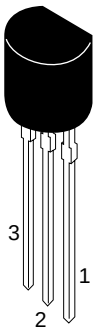
2SD2247

Silicon NPN Epitaxial
Low Frequency Amplifier

Table 1 Absolute Maximum Ratings
(Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	55	V
Collector to emitter voltage	V_{CEO}	50	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Emitter current	I_E	–100	mA
Collector power dissipation	P_C	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

TO-92 (1)



1. Emitter
2. Collector
3. Base

Table 2 Electrical Characteristics (Ta = 25°C)

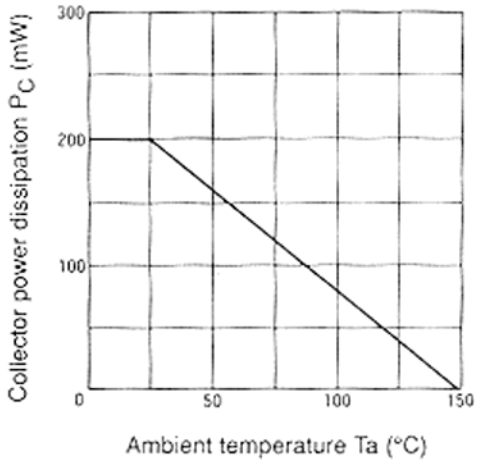
Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	55	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.5	µA	V_{CB} = 40 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	0.5	µA	V_{EB} = 4 V, I_C = 0
DC current transfer ratio	h_{FE}*	100	—	320	—	V_{CE} = 12 V, I_C = 2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.2	V	I_C = 10 mA, I_B = 1 mA
Base to emitter voltage	V_{BE}	—	0.67	0.75	V	V_{CE} = 12 V, I_C = 2 mA
Gain bandwidth product	f_T	—	—	100	MHz	V_{CE} = 12 V, I_C = 2 mA
Collector output capacitance	Cob	—	1.8	3.5	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

* The 2SD2247 is grouped by h_{FE} as follows.

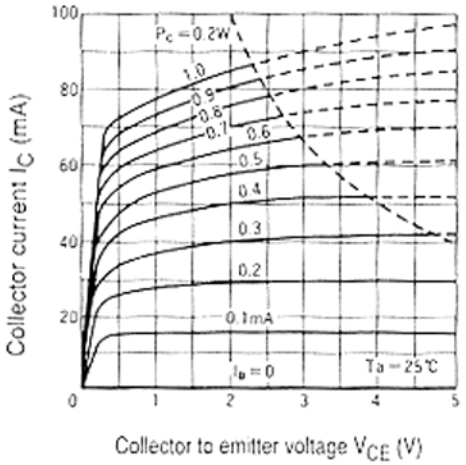
Grade	B	C
h_{FE}	100 to 200	160 to 320

2SD2247

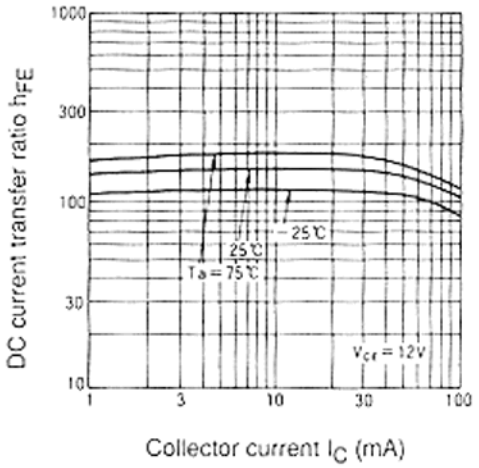
Maximum collector dissipation curve



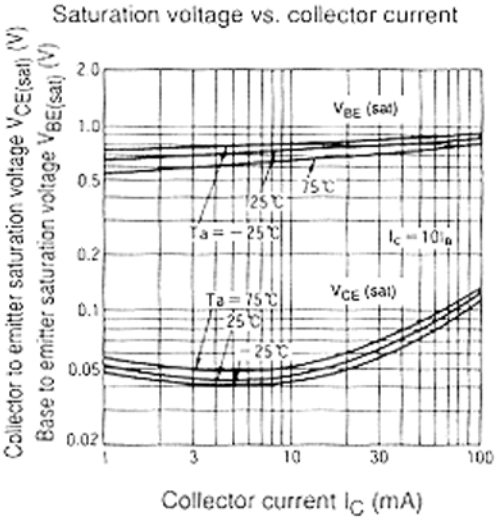
Typical output characteristics



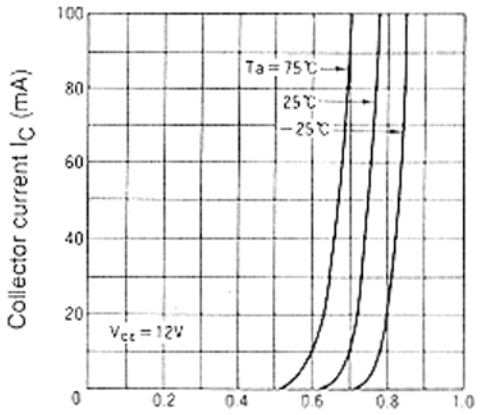
DC current transfer ratio vs. collector current



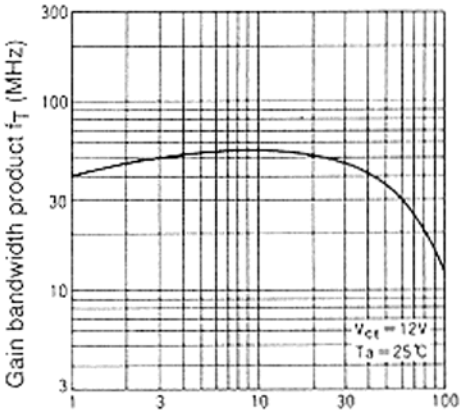
Saturation voltage vs. collector current



Typical transfer characteristics



Gain bandwidth product vs. collector current



Collector output capacitance vs. collector to base voltage