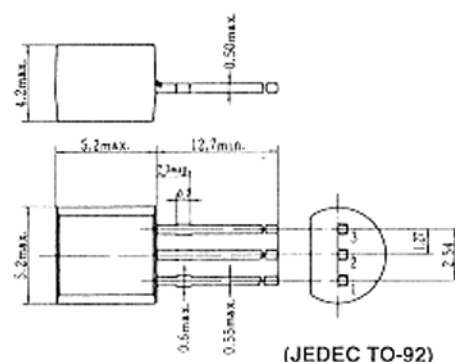


2SC1775, 2SC1775A

SILICON NPN EPITAXIAL

LOW FREQUENCY LOW NOISE AMPLIFIER

Complementary pair with 2SA872/A

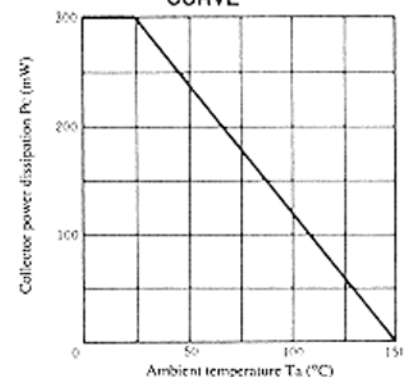


1. Emitter
 2. Collector
 3. Base
- (Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SC1775	2SC1775A	Unit
Collector to base voltage	V _{CB0}	90	120	V
Collector to emitter voltage	V _{CE0}	90	120	V
Emitter to base voltage	V _{EB0}	5	5	V
Collector current	I _C	50	50	mA
Collector power dissipation	P _C	300	300	mW
Junction temperature	T _J	150	150	°C
Storage temperature	T _{stg}	-55 to +150	-55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

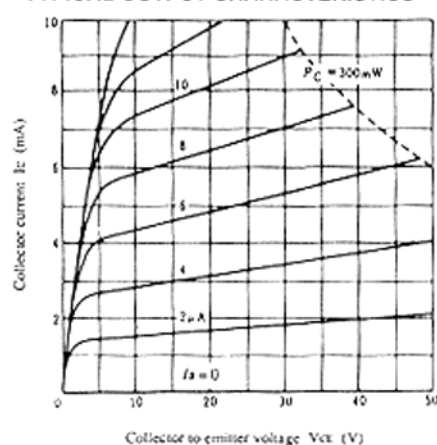
Item	Symbol	Test Condition	2SC1775			2SC1775A			Unit
			min.	typ.	max.	min.	typ.	max.	
Collector to emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, R _{BE} = ∞	90	—	—	120	—	—	V
Collector cutoff current	I _{CB0}	V _{CB} = 75V, I _E = 0	—	—	0.5	—	—	—	μA
		V _{CB} = 100V, I _E = 0	—	—	—	—	—	0.5	μA
DC current transfer ratio	h _{FE1} *	V _{CE} = 12V, I _C = 2mA	400	—	1200	400	—	1200	
	h _{FE2}	V _{CE} = 12V, I _C = 0.1mA	160	—	—	160	—	—	
Base to emitter voltage	V _{BE}	V _{CE} = 12V, I _C = 2mA	—	—	0.75	—	—	0.75	V
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 10mA, I _B = 1mA	—	—	0.5	—	—	0.5	V
Gain bandwidth product	f _T	V _{CE} = 12V, I _C = 2mA	—	200	—	—	200	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = 25V, I _E = 0, f = 1MHz	—	1.6	—	—	1.6	—	pF
Noise figure	NF	V _{CE} = 6V, I _C = 50μA, f = 10Hz	—	—	5.0	—	—	5.0	dB
		R _g = 50kΩ, f = 1kHz	—	—	1.5	—	—	1.5	dB

* The 2SC1775A is grouped by h_{FE} as follows.

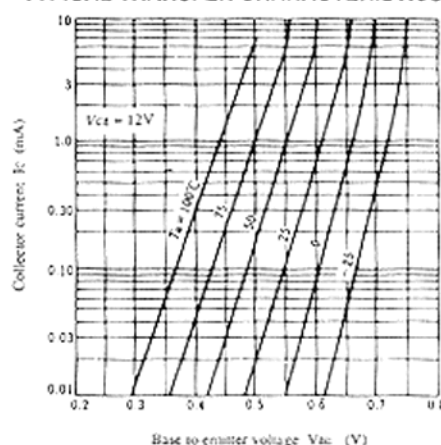
E	F
400 to 800	600 to 1200

2SC1775, 2SC1775A

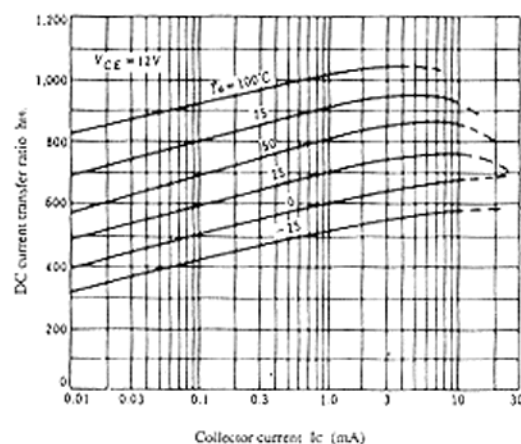
TYPICAL OUTPUT CHARACTERISTICS



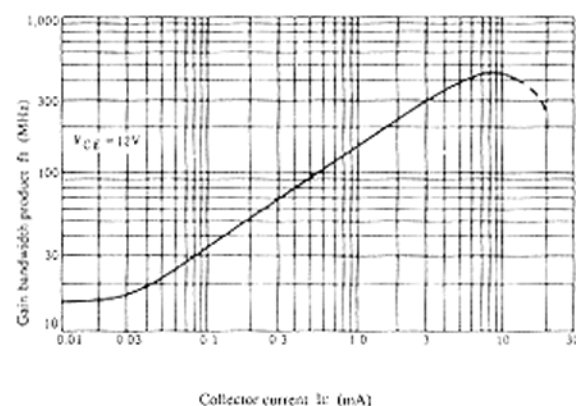
TYPICAL TRANSFER CHARACTERISTICS



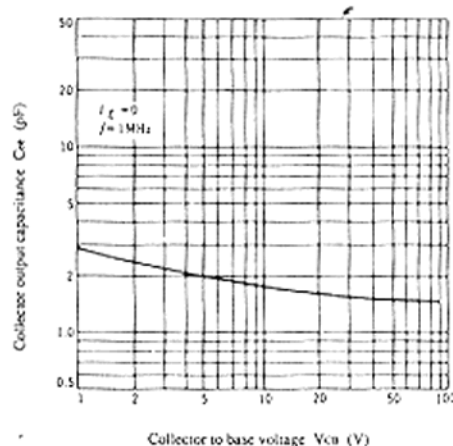
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



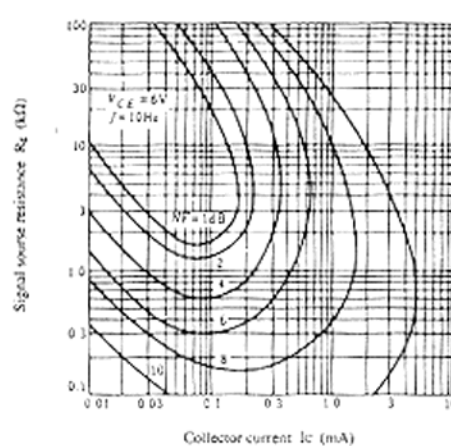
GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



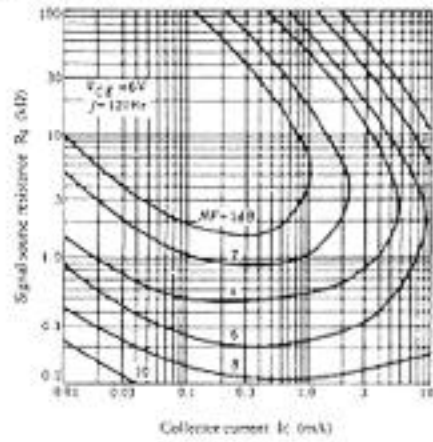
COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



CONTOURS OF CONSTANT NOISE FIGURE



CONTOURS OF CONSTANT NOISE FIGURE



CONTOURS OF CONSTANT NOISE FIGURE

