

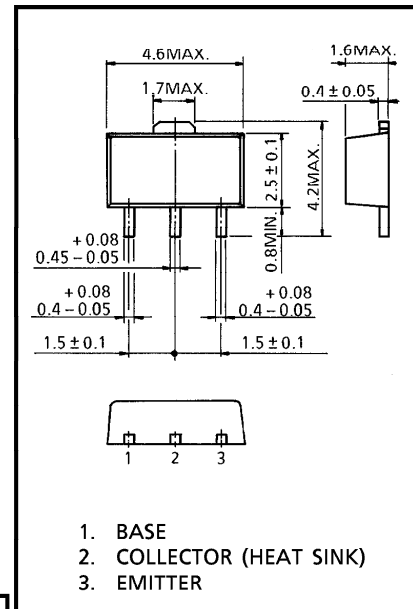
TOSHIBA TRANSISTOR SILICON NPN EPITAXIAL TYPE (PCT PROCESS)

# 2SC2982

STOROBO FLASH APPLICATIONS  
MEDIUM POWER AMPLIFIER APPLICATIONS

Unit in mm

- High DC Current Gain and Excellent  $h_{FE}$  Linearity
  - :  $h_{FE}(1) = 140 \sim 600$  ( $V_{CE} = 1V, I_C = 0.5A$ )
  - :  $h_{FE}(2) = 70$  (Min.), 140 (Typ.) ( $V_{CE} = 1V, I_C = 2A$ )
- Low Saturation Voltage
  - :  $V_{CE(sat)} = 0.5V$  (Max.) ( $I_C = 2A, I_B = 50mA$ )
- Small Flat Package
- $P_C = 1 \sim 2W$  (Mounted on Ceramic Substrate)



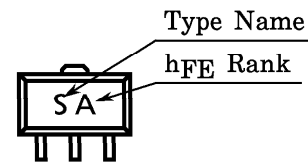
MAXIMUM RATINGS ( $T_a = 25^\circ C$ )

| CHARACTERISTIC              | SYMBOL         | RATING   | UNIT       |
|-----------------------------|----------------|----------|------------|
| Collector-Base Voltage      | $V_{CBO}$      | 30       | V          |
| Collector-Emitter Voltage   | $V_{CES}$      | 30       | V          |
|                             | $V_{CEO}$      | 10       | V          |
| Emitter-Base Voltage        | $V_{EBO}$      | 6        | V          |
| Collector Current           | DC             | $I_C$    | 2          |
|                             | Pulse (Note 1) | $I_{CP}$ | 4          |
| Base Current                | DC             | $I_B$    | 0.4        |
|                             | Pulse (Note 1) | $I_{BP}$ | 0.8        |
| Collector Power Dissipation | $P_C$          | 500      | mW         |
| Collector Power Dissipation | $P_C^*$        | 1000     | mW         |
| Junction Temperature        | $T_j$          | 150      | $^\circ C$ |
| Storage Temperature Range   | $T_{stg}$      | -55~150  | $^\circ C$ |

|         |        |
|---------|--------|
| JEDEC   | —      |
| EIAJ    | SC-62  |
| TOSHIBA | 2-5K1A |

Weight : 0.05g

MARKING



Note 1 : Pulse Width  $\leq 10ms$ , Duty Cycle  $\leq 30\%$   
 $P_C^*$  : 2SC2982 Mounted on Ceramic Substrate (250mm<sup>2</sup> × 0.8t)

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC                       | SYMBOL                  | TEST CONDITION                    | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|-------------------------|-----------------------------------|------|------|------|------|
| Collector Cut-off Current            | $I_{CBO}$               | $V_{CB} = 30V, I_E = 0$           | —    | —    | 100  | nA   |
| Emitter Cut-off Current              | $I_{EBO}$               | $V_{EB} = 6V, I_C = 0$            | —    | —    | 100  | nA   |
| Collector-Emitter Breakdown Voltage  | $V_{(BR)CEO}$           | $I_C = 10mA, I_B = 0$             | 10   | —    | —    | V    |
| Emitter-Base Breakdown Voltage       | $V_{(BR)EBO}$           | $I_E = 1mA, I_C = 0$              | 6    | —    | —    | V    |
| DC Current Gain                      | $h_{FE(1)}$<br>(Note 2) | $V_{CE} = 1V, I_C = 0.5A$         | 140  | —    | 600  |      |
|                                      | $h_{FE(2)}$             | $V_{CE} = 1V, I_C = 2A$           | 70   | 140  | —    |      |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$           | $I_C = 2A, I_B = 50mA$            | —    | 0.2  | 0.5  | V    |
| Base-Emitter Voltage                 | $V_{BE}$                | $V_{CE} = 1V, I_C = 2A$           | —    | 0.86 | 1.5  | V    |
| Transition Frequency                 | $f_T$                   | $V_{CE} = 1V, I_C = 0.5A,$        | —    | 150  | —    | MHz  |
| Collector Output Capacitance         | $C_{ob}$                | $V_{CB} = 10V, I_E = 0, f = 1MHz$ | —    | 27   | —    | pF   |

Note 2 :  $h_{FE(1)}$  Classification    A : 140~240,    B : 200~330,    C : 300~450,    D : 420~600

