

**FOR SMALL TYPE MOTOR, PLUNGER DRIVE APPLICATION  
SILICON NPN EPITAXIAL TYPE**

**DESCRIPTION**

2SC3246 is a silicon NPN epitaxial type transistor. Designed with high collector current and high  $h_{FE}$ .  
Complementary with 2SA1286.

**FEATURE**

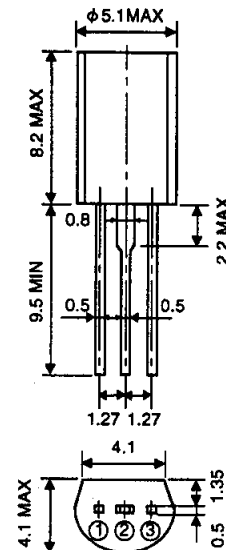
- High  $h_{FE}$   $h_{FE}=400$  to  $3000$
- High collector current ( $I_C=1.5A$ ,  $I_{CM}=3A$ )
- Low collector to emitter saturation voltage  
 $V_{CE(sat)}=0.2V$  typ (@  $I_C=1A$ ,  $I_B=20mA$ )
- High collector dissipation  $P_C=900mW$

**APPLICATION**

VCR, tape-deck small type motor drive of player, plunger, drive of relay, power supply of ripple filter.

**OUTLINE DRAWING**

Unit:mm



**TERMINAL CONNECTOR**

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

Note)

The dimension without tolerance represent central value.

**MAXIMUM RATINGS ( $T_a=25^{\circ}C$ )**

| Symbol    | Parameter                                  | Ratings     | Unit        |
|-----------|--|-------------|-------------|
| $V_{CBO}$ | Collector to Base voltage                  | 30          | V           |
| $V_{EBO}$ | Emitter to Base voltage                    | 6           | V           |
| $V_{CEO}$ | Collector to Emitter voltage               | 25          | V           |
| $I_{CM}$  | Peak Collector current                     | 3           | A           |
| $I_C$     | Collector current                          | 1.5         | A           |
| $P_C$     | Collector dissipation( $T_a=25^{\circ}C$ ) | 900         | mW          |
| $T_j$     | Junction temperature                       | +150        | $^{\circ}C$ |
| $T_{stg}$ | Storage temperature                        | -55 to +150 | $^{\circ}C$ |

**ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}C$ )**

| Symbol        | Parameter                    | Test conditions             | Limits |     |      | Unit    |
|---------------|------------------------------|-----------------------------|--------|-----|------|---------|
|               |                              |                             | Min    | Typ | Max  |         |
| $V_{(BR)CBO}$ | C to B break down voltage    | $I_C=10\mu A, I_E=0$        | 30     |     |      | V       |
| $V_{(BR)EBO}$ | E to B break down voltage    | $I_E=10\mu A, I_C=0$        | 6      |     |      | V       |
| $V_{(BR)CEO}$ | C to E break down voltage    | $I_C=1mA, R_{BE}=\infty$    | 25     |     |      | V       |
| $I_{CBO}$     | Collector cut off current    | $V_{CB}=20V, I_E=0$         |        |     | 0.1  | $\mu A$ |
| $I_{EBO}$     | Emitter cut off current      | $V_{EB}=2V, I_C=0$          |        |     | 0.1  | $\mu A$ |
| $h_{FE} *$    | DC forward current gain      | $V_{CE}=6V, I_C=500mA$      | 400    |     | 3000 | —       |
| $V_{CE(sat)}$ | C to E saturation voltage    | $I_C=1A, I_B=20mA$          |        | 0.2 | 0.5  | V       |
| $f_T$         | Gain band width product      | $V_{CE}=10V, I_E=-10mA$     |        | 130 |      | MHz     |
| $C_{ob}$      | Collector output capacitance | $V_{CB}=10V, I_E=0, f=1MHz$ |        | 17  |      | pF      |

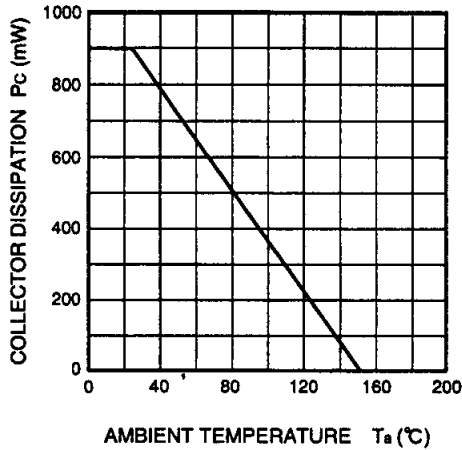
\* : It shows  $h_{FE}$  classification in right table.

| Item     | G          | H           | J           | K            |
|----------|------------|-------------|-------------|--------------|
| $h_{FE}$ | 400 to 800 | 600 to 1200 | 900 to 1800 | 1500 to 3000 |

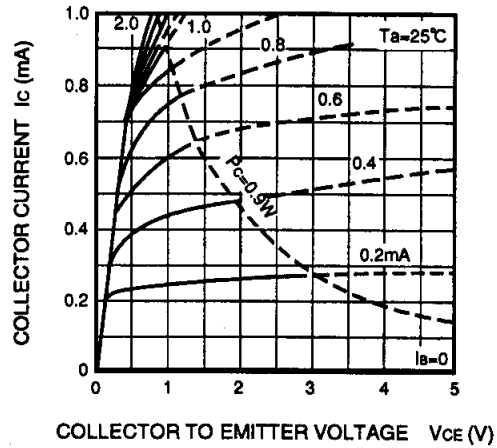
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TYPICAL CHARACTERISTICS

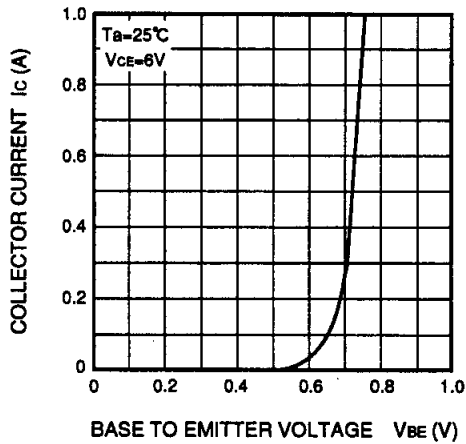
COLLECTOR DISSIPATION VS.  
AMBIENT TEMPERATURE



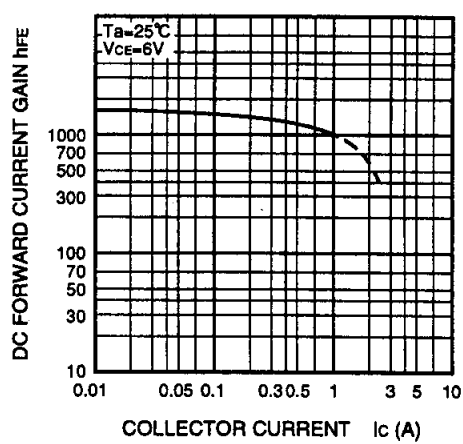
COMMON EMITTER OUTPUT



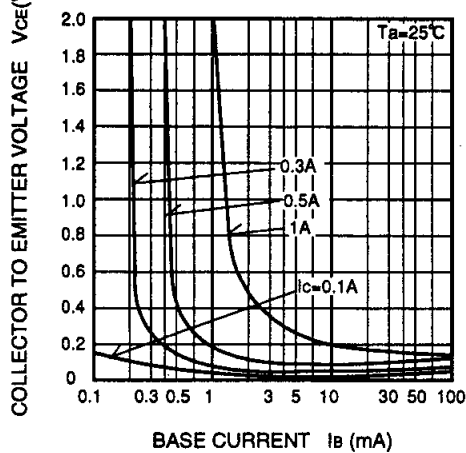
COMMON EMITTER TRANSFER



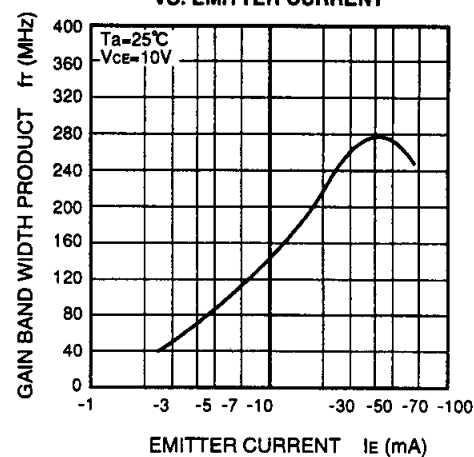
DC FORWARD CURRENT GAIN  
VS. COLLECTOR CURRENT



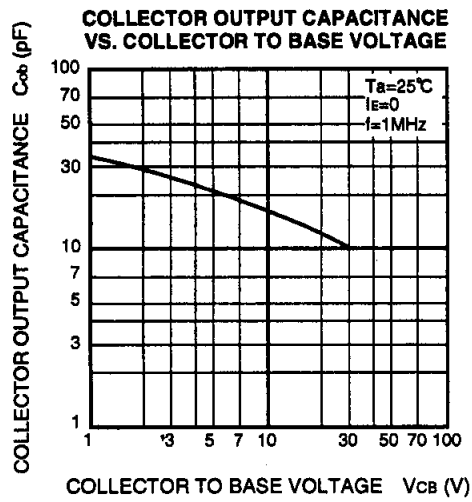
COLLECTOR TO EMITTER SATURATION  
VOLTAGE VS. BASE CURRENT



GAIN BAND WIDTH PRODUCT  
VS. EMITTER CURRENT



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