HITACHI

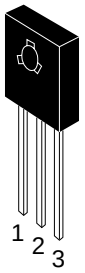
2SC4708

Silicon NPN Epitaxial
High Resolution Monitor Video Output

Feature

- Excellent high frequency characteristics
  f_T = 1.1 GHz typ
  Cob = 4.2 pF typ
- High gain bandwidth product
- Low collector output capacitance
- High breakdown voltage
  V_{CEO} = 100 V

TO-126 MOD



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	0.2	A
Collector peak current	$i_{C(peak)}$	0.5	A
Collector power dissipation	P_C	1	W
	P_C*1	5	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at T_C = 25°C.

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	100	—	—	V	I_C = 1 mA, R_{BE} = ∞
Collector cutoff current	I_{CBO}	—	—	1.0	µA	V_{CB} = 80 V, I_E = 0
Emitter cutoff Current	I_{EBO}	—	—	10	µA	V_{EB} = 3 V, I_C = 0
DC current transfer ratio	h_{FE}*1	60	—	200		V_{CE} = 10 V, I_C = 10 mA

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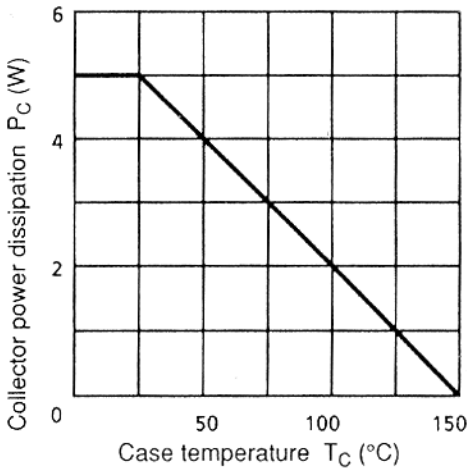
Electrical Characteristics (Ta = 25°C) (cont)

Item	Symbol	Min	Typ	Max	Unit	Test condition
Base to emitter voltage	V_{BE}	—	—	1.0	V	V_{CE} = 10 V, I_C = 10 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	I_C = 100 mA, I_B = 10 mA
Gain bandwidth product	f_T	800	1100	—	MHz	V_{CE} = 10 V, I_C = 100 mA
Collector output capacitance	Cob	—	4.2	6.0	pF	V_{CB} = 30 V, I_E = 0, f = 1 MHz

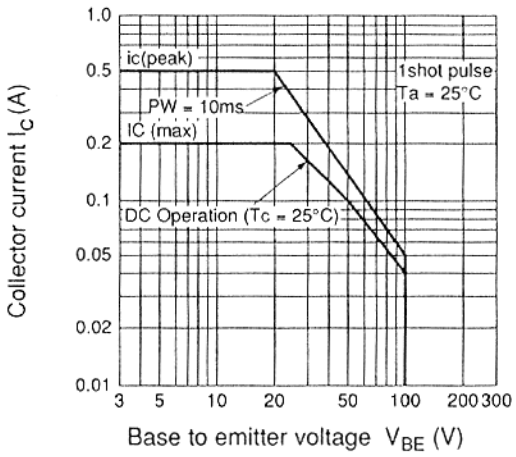
Note: 1. The 2SC4708 is grouped by h_{FE}, and its specification is as follows.

B	C
60 to 120	100 to 200

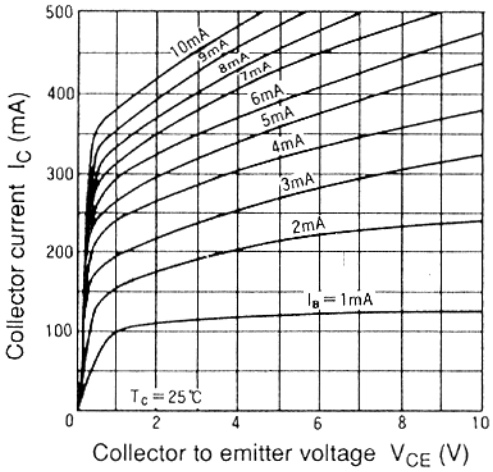
Maximum Collector Dissipation Curve



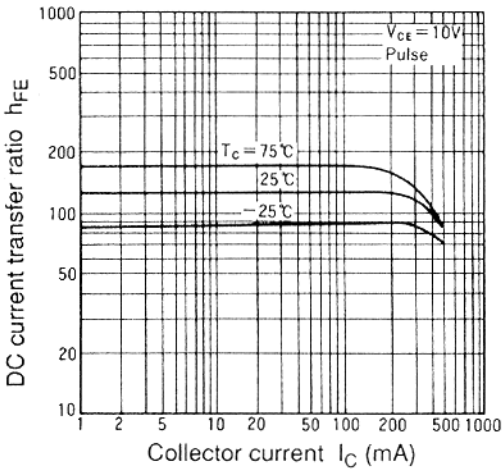
Area of Safe Operation



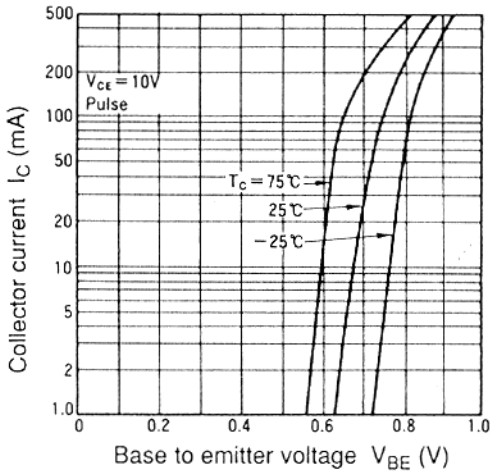
Typical Output Characteristics



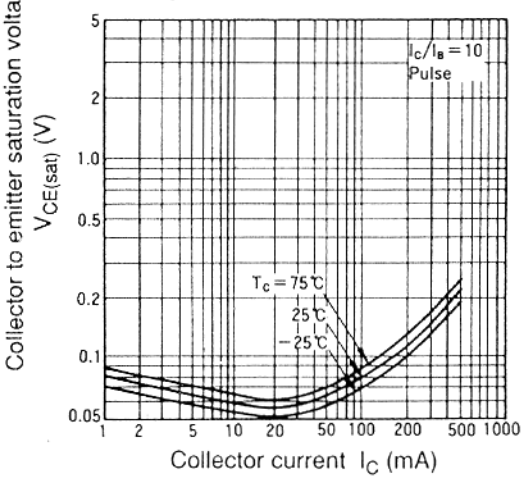
DC Current Transfer Ratio vs. Collector Current



Typical Transfer Characteristics



Collector to Emitter Saturation Voltage vs. Collector Current



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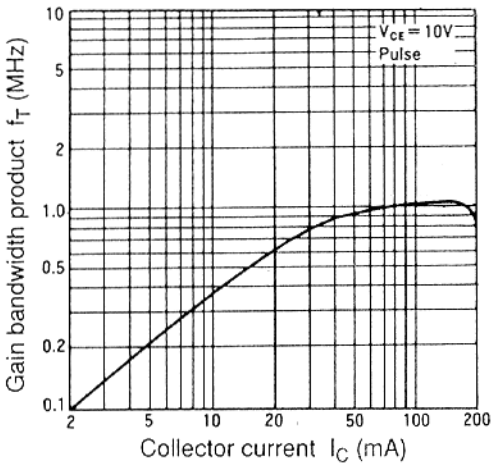
Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage