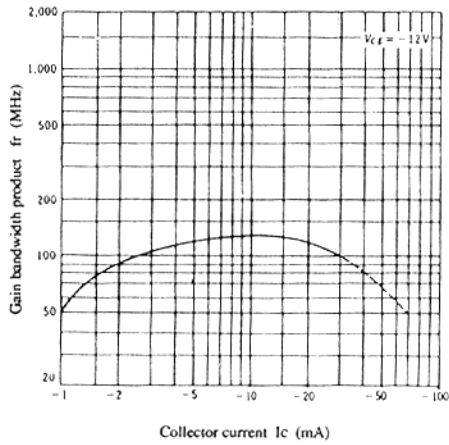


BASE TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

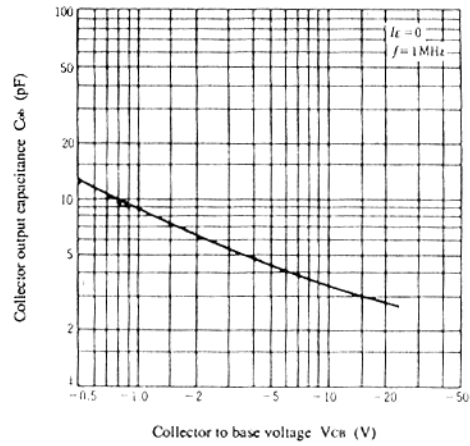


2SA1083, 2SA1084, 2SA1085

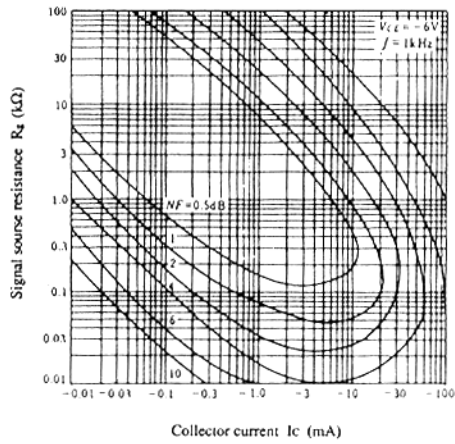
GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



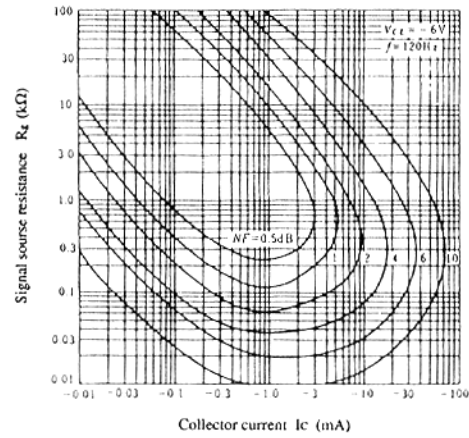
COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



CONTOURS OF CONSTANT NOISE FIGURE (1)



CONTOURS OF CONSTANT NOISE FIGURE (2)



CONTOURS OF CONSTANT NOISE FIGURE (3)

