Ordering number:EN4411

NPN Epitaxial Planar Silicon Transistor

2SC4910

VHF-Band Power Amplifier Applications

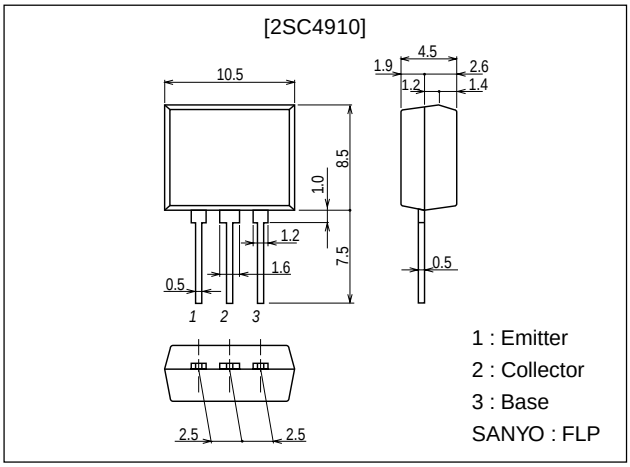
Features

· On-chip emitter ballast resistors.

Package Dimensions

unit:mm

2084B



Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		38	V
Collector-to-Emitter Voltage	V_{CEO}		18	V
Emitter-to-Base Voltage	V_{EBO}		3	V
Collector Current	I_C		0.75	A
Collector Current (Pulse)	I_{CP}		1.2	A
Base Current	I_B		150	mA
Collector Dissipation	P_C		1.5	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

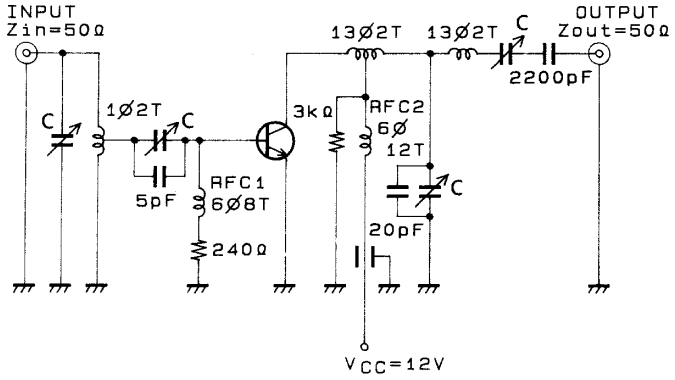
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=30V, I_E=0			50	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=2V, I_C=0			50	μA
DC Current Gain	h_{FE}	V_{CE}=10V, I_C=200mA	20		200	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	38			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=1mA, R_{BE}=∞	18			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	3			V

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters

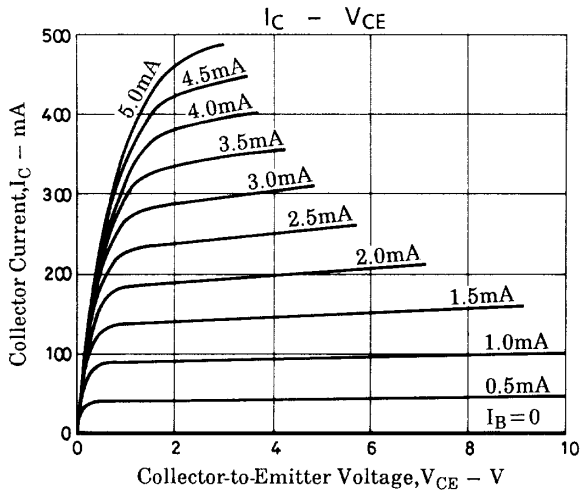
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

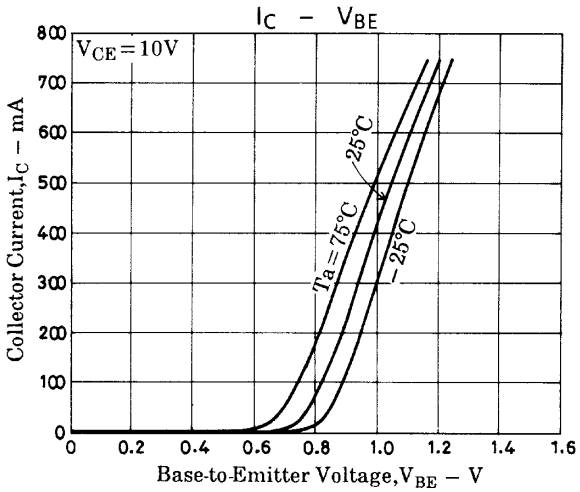
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	Cob	V_{CB}=10V, f=1MHz		6	10	pF
Output Power	P_O	V_{CC}=12V, f=175MHz, P_{IN}=50mW	0.7	0.9		W
Collector Efficiency	ηc	See specified Test Circuit.	55	70		%

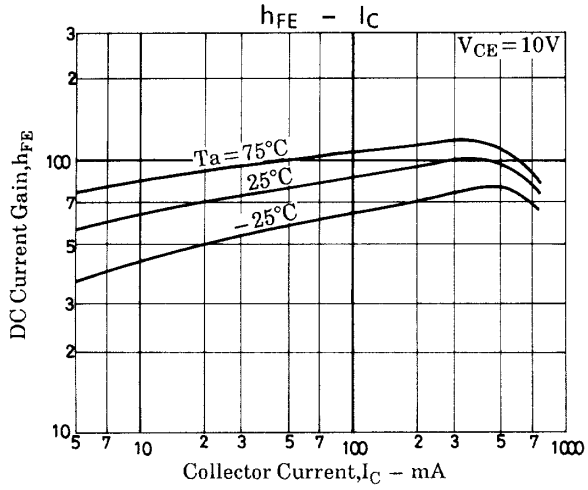
Collector Efficiency Test Circuit

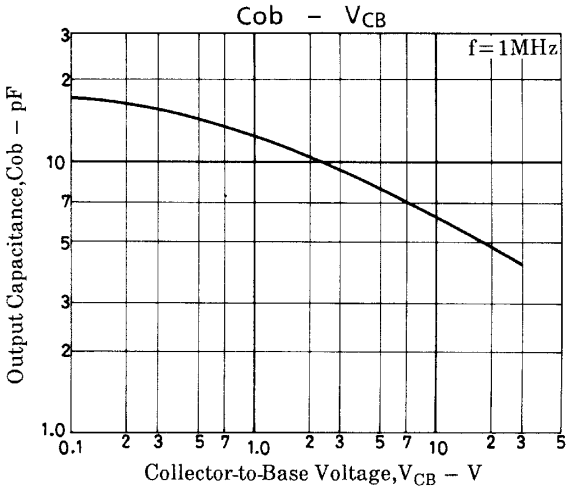


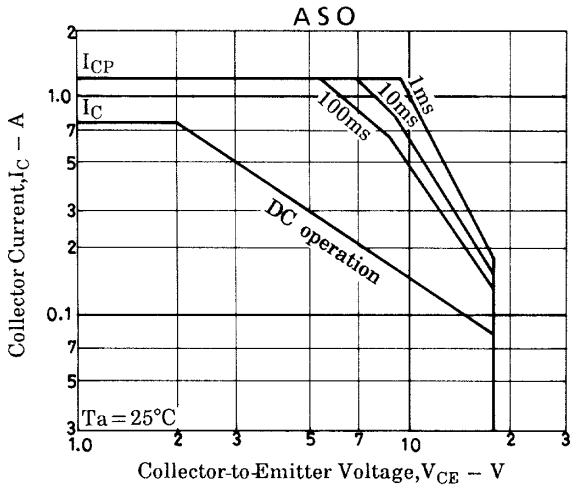
C : ~20pF

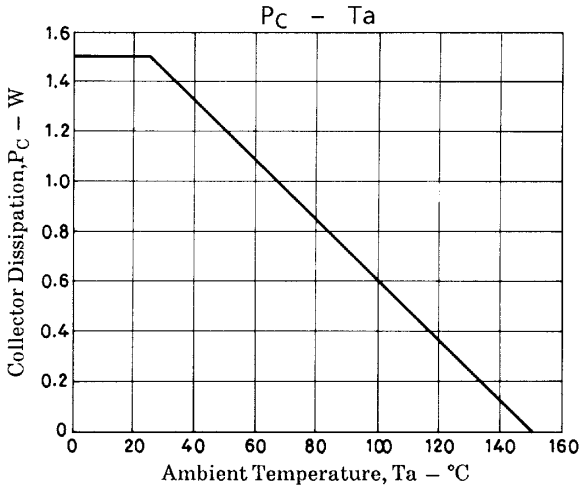


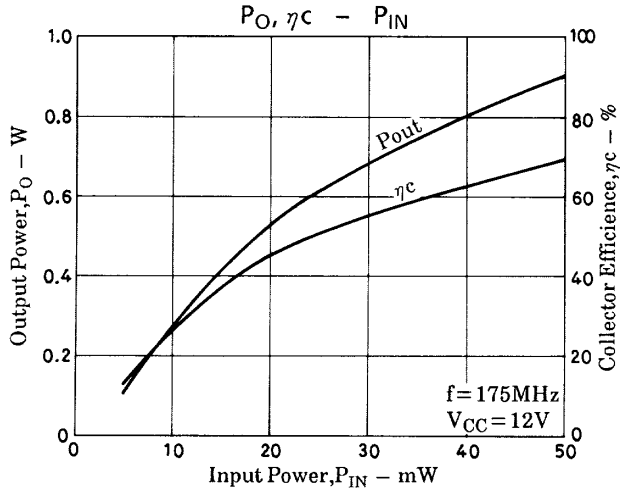


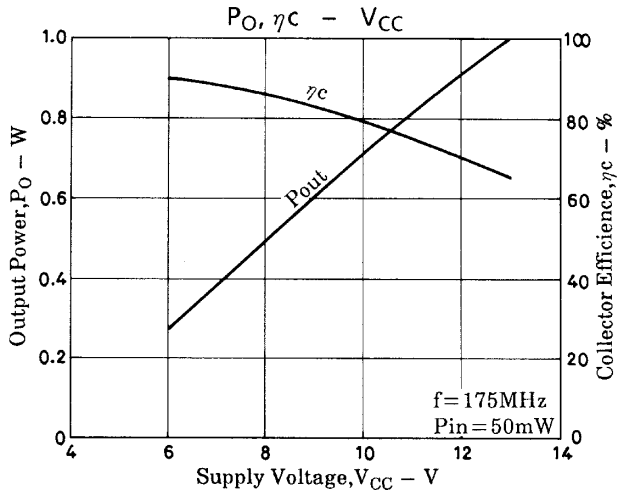




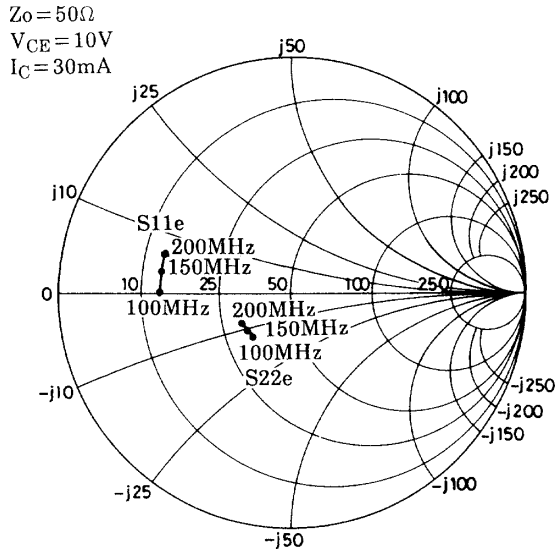

ASO
I_{CP}
I_C
1ms
10ms
100ms
DC operation
Ta=25°C
Collector Current, I_C – A
Collector-to-Emitter Voltage, V_{CE} – V


P_C – Ta
Collector Dissipation, P_C – W
Ambient Temperature, Ta – °C


P_O, ηc – P_{IN}
Pout
ηc
f=175MHz
V_{CC}=12V
Output Power, P_O – W
Collector Efficience, ηc – %
Input Power, P_{IN} – mW


P_O, ηc – V_{CC}
ηc
Pout
f=175MHz
Pin=50mW
Output Power, P_O – W
Collector Efficience, ηc – %
Supply Voltage, V_{CC} – V

S parameter


Zo=50Ω
V_{CE}=10V
I_C=30mA
S11e
S22e
200MHz
150MHz
100MHz
j10
j25
j50
j100
j150
j200
j250
-j10
-j25
-j50
-j100
-j150
-j200
-j250