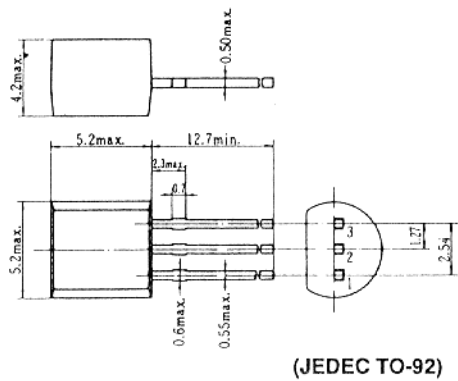


2SA872, 2SA872A

SILICON PNP EPITAXIAL
LOW FREQUENCY LOW NOISE AMPLIFIER
Complementary pair with 2SC1775/A

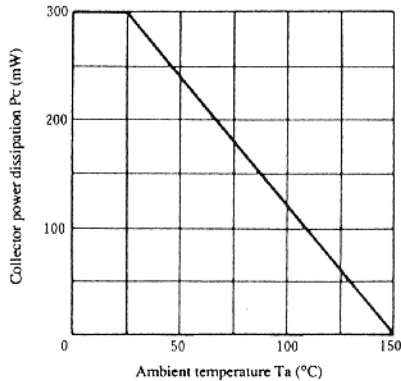


- 1. Emitter
 - 2. Collector
 - 3. Base
- (Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SA872	2SA872A	Unit
Collector to base voltage	VCBO	-90	-120	V
Collector to emitter voltage	VCEO	-90	-120	V
Emitter to base voltage	VEBO	-5	-5	V
Collector current	IC	-50	-50	mA
Collector power dissipation	PC	300	300	mW
Junction temperature	Tj	150	150	°C
Storage temperature	Tstg	-55 to +150	-50 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

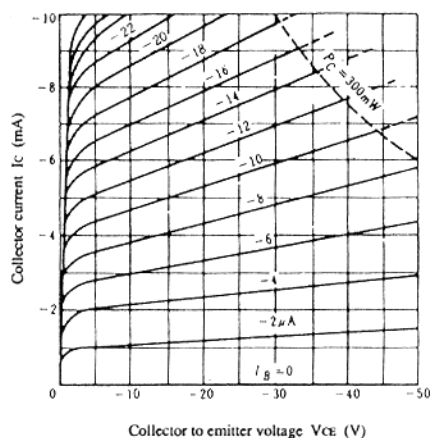
Item	Symbol	Test Condition	2SA872			2SA872A			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to emitter breakdown voltage	V(BR)CEO	IC = -1mA, RBE = ∞	-90	—	—	-120	—	—	V
Collector cutoff current	ICBO	VCB = -75V, IE = 0	—	—	-0.5	—	—	—	μA
		VCB = -100V, IE = 0	—	—	—	—	—	-0.5	
DC current transfer ratio	hFE1*	VCE = -12V, IC = -2mA	250	—	800	250	—	800	
	hFE2	VCE = -12V, IC = -0.1mA	160	—	—	160	—	—	
Base to emitter voltage	VBE	VCE = -12V, IC = -2mA	—	—	-0.75	—	—	-0.75	V
Collector to emitter saturation voltage	VCE(sat)	IC = -10mA, IB = -1mA	—	—	-0.5	—	—	-0.5	V
Gain bandwidth product	fT	VCE = -12V, IC = -2mA	—	120	—	—	120	—	MHz
Collector output capacitance	Cob	VCB = -25V, IE = 0, f = 1MHz	—	1.8	—	—	1.8	—	pF
Noise figure	NF	VCE = -6V, IC = -50μA, f = 10Hz	—	—	5.0	—	—	5.0	dB
		Rg = 50kΩ, f = 1kHz	—	—	1.5	—	—	1.5	

* The 2SA872/A is grouped by hFE1 as follows.

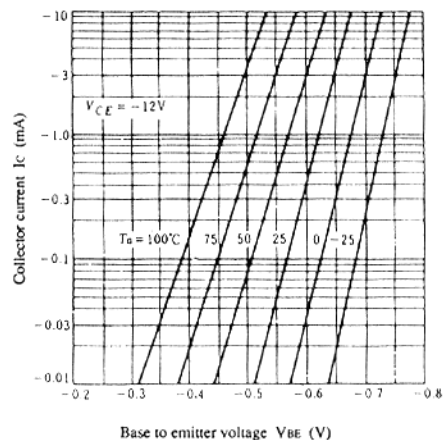
D	E
250 to 500	400 to 800

2SA872, 2SA872A

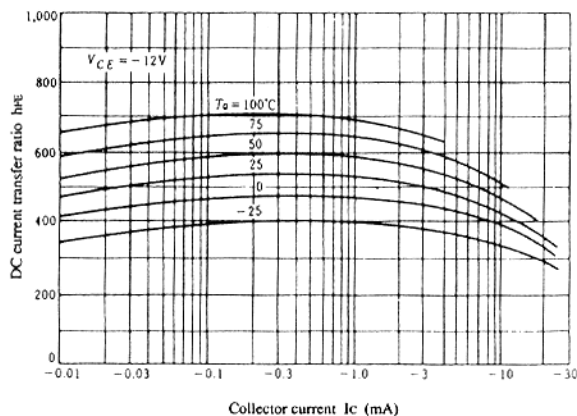
TYPICAL OUTPUT CHARACTERISTICS



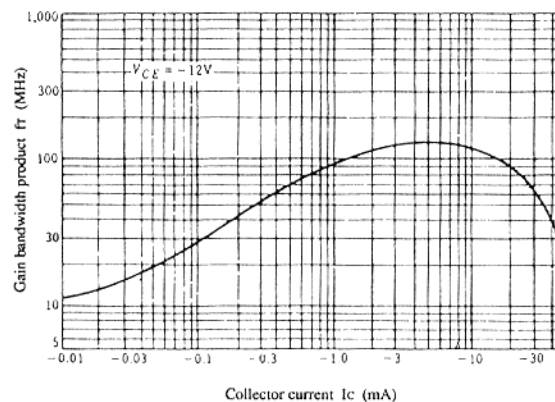
TYPICAL TRANSFER CHARACTERISTICS



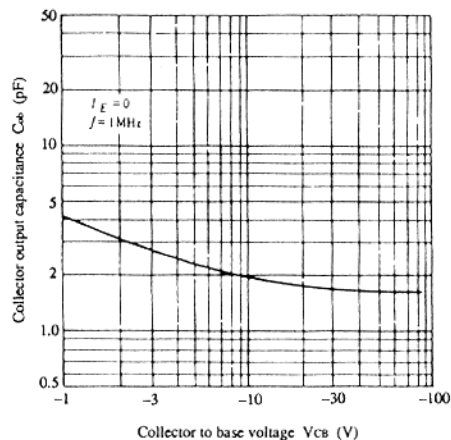
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



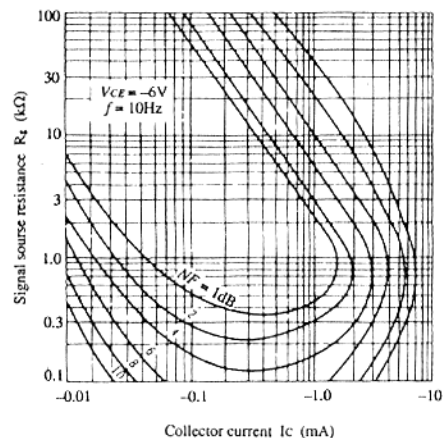
GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



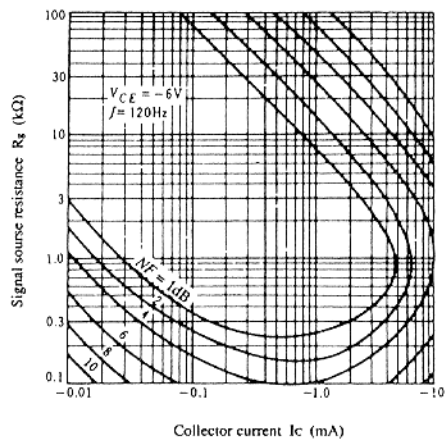
COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



CONTOURS OF CONSTANT NOISE FIGURE (1)



CONTOURS OF CONSTANT NOISE FIGURE (2)



CONTOURS OF CONSTANT NOISE FIGURE (3)

