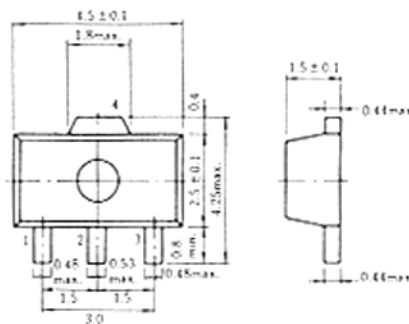
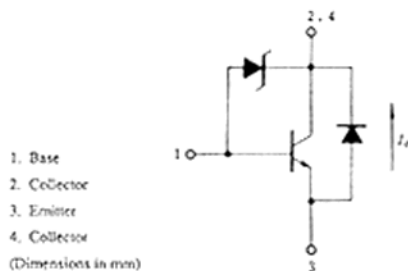


2SD1974

SILICON NPN EPITAXIAL
LOW FREQUENCY POWER AMPLIFIER



(UPAK)



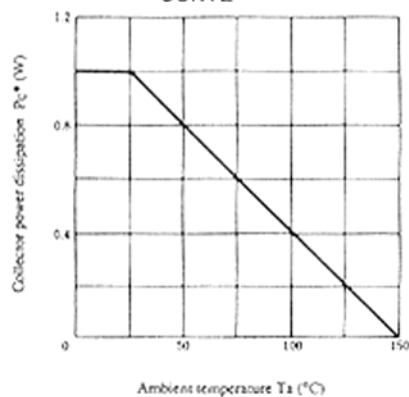
1. Base
2. Collector
3. Emitter
4. Collector
(Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

| Item | Symbol | 2SD1974 | Unit |
|------------------------------|---------------|-------------|------|
| Collector to base voltage | V_{CBO} | 25 | V |
| Collector to emitter voltage | V_{CEO} | 25 | V |
| Emitter to base voltage | V_{EBO} | 6 | V |
| Collector current | I_C | 0.8 | A |
| Collector peak current | $i_{C(peak)}$ | 1.5 | A |
| E to C diode forward current | I_D | 0.6 | A |
| Collector power dissipation | P_C^* | 1.0 | W |
| Junction temperature | T_J | 150 | °C |
| Storage temperature | T_{stg} | -55 to +150 | °C |

* Value on the alumina ceramic board (12.5 × 20 × 0.7mm)

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

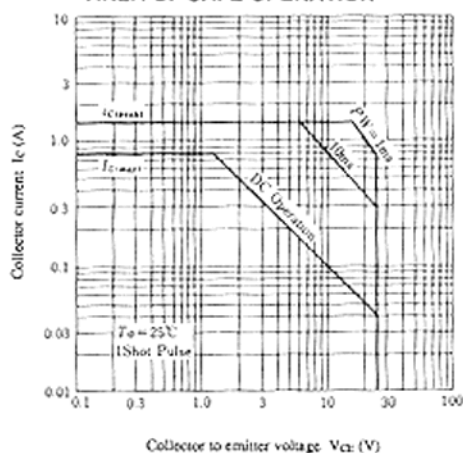
| Item | Symbol | Test Condition | min. | typ. | max. | Unit |
|---|---------------|---|------|------|------|---------|
| Collector to base breakdown voltage | $V_{(BR)CBO}$ | $I_C = 10\mu A, I_E = 0$ | 25 | — | — | V |
| Collector to emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = 1mA, R_{BE} = \infty$ | 25 | — | 35 | V |
| Collector to emitter sustaining voltage | $V_{CE(sat)}$ | $I_C = 0.8A, R_{BE} = \infty, L = 20mH$ | 25 | — | 35 | V |
| Emitter to base breakdown voltage | $V_{(BR)EBO}$ | $I_E = 10\mu A, I_C = 0$ | 6 | — | — | V |
| Collector cutoff current | I_{CBO} | $V_{CB} = 20V, I_E = 0$ | — | — | 0.2 | μA |
| | I_{CEO} | $V_{CE} = 20V, R_{BE} = \infty$ | — | — | 0.5 | μA |
| Emitter cutoff current | I_{EBO} | $V_{EB} = 5V, I_C = 0$ | — | — | 0.2 | μA |
| DC current transfer ratio | h_{FE} | $V_{CE} = 2V, I_C = 0.1A^*$ | 250 | — | 1200 | |
| Collector to emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 0.8A, I_B = 80mA^*$ | — | — | 0.4 | V |
| E to C diode forward voltage | V_D | $I_D = 0.6A^*$ | — | — | 1.5 | V |

* Pulse Test

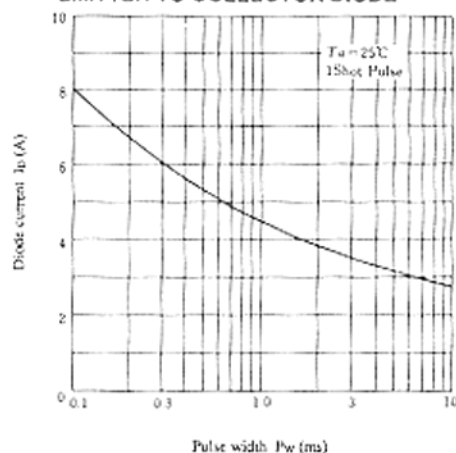
** Marking is (ES).

2SD1974

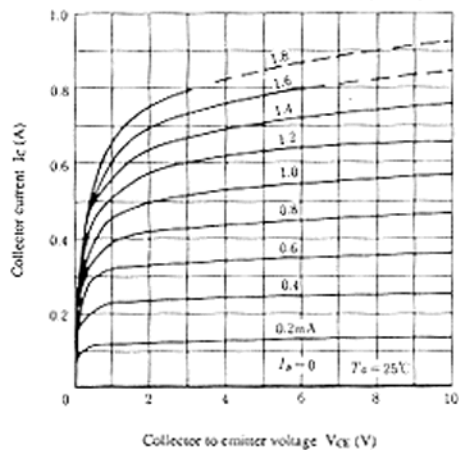
AREA OF SAFE OPERATION



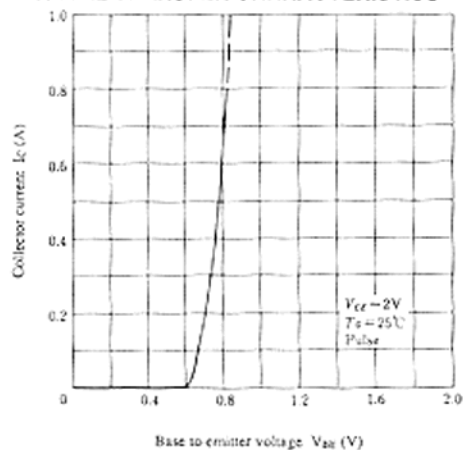
AREA OF SAFE OPERATION OF EMITTER TO COLLECTOR DIODE



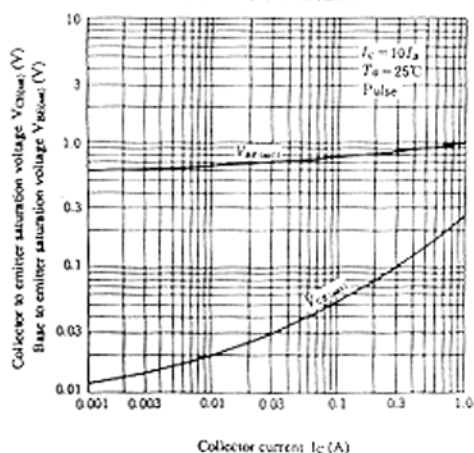
TYPICAL OUTPUT CHARACTERISTICS



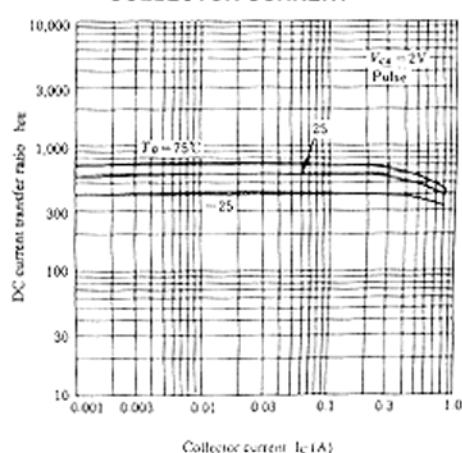
TYPICAL TRANSFER CHARACTERISTICS



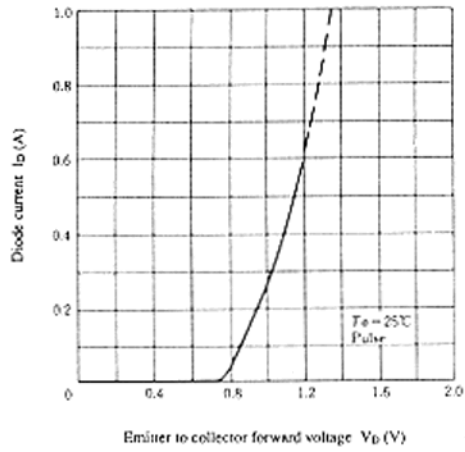
SATURATION VOLTAGE VS. COLLECTOR CURRENT



DC CURRENT TRANSFER RATIO VS. COLLECTOR CURRENT



TYPICAL CHARACTERISTICS OF
EMITTER TO COLLECTOR DIODE



COLLECTOR OUTPUT CAPACITANCE VS.
COLLECTOR TO BASE VOLTAGE

