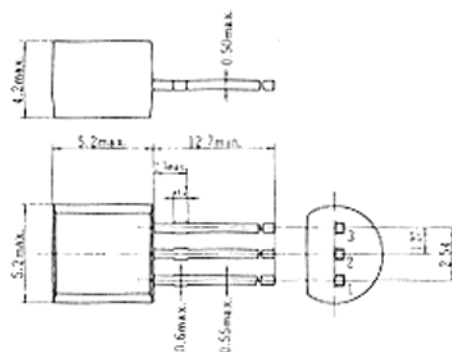


2SC1345 (K)

SILICON NPN EPITAXIAL
LOW FREQUENCY LOW NOISE AMPLIFIER



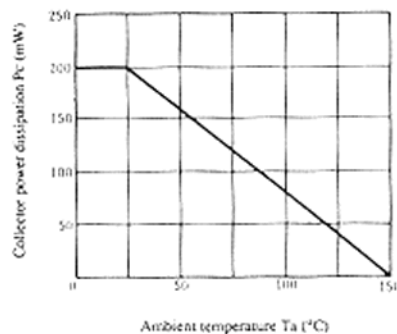
(JEDEC TO-92)

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

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SC1345 (K)	Unit
Collector to base voltage	V _{CB0}	55	V
Collector to emitter voltage	V _{CE0}	50	V
Emitter to base voltage	V _{EB0}	5	V
Collector current	I _C	100	mA
Collector power dissipation	P _C	200	mW
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ MAXIMUM COLLECTOR DISSIPATION CURVE



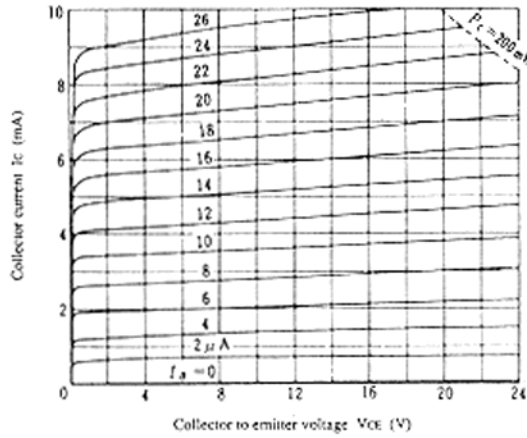
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Collector to base breakdown voltage	V _{(BR)CB0}	I _C = 10μA, I _E = 0	55	—	—	V
Collector to emitter breakdown voltage	V _{(BR)CE0}	I _C = 1mA, R _{BE} = ∞	50	—	—	V
Emitter to base breakdown voltage	V _{(BR)EB0}	I _E = 10μA, I _C = 0	5	—	—	V
Collector cutoff current	I _{CB0}	V _{CB} = 18V, I _E = 0	—	—	0.5	μA
Emitter cutoff current	I _{EB0}	V _{EB} = 2V, I _C = 0	—	—	0.5	μA
DC current transfer ratio	h _{FE} *	V _{CE} = 12V, I _C = 2mA	250	—	1200	
Base to emitter voltage	V _{BE}	V _{CE} = 12V, I _C = 2mA	—	—	0.75	V
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = 10mA, I _B = 1mA	—	—	0.5	V
Collector output capacitance	C _{ob}	V _{CB} = 10V, I _E = 0, f = 1MHz	—	2.3	3.5	pF
Gain bandwidth product	f _T	V _{CE} = 12V, I _C = 2mA	—	230	—	MHz
Noise figure	NF	V _{CE} = 6V, I _C = 0.1mA, f = 10Hz, R _L = 10kΩ	—	—	8	dB
		V _{CE} = 6V, I _C = 0.1mA, f = 1kHz, R _L = 10kΩ	—	—	1	dB

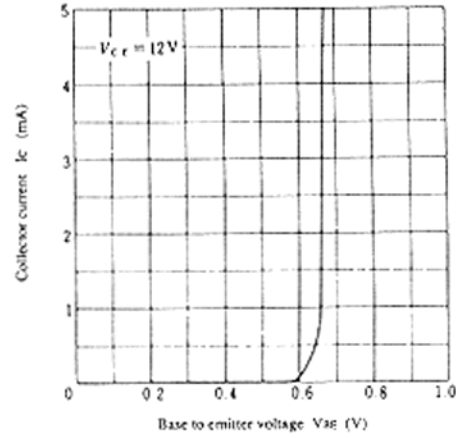
* The 2SC1345 (K) is grouped by h_{FE} as follows.

D	E	F
250 to 500	400 to 800	600 to 1200

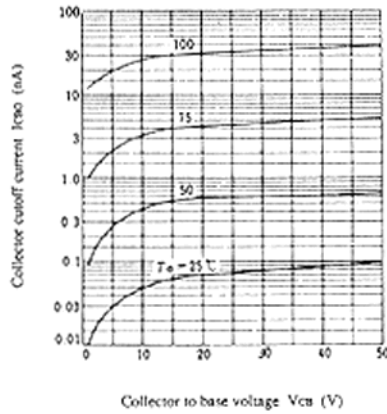
TYPICAL OUTPUT CHARACTERISTICS



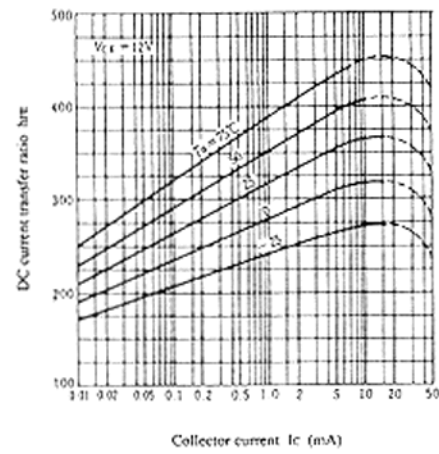
TYPICAL TRANSFER CHARACTERISTICS



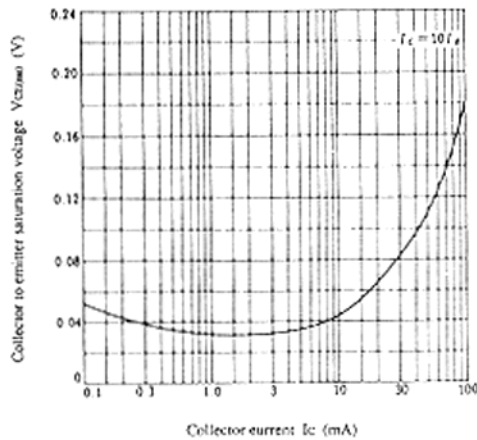
COLLECTOR CUT-OFF CURRENT VS. COLLECTOR TO BASE VOLTAGE



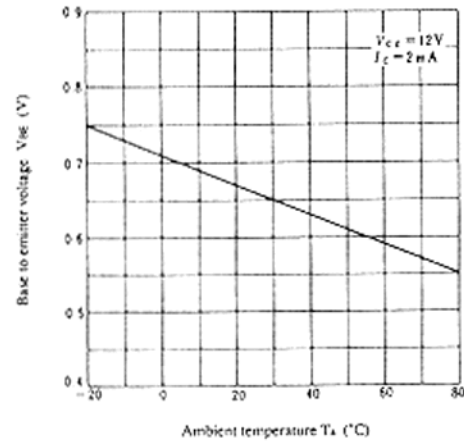
DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



COLLECTOR TO EMITTER SATURATION VOLTAGE VS. COLLECTOR CURRENT

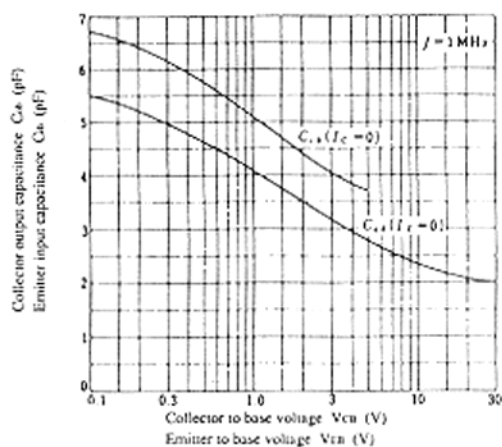


BASE TO EMITTER VOLTAGE VS. AMBIENT TEMPERATURE

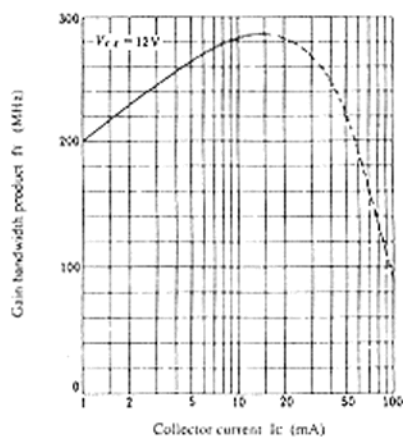


2SC1345(K)

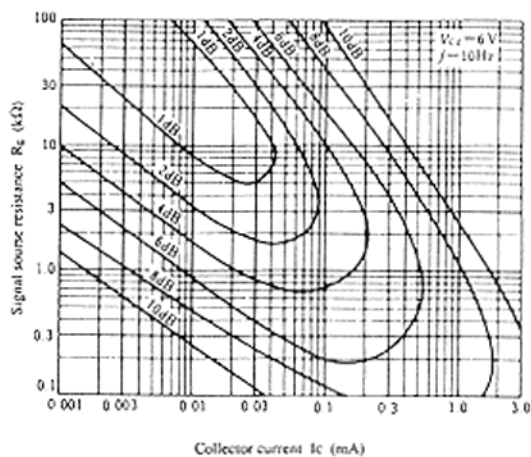
INPUT AND OUTPUT CAPACITANCE VS. VOLTAGE



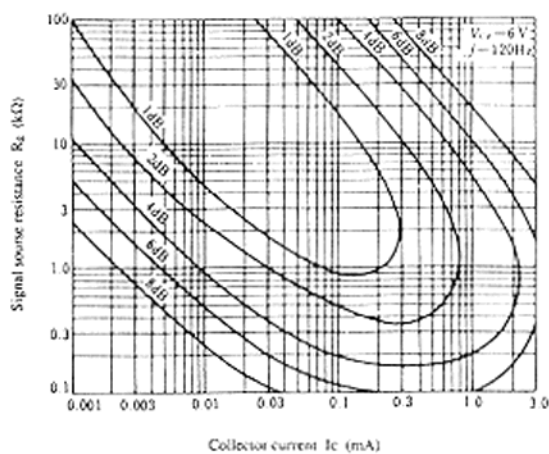
GAIN BANDWIDTH PRODUCT VS. COLLECTOR CURRENT



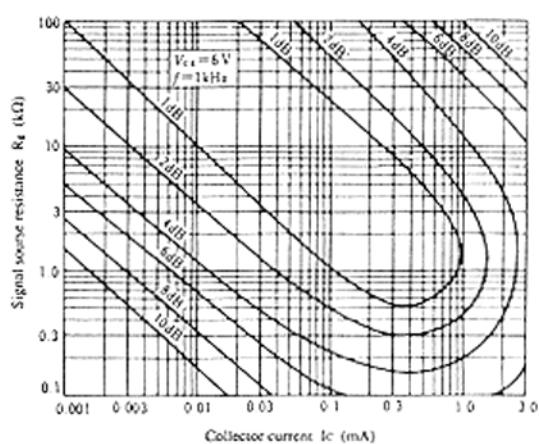
CONTOURS OF CONSTANT NOISE FIGURE



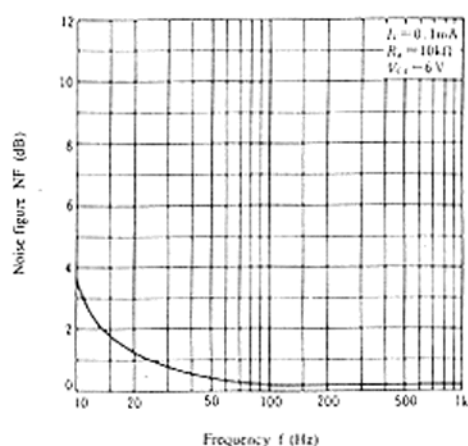
CONTOURS OF CONSTANT NOISE FIGURE



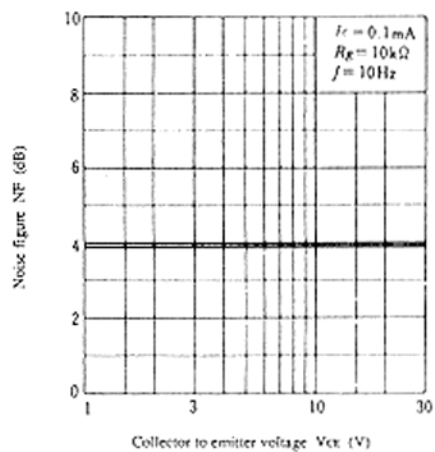
CONTOURS OF CONSTANT NOISE FIGURE



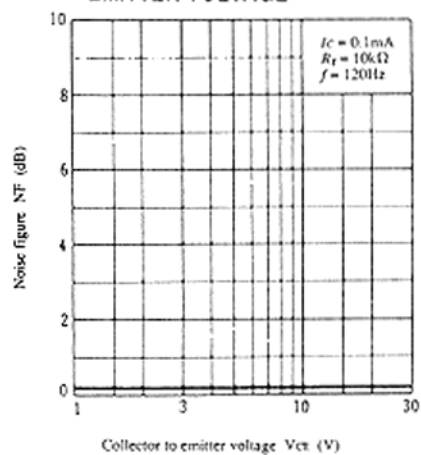
NOISE FIGURE VS. FREQUENCY



NOISE FIGURE VS. COLLECTOR TO
EMITTER VOLTAGE



NOISE FIGURE VS. COLLECTOR TO
EMITTER VOLTAGE



NOISE FIGURE VS. COLLECTOR TO
EMITTER VOLTAGE

