

<SMALL-SIGNAL TRANSISTOR>

# 2SA1285, 2SA1285A

FOR PRE-DRIVE APPLICATION  
SILICON PNP EPITAXIAL TYPE

## DESCRIPTION

2SA1285, 2SA1285A is a silicon PNP epitaxial type transistor. Designed with high voltage, high hFE, high fr, small Cob and excellent hFE lineary.

Complementary with 2SC3245, 2SC3245A.

## FEATURE

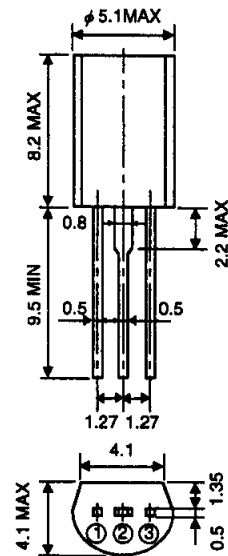
- High voltage VCE0=120, 150V
- High fr fr=200MHz, low Cob Cob=3.5pF typ
- High hFE hFE=150 to 800
- High collector dissipation Pc=900mW

## APPLICATION

Pre-drive level of output 40 to 80W main amp. End level of tone control amp, equalizer amp.

## OUTLINE DRAWING

Unit:mm



### TERMINAL CONNECTOR

- ① : EMITTER EIAJ : —
- ② : COLLECTOR JEDEC : —
- ③ : BASE

Note)

The dimension without tolerance represent central value.

## MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Ratings		Unit
		2SA1285	2SA1285A	
VcBo	Collector to Base voltage	-120	-150	V
VEBo	Emitter to Base voltage	-5	-5	V
VCE0	Collector to Emitter voltage	-120	-150	V
Ic	Collector current	-100		mA
Pc	Collector dissipation	900		mW
Tj	Junction temperature	+150		°C
Tstg	Storage temperature	-55 to +150		°C

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

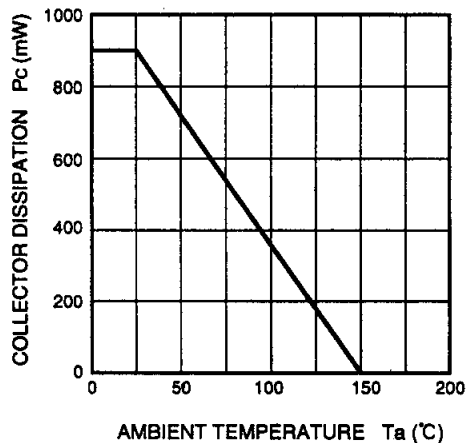
Symbol	Parameter	Test conditions	Limits						Unit
			2SA1285			2SA1285A			
			Min	Typ	Max	Min	Typ	Max	
V(BR)CBO	C to B break down voltage	Ic = -10 μA, IE = 0	-120			-150			V
V(BR)EBO	E to B break down voltage	IE = -10 μA, IC = 0	-5			-5			V
V(BR)CEO	C to E break down voltage	Ic = -1mA, RE = ∞	-120			-150			V
ICBO	Collector cut off current	VCB = -100 V, IE = 0			-0.1			-0.1	μA
IEBO	Emitter cut off current	VEB = -4V, IC = 0			-0.1			-0.1	μA
hFE *	DC forward current gain	VCE = -10V, IC = -10mA	150		800	150		500	—
VCE(sat)	C to E saturation voltage	Ic = -50mA, IB = -2.5mA		-0.17	-0.6		-0.17	-0.6	V
fr	Gain band width product	VCE = -10V, IE = 10mA		200			200		MHz
Cob	Collector output capacitance	VCB = -10V, IE = 0, f = 1MHz		3.5			3.5		pF

\* : It shows hFE classification in right table.

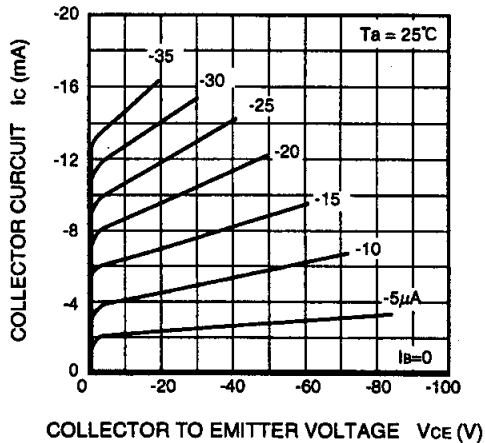
Item	E	F	G
hFE	150 to 300	250 to 500	400 to 800

TYPICAL CHARACTERISTICS

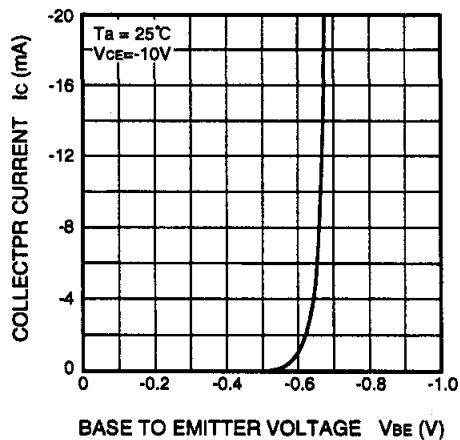
COLLECTOR DISSIPATION VS.  
AMBIENT TEMPERATURE



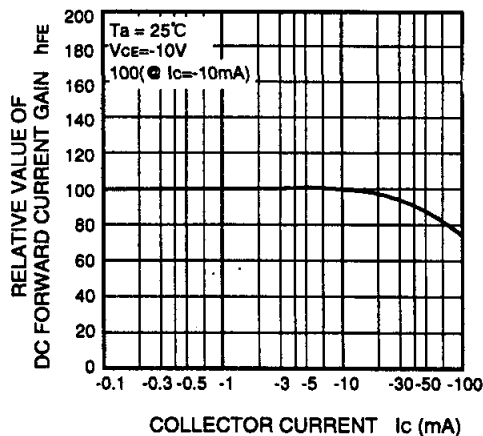
COMMON EMITTER OUTPUT



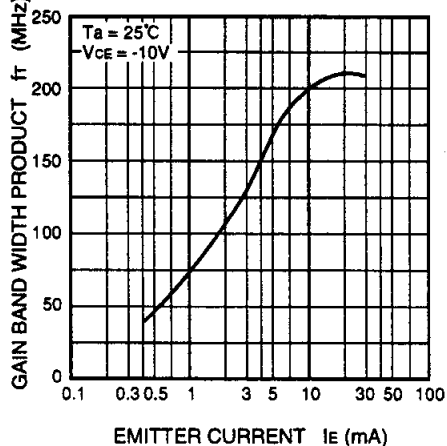
COMMON EMITTER TRANSFER



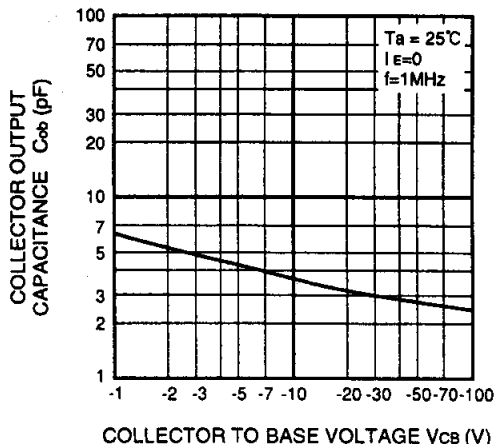
DC FORWARD CURRENT GAIN VS.  
COLLECTOR CURRENT

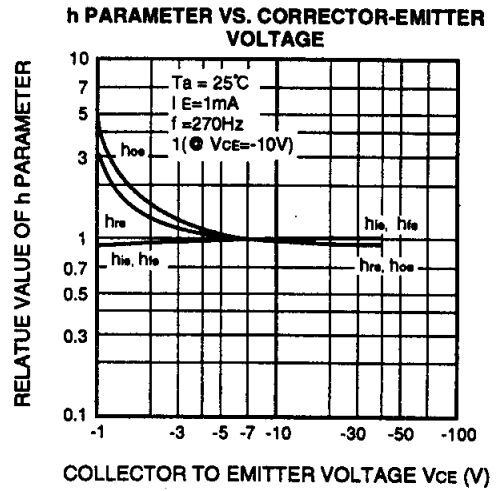
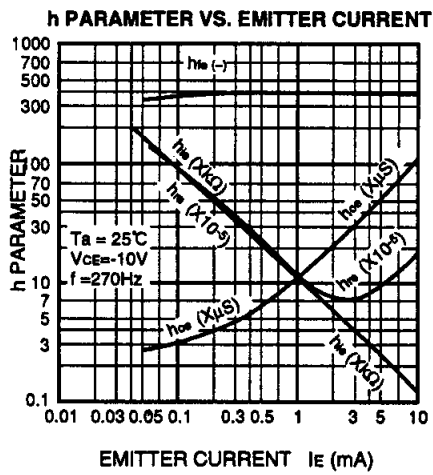


GAIN BAND WIDTH PRODUCT VS.  
EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS.  
COLLECTOR TO BASE VOLTAGE





**COMMON EMITTER h PARAMETER (TYPICAL VALUE)**

Symbol	Parameter	Test Conditions	Limits	Unit
$h_{ie}$	Closed loop small signal input impedance	$T_a = 25^\circ\text{C}$ $V_{CE} = -10\text{V}$ $I_E = 1\text{mA}$ $f = 270\text{Hz}$	10.8	$\text{k}\Omega$
$h_{re}$	Open loop small signal reverse voltage amplification factor		1.16	$\times 10^{-4}$
$h_{fe}$	Closed loop small signal forward current amplification factor		400	—
$h_{oe}$	Open loop small signal output admittance		11.2	$\mu\text{S}$

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