NPN Epitaxial Planar Silicon Transistor



2SC4433

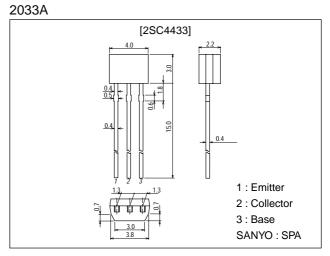
HF Amplifier Applications

Features

- \cdot High power gain : PG=28dB typ (f=100MHz).
- \cdot High cutoff frequency : f_T =750MHz typ.
- \cdot Small C_{ob}, C_{re}.

Package Dimensions

unit:mm



Specifications

Absolute Maximum Ratings at Ta = 25°C

-				
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CBO}		40	V
Collector-to-Emitter Voltage	VCEO		18	V
Emitter-to-Base Voltage	VEBO		3	V
Collector Current	ι _C		50	mA
Collector Dissipation	PC		300	mW
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
Falameter			min	typ	max	Unit
Collector Cutoff Current	ICBO	V _{CB} =18V, I _E =0			0.1	μA
Emitter Cutoff Current	IEBO	V _{EB} =2V, I _C =0			0.1	μΑ
DC Current Gain	hFE	V _{CE} =10V, I _C =5mA	60*		320*	
Gain-Bandwidth Product	fT	V _{CE} =10V, I _C =5mA		750		MHz
Output Capacitance	Cob	V _{CB} =10V, f=1MHz		1.0	1.5	pF
Reverse transfer Capacitance	C _{re}	V _{CB} =10V, f=1MHz		0.65		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)}	I _C =10mA, I _B =1mA			0.2	V
Base-to-Collector Time Constant	r _{bb} 'C _c	V _{CE} =10V, I _C =5mA, f=31.9MHz			25	ps
Power Gain	PG	V _{CE} =10V, I _C =10mA, f=100MHz		26		dB

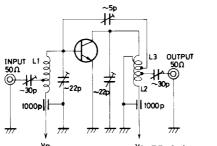
* : The 2SC4433 is classified by 5mA h_{FE} as follows : 60 D 120 100 E 200 160 F 320

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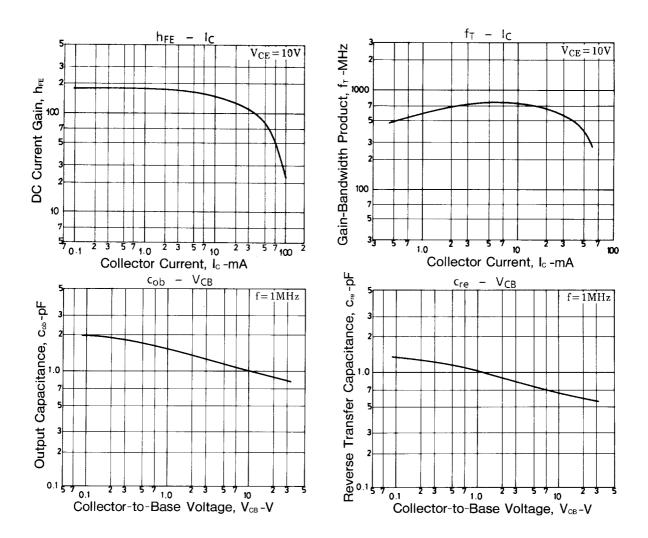
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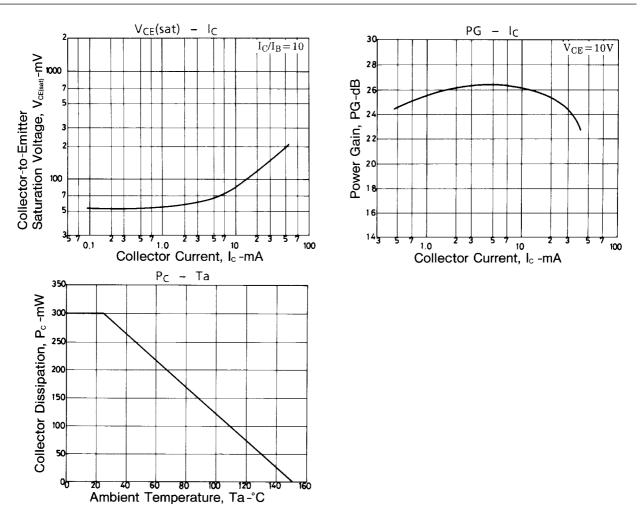
SANYO Electric Co., Ltd. Semiconductor Bussiness Headquaters TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

PG Test Circuit



- ^{vc} Unit(capacitance : F)
- L₁: 1mm ϕ plated wire, 10mm ϕ 5T, pitch 15mm, tap: 2T from base side
- $\label{eq:L2} L_2: \mbox{ 1mm} \phi \mbox{ plated wire, 10mm} \phi \mbox{ 7T, pitch 10mm, } \\ tap: \mbox{ 2T from } V_c \mbox{ side }$
- L_3 : 1mm ϕ enamel wire, 10mm ϕ 3T pitch 10mm





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