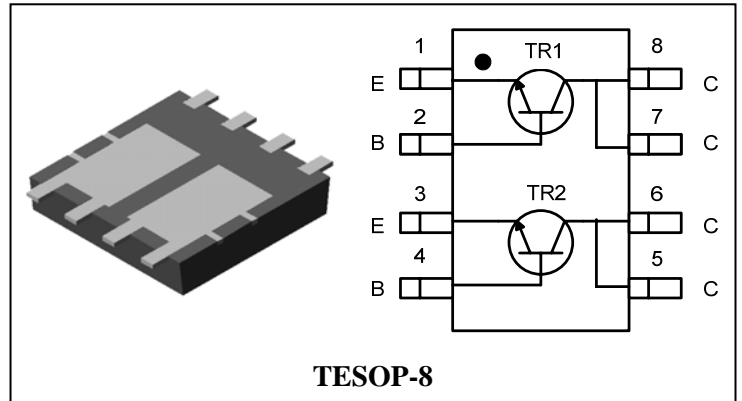


## Descriptions

- General purpose amplifier
- Recommended for LED Drive Application

## Features

- Thermally Enhanced Power PKG
- Low saturation:  $V_{CE(sat)} = 0.5V$  Max
- 2 NPN chips in TESOP-8 Package



## Ordering Information

| Type NO. | Marking | Package Code |
|----------|---------|--------------|
| SUT041G  | SUT041□ | TESOP-8      |

□ : Year & Week Code

## Absolute maximum ratings(TR1, TR2)

( $T_a = 25^\circ C$ )

| Characteristic              | Symbol                       | Ratings | Unit       |
|-----------------------------|------------------------------|---------|------------|
| Collector-Base voltage      | $V_{CBO}$                    | 45      | V          |
| Collector-Emitter voltage   | $V_{CEO}$                    | 40      | V          |
| Emitter-Base voltage        | $V_{EBO}$                    | 5       | V          |
| Collector current           | $I_C$                        | 1       | A(DC)      |
|                             | $I_{CP}^*$                   | 2       | A(Pulse)   |
| Collector power dissipation | $P_C(T_a = 25^\circ C)^{**}$ | 0.75    | W/TOTAL    |
|                             |                              | 0.55    | W/ELEMENT  |
|                             | $P_C(T_c = 25^\circ C)$      | 5       | W/TOTAL    |
| Junction temperature        | $T_J$                        | 150     | $^\circ C$ |
| Storage temperature         | $T_{stg}$                    | -55~150 | $^\circ C$ |

\* : Single pulse,  $t_p = 300 \mu s$

\*\* : Each terminal mounted on a recommended solder land

## Electrical Characteristics(TR1, TR2)

| Characteristic                       | Symbol        | Test Condition                    | Min. | Typ. | Max. | Unit    |
|--------------------------------------|---------------|-----------------------------------|------|------|------|---------|
| Collector-Base breakdown voltage     | $BV_{CBO}$    | $I_C = 100 \mu A, I_E = 0$        | 45   | -    | -    | V       |
| Collector-Emitter breakdown voltage  | $BV_{CEO}$    | $I_C = 1mA, I_B = 0$              | 40   | -    | -    | V       |
| Emitter-Base breakdown voltage       | $BV_{EBO}$    | $I_E = 10 \mu A, I_C = 0$         | 5    | -    | -    | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = 45V, I_E = 0$           | -    | -    | 0.1  | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = 5V, I_C = 0$            | -    | -    | 0.1  | $\mu A$ |
| DC current gain                      | $h_{FE}^{1)}$ | $V_{CE} = 1V, I_C = 100mA$        | 160  | -    | 320  | -       |
| Collector-Emitter saturation voltage | $V_{CE(sat)}$ | $I_C = 500mA, I_B = 50mA$         | -    | -    | 0.5  | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = 5V, I_C = 10mA$         | -    | 150  | -    | MHz     |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | -    | 8    | -    | pF      |

Note 1) hFE Rank : 160~320 only

Electrical Characteristic Curves(TR1, TR2)

Fig. 1  $P_C - T_a$

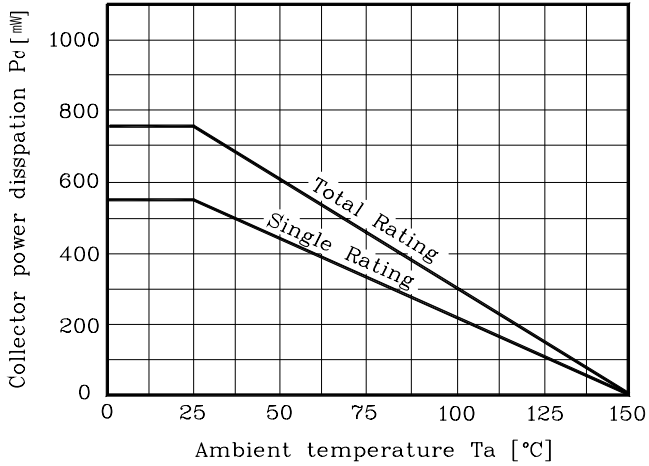


Fig. 2  $I_C - V_{BE}$

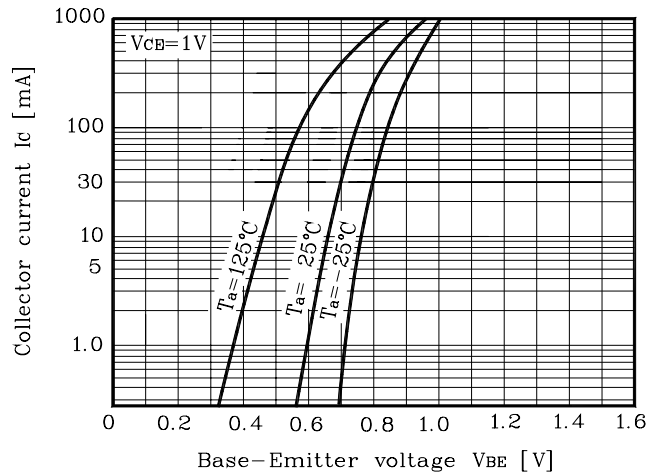


Fig. 3  $V_{CE(sat)} - I_C$

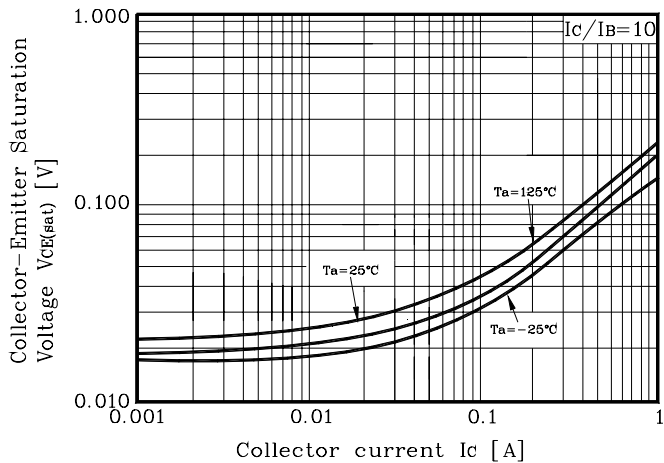


Fig. 4  $I_C - V_{CE}$

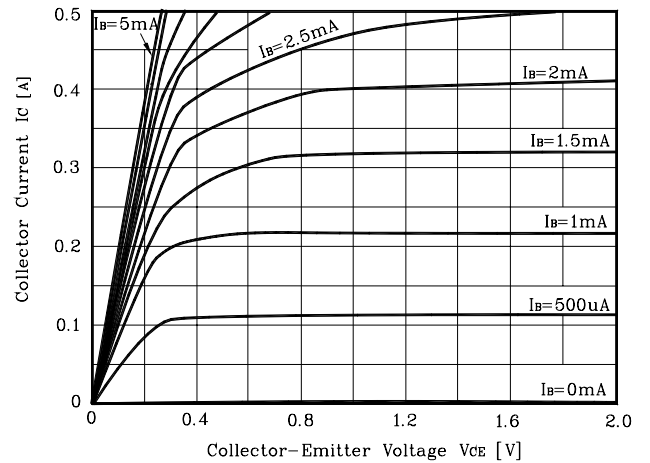


Fig. 5  $I_C - V_{CE}$

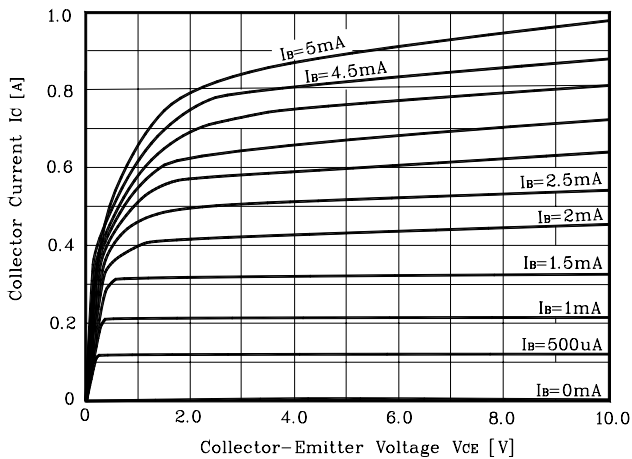
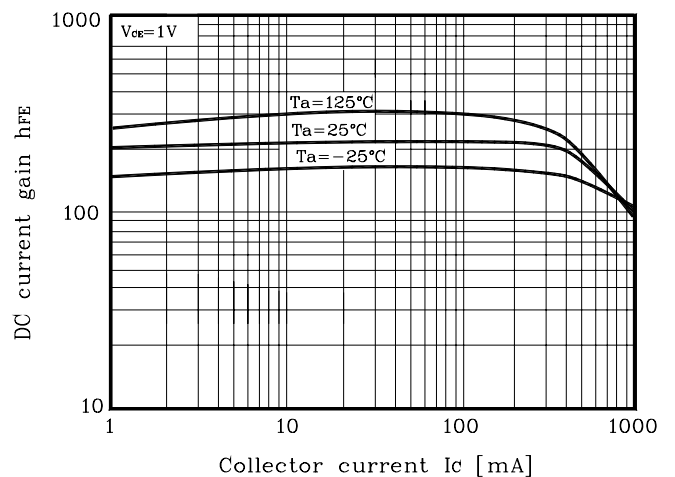
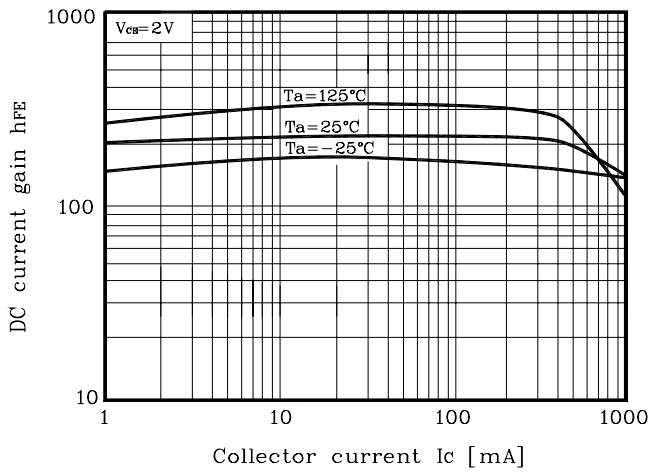


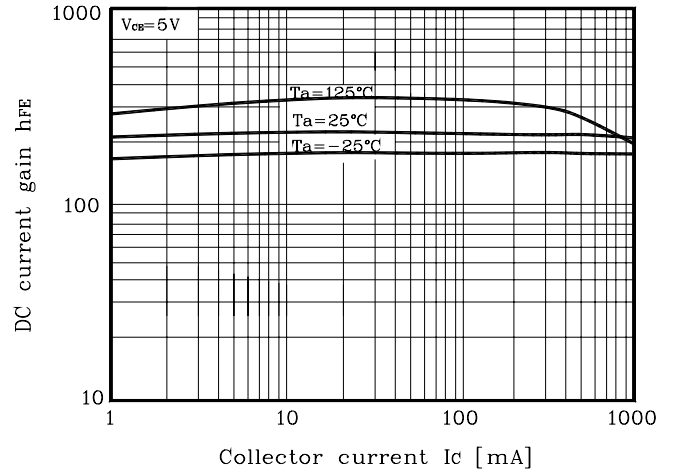
Fig. 6  $h_{FE} - I_C$



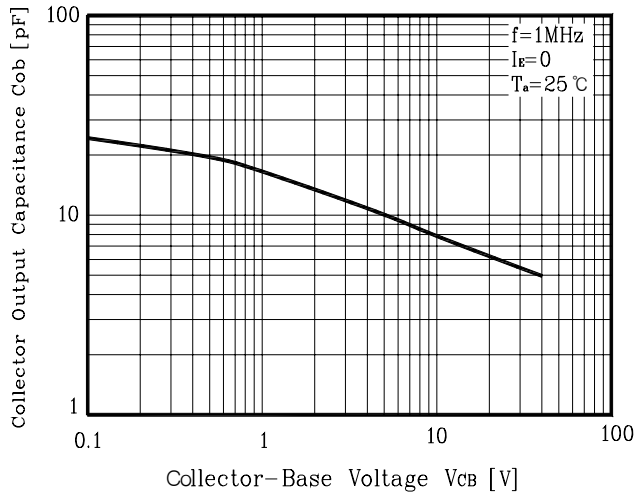
**Fig. 7  $h_{FE} - I_C$**



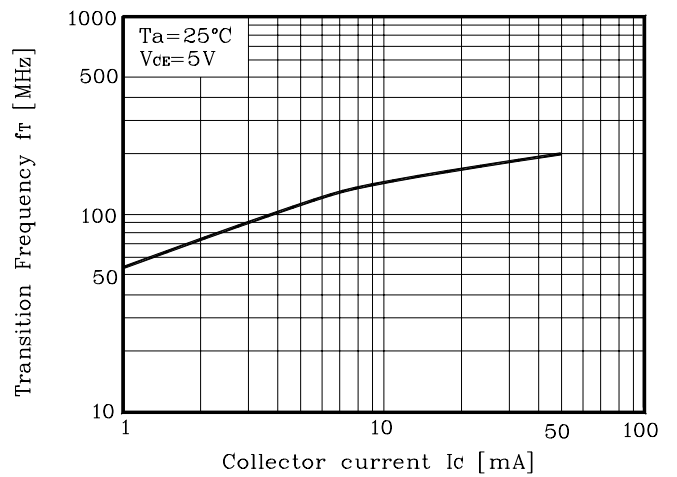
**Fig. 8  $h_{FE} - I_C$**



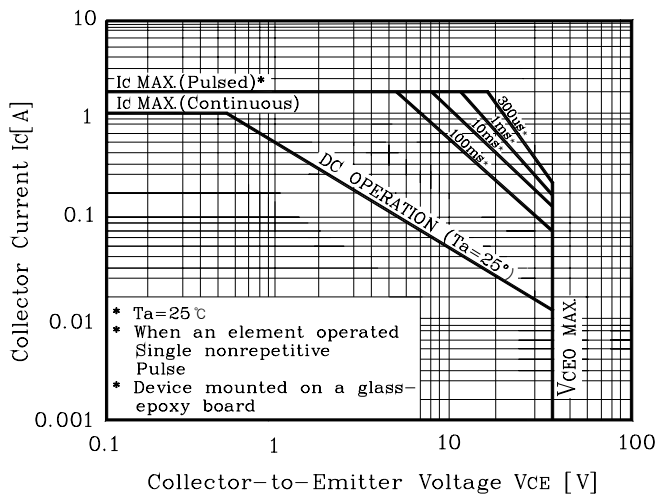
**Fig. 9  $C_{ob} - V_{CB}$**



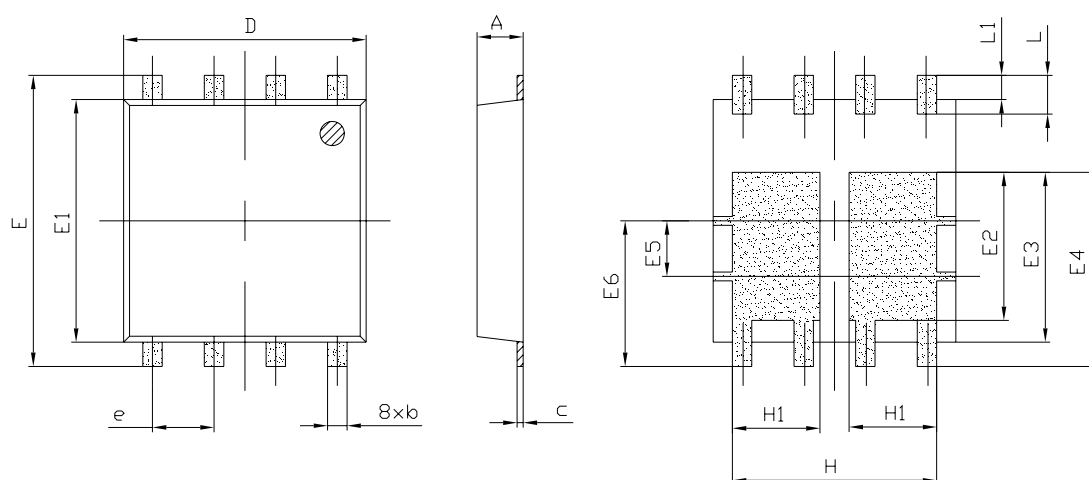
**Fig. 10  $f_T - I_C$**



**Fig. 11 Safe operating Area**

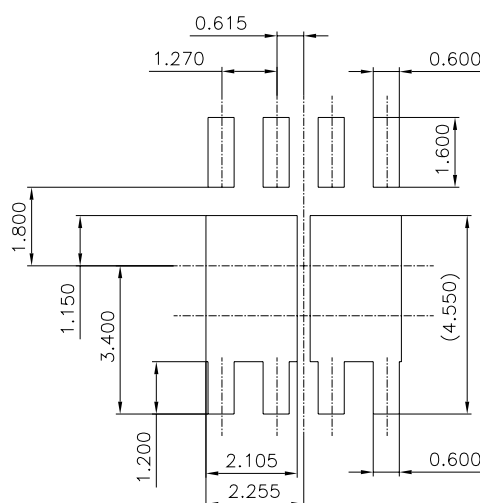


Outline Dimension



| SYMBOL | MILLIMETER(mm) |         |         | NOTE |
|--------|----------------|---------|---------|------|
|        | MINIMUM        | NOMINAL | MAXIMUM |      |
| A      | 0.900          | 0.950   | 1.000   |      |
| b      | 0.350          | 0.400   | 0.500   |      |
| c      | 0.077          | 0.127   | 0.157   |      |
| D      | 4.900          | 5.000   | 5.100   |      |
| E      | 5.850          | 6.000   | 6.150   |      |
| E1     | 4.900          | 5.000   | 5.100   |      |
| E2     | 2.850          | 3.050   | 3.250   |      |
| E3     | 3.300          | 3.500   | 3.700   |      |
| E4     | 3.800          | 4.000   | 4.200   |      |
| E5     | 1.145 TYP      |         |         |      |
| E6     | 3.000 TYP      |         |         |      |
| e      | 1.270 TYP      |         |         |      |
| H      | 4.210 TYP      |         |         |      |
| H1     | 1.805 TYP      |         |         |      |
| L      | 0.650          | 0.800   | 0.950   |      |
| L1     | 0.350          | 0.500   | 0.650   |      |

※Recommend PCB solder land [Unit: mm]



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