〈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 h_{FE}, high f_T, small C_{ob} and excellent h_{FE} lineary.

Complementary with 2SC3245, 2SC3245A.

FEATURE

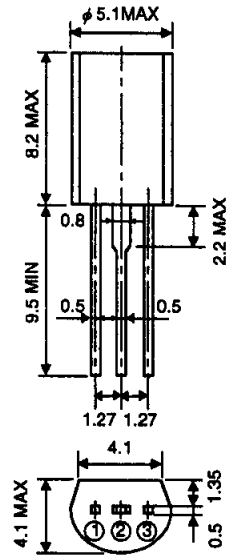
- High voltage V_{CEO}=120, 150V
- High f_T f_T=200MHz, low C_{ob} C_{ob}=3.5pF typ
- High h_{FE} h_{FE}=150 to 800
- High collector dissipation P_C=900mW

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
② : COLLECTOR EIAJ : —
③ : BASE JEDEC : —

Note)
The dimension without tolerance represent central value.

MAXIMUM RATINGS (Ta=25℃)

Symbol	Parameter	Ratings		Unit
		2SA1285	2SA1285A	
V_{CBO}	Collector to Base voltage	-120	-150	V
V_{EBO}	Emitter to Base voltage	-5	-5	V
V_{CEO}	Collector to Emitter voltage	-120	-150	V
I_C	Collector current	-100		mA
P_C	Collector dissipation	900		mW
T_j	Junction temperature	+150		℃
T_{stg}	Storage temperature	-55 to +150		℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

Symbol	Parameter	Test conditions	Limits						Unit
			2SA1285			2SA1285A			
			Min	Typ	Max	Min	Typ	Max	
$V_{(BR)CBO}$	C to B break down voltage	I_C = -10 μA, I_E= 0	-120			-150			V
$V_{(BR)EBO}$	E to B break down voltage	I_E = -10 μA, I_C=0	-5			-5			V
$V_{(BR)CEO}$	C to E break down voltage	I_C = -1mA, R_{BE}=∞	-120			-150			V
I_{CBO}	Collector cut off current	V_{CB} = -100 V, I_E=0			-0.1			-0.1	μA
I_{EBO}	Emitter cut off current	V_{EB} = -4V, I_C=0			-0.1			-0.1	μA
h_{FE} *	DC forward current gain	V_{CE}= -10V, I_C= -10mA	150		800	150		500	—
$V_{CE(sat)}$	C to E saturation voltage	I_C = -50mA, I_B= -2.5mA		-0.17	-0.6		-0.17	-0.6	V
f_T	Gain band width product	V_{CE}= -10V, I_E= 10mA		200			200		MHz
C_{ob}	Collector output capacitance	V_{CB}= -10V, I_E= 0, f=1MHz		3.5			3.5		pF

* : It shows h_{FE} classification in right table.

Item	E	F	G
h_{FE}	150 to 300	250 to 500	400 to 800

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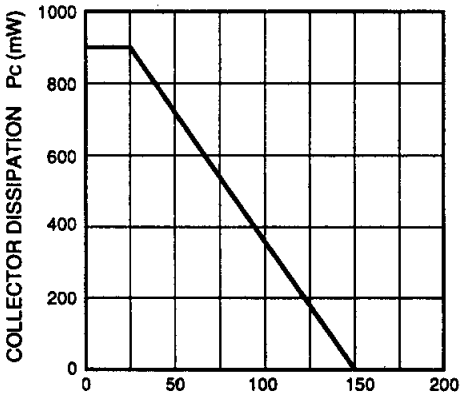
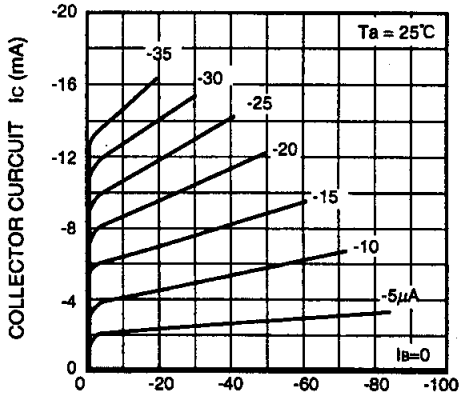
TYPICAL CHARACTERISTICS

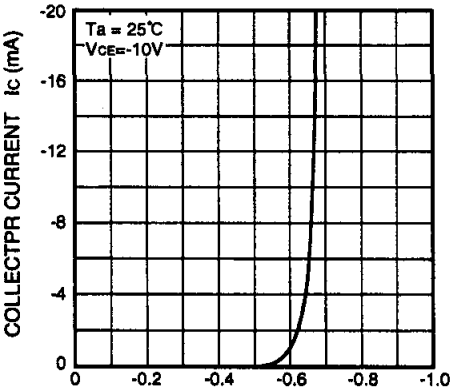
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



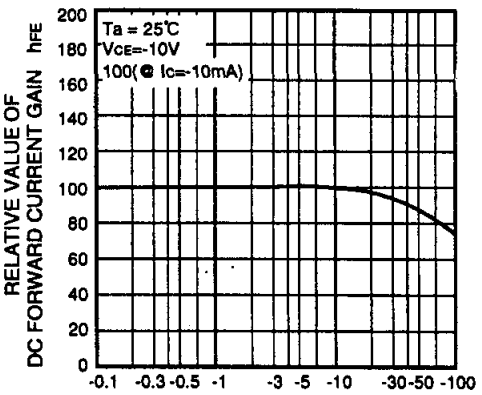
COMMON EMITTER OUTPUT



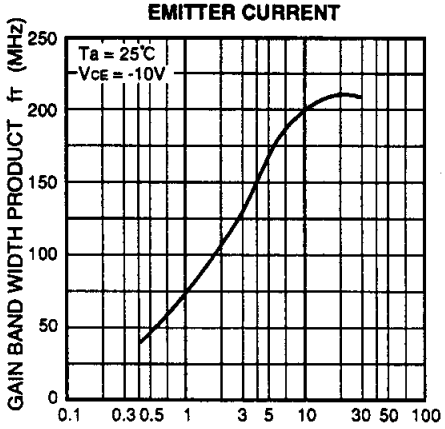
COMMON EMITTER TRANSFER



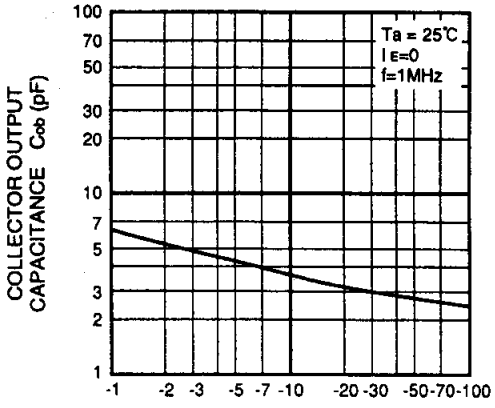
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE



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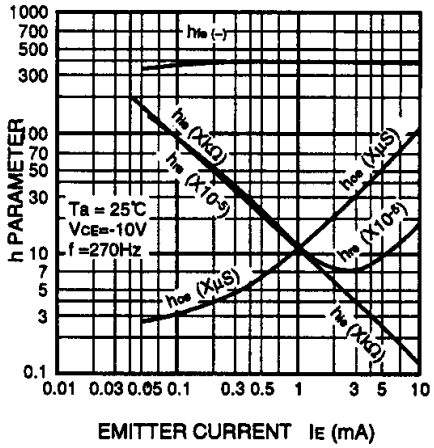
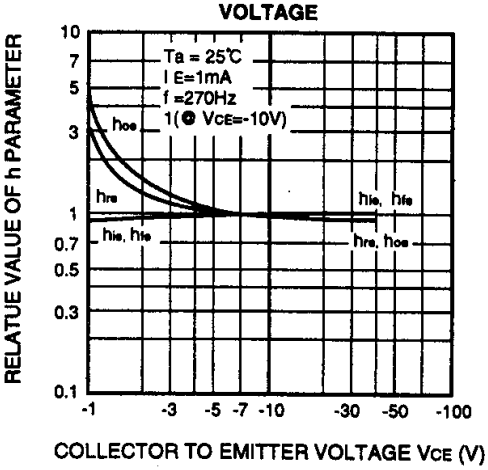
h PARAMETER VS. EMITTER CURRENT



h PARAMETER VS. CORRECTOR-EMITTER VOLTAGE



COMMON EMITTER h PARAMETER (TYPICAL VALUE)

Symbol	Parameter	Test Conditions	Limits	Unit
hie	Closed loop small signal input impedance	Ta=25℃ VCE=-10V IE=1mA f=270Hz	10.8	kΩ
hre	Open loop small signal reverse voltage amplification factor		1.16	$\times 10^{-4}$
hfe	Closed loop small signal forward current amplification factor		400	—
hoe	Open loop small signal output admittance		11.2	μS

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