2SC1907

Silicon NPN Epitaxial Planar

HITACHI

Application

UHF TV Tuner, Local oscillator

Outline

TO-92 (2)

1. Emitter
2. Collector
3. Base

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	19	V
Emitter to base voltage	V_{EBO}	2	V
Collector current	I_C	50	mA
Emitter current	I_E	–50	mA
Collector power dissipation	P_C	300	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	19	—	—	V	I_C = 3 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	2	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.5	µA	V_{CB} = 10 V, I_E = 0
DC current transfer ratio	h_{FE}	40	—	—		V_{CE} = 10 V, I_C = 10 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.2	1.0	V	I_C = 20 mA, I_B = 4 mA
Collector output capacitance	Cob	—	1.0	2.0	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz
Gain bandwidth product	f_T	900	1100	—	MHz	V_{CE} = 10 V, I_C = 10 mA
Base time constant	$r_{bb'} \cdot C_C$	—	10	25	ps	V_{CB} = 10 V, I_C = 10 mA, f = 31.8 MHz
Oscillation output power	P_{out}	—	8	—	mW	V_{CB} = 10 V, I_C = 10 mA, f = 930 MHz

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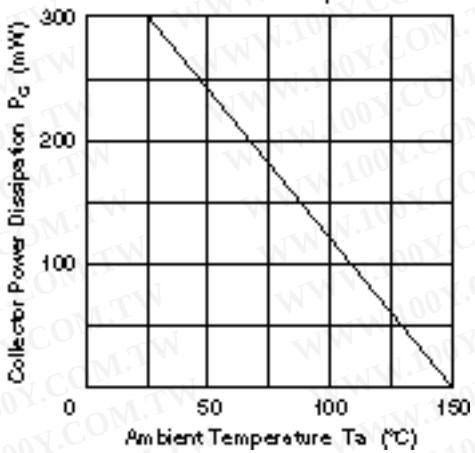
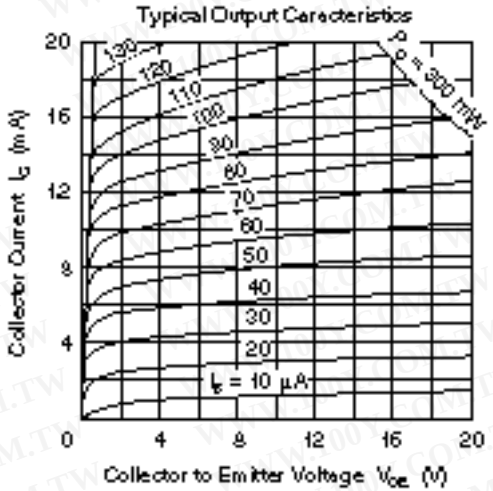
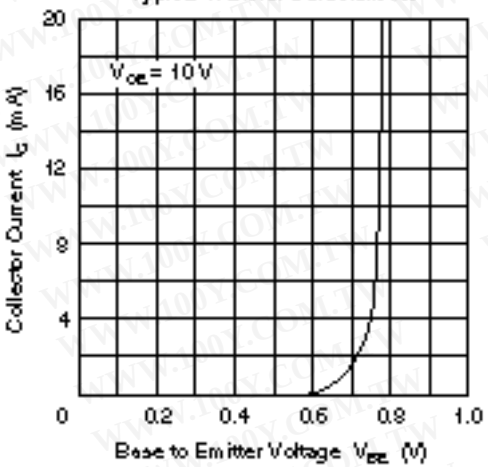
Maximum Collector Dissipation Curve



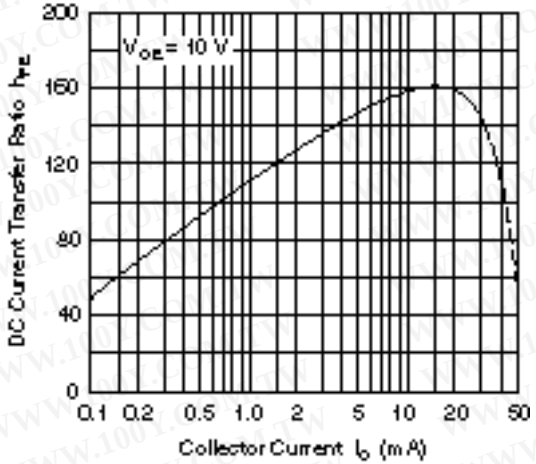
Typical Output Caracteristics



Typical Transfer Caracteristics



DC Current Transfer Ratio vs. Collector Current



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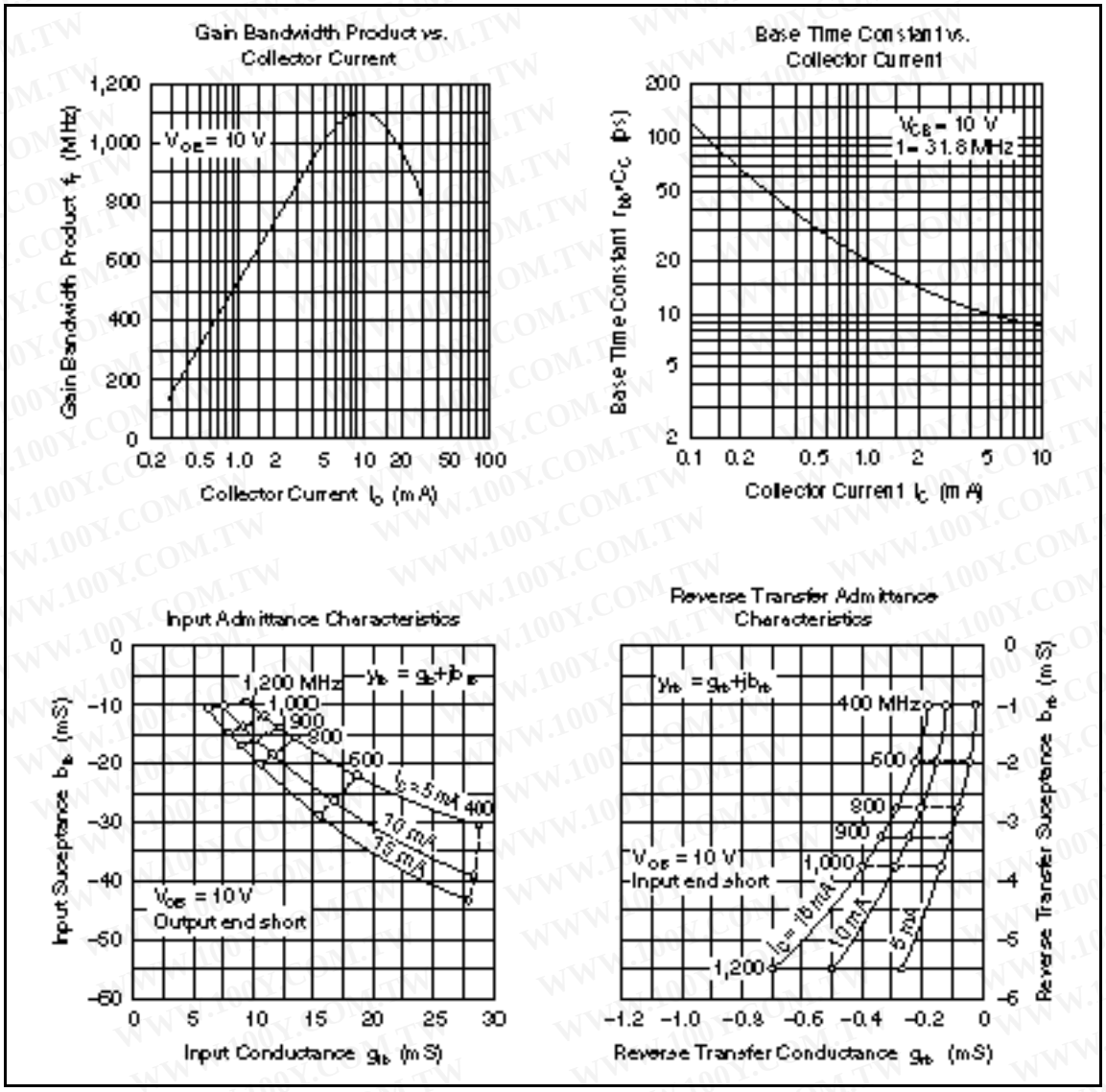

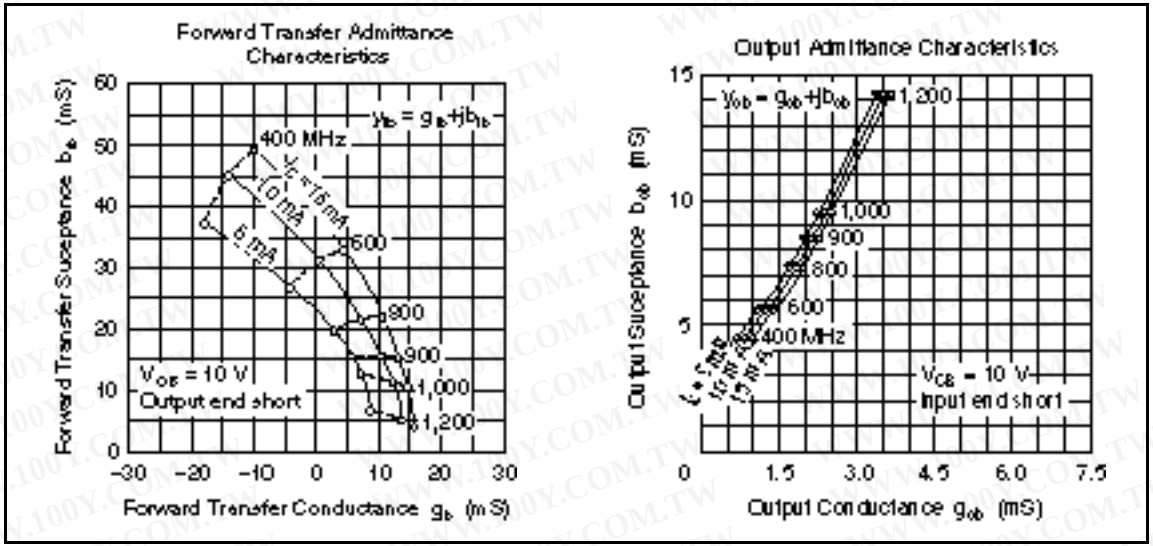

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