HITACHI

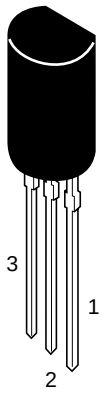
2SC4693

Silicon NPN Epitaxial Planer
VHF Wide Band Amplifier

Features

- High gain bandwidth product
  f_T = 2.5 GHz Typ.
- Large collector power dissipation
  P_C = 900 mW

TO-92MOD



1. Emitter
2. Collector
3. Base

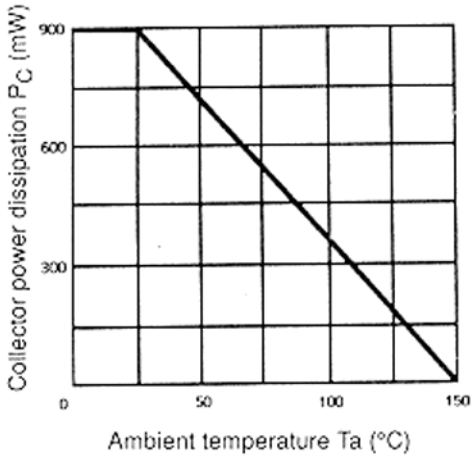
Table 1 Absolute Maximum Ratings
(Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	300	mA
Collector peak current	$i_{C(peak)}$	500	mA
Collector power dissipation	P_C	900	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

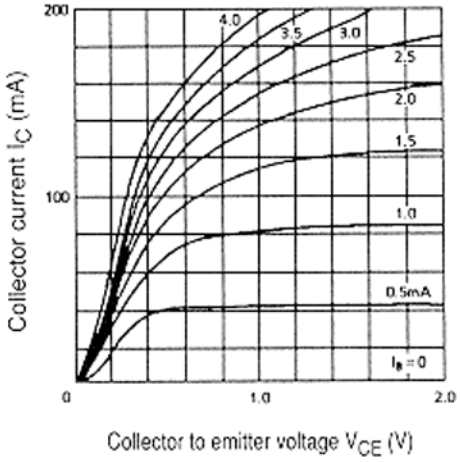
Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 100 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	I_C = 1 mA, R_{BE} = ∞
Collector cutoff current	I_{CBO}	—	—	1.0	µA	V_{CB} = 25 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 3 V, I_C = 0
DC current transfer ratio	h_{FE}	50	—	200	—	V_{CE} = 5 V, I_C = 50 mA
Gain bandwidth product	f_T	1.5	2.5	—	GHz	V_{CE} = 5 V, I_C = 50 mA
Collector output capacitance	Cob	—	4.5	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

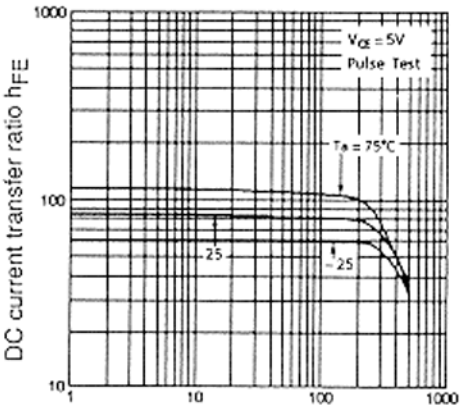
Maximum collector power dissipation curve



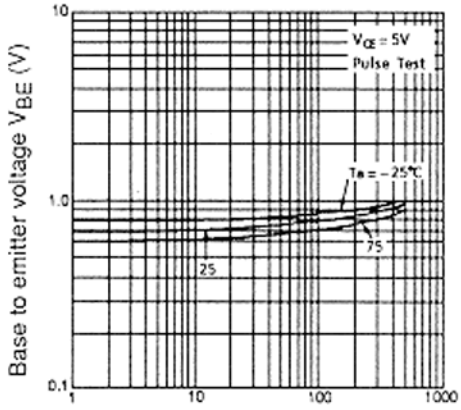
Typical output characteristics



DC current transfer ratio vs. collector current



Base to emitter voltage vs. collector current



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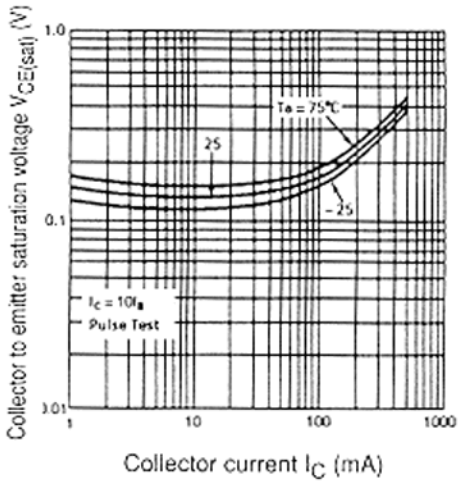
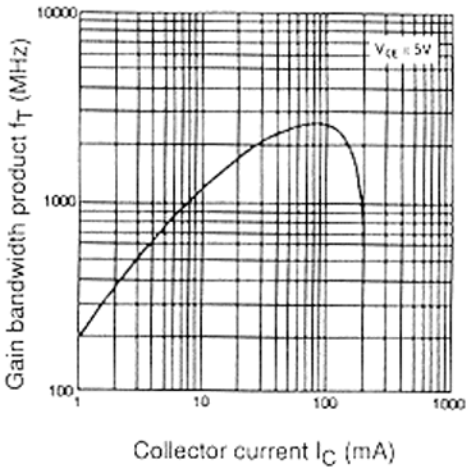
Collector to emitter saturation voltage vs. collector current



Gain bandwidth product vs. collector current



Collector output capacitance vs. collector to base voltage