

<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

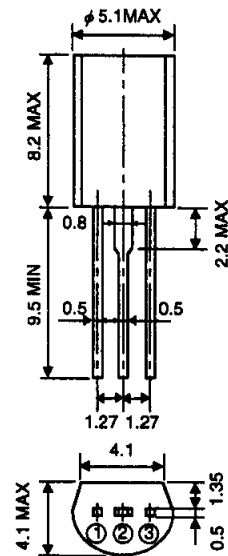
- High voltage VCE0=120, 150V
- High fr fr=200MHz, low Cob Cob=3.5pF typ
- High hFE hFE=150 to 800
- High collector dissipation Pc=900mW

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 |
| Vceo | 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)

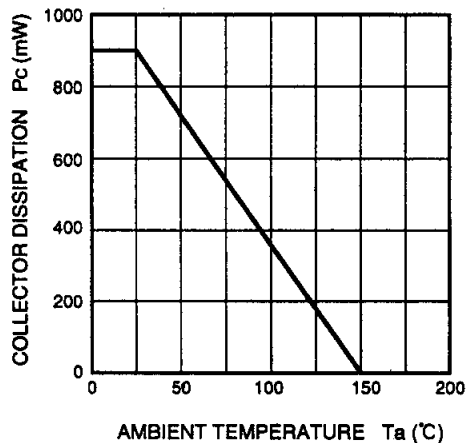
| Symbol | Parameter | Test conditions | Limits | | | | | | Unit |
|----------|------------------------------|--------------------------|---------|-------|------|----------|-------|------|---------|
| | | | 2SA1285 | | | 2SA1285A | | | |
| | | | Min | Typ | Max | Min | Typ | Max | |
| V(BR)CBO | C to 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.

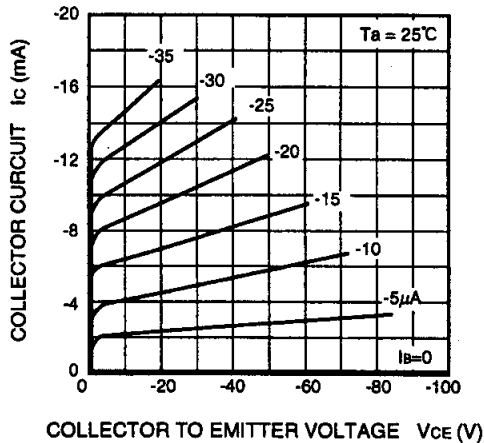
| Item | E | F | G |
|------|------------|------------|------------|
| hFE | 150 to 300 | 250 to 500 | 400 to 800 |

TYPICAL CHARACTERISTICS

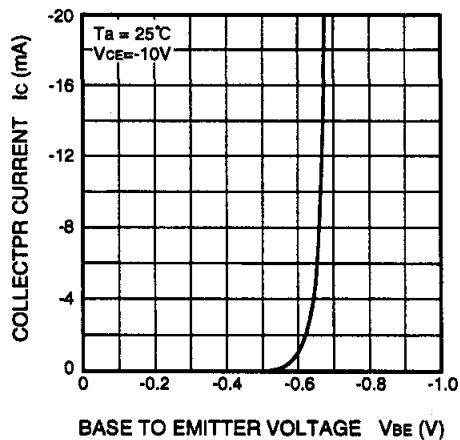
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



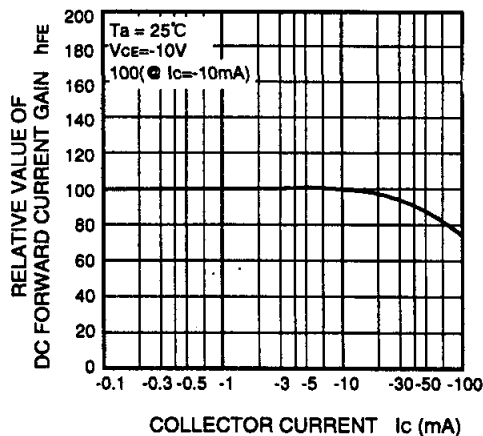
COMMON EMITTER OUTPUT



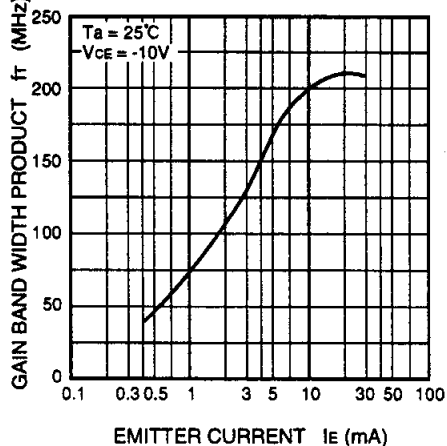
COMMON EMITTER TRANSFER



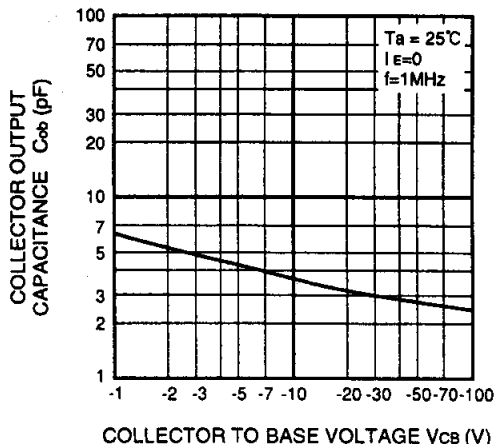
DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT

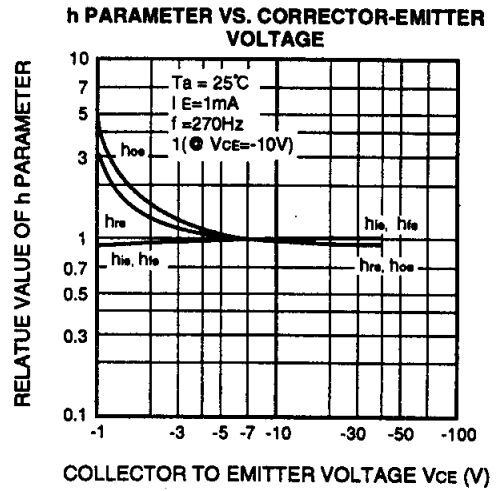
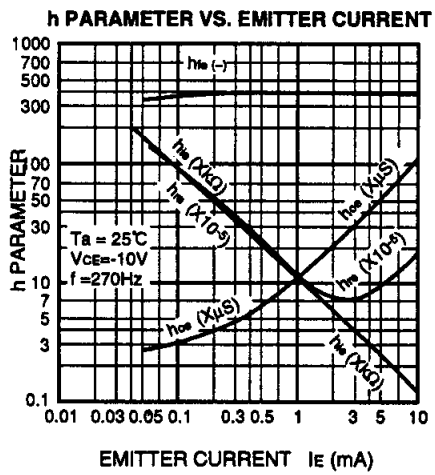


GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



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 | $k\Omega$ |
| 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 | μS |

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